Role of School Size in Incidents of Violence Among Texas Middle Schools: A Mixed Research Investigation

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\textbf{ABSTRACT}

The purpose of this fully mixed concurrent equal dominant status (Leech & Onwuegbuzie, 2009) mixed research study was twofold. The first purpose was to examine the relationship between the incidents of school violence and the size of middle schools in the state of Texas. Additionally, perceptions of school violence of principals from different-sized middle schools were examined to ascertain whether they believe school size plays a role in the number of incidents of school violence, as well as whether their perceptions align with the discipline data, specifically fighting, assaults, and aggravated assaults. A total of 842 middle schools in Texas comprised the sample for the quantitative phase. Data analysis in this phase involved correlation coefficients, analysis of variance, and trend analysis. In particular, after applying the Bonferroni adjustment, a series of Spearman’s rho revealed that all six discipline variables were statistically significantly related to school size. The qualitative phase involved a classical content analysis of interview data yielded from 7 principals from 1 Texas school district. The most common emergent themes were (a) 600-899 students was an optimal school size; (b) fights were the most common experiences with school violence; (c) the socioeconomic status of students accounts for different levels of school violence; (d) size does matter; (e) fighting was the most common violent incident occurring on their campuses; (f) students fight because they lack problem solving/control; and (g) students will either cheer or report to an adult if they witness a violent incident. Implications of the findings are discussed.

\textbf{KEYWORDS}

Aggravated assaults; aggressive behavior; assaults; fighting; incidents of school violence; middle schools; mixed methods research; mixed research; principal perceptions; school size; school violence; Texas middle schools

Public schools should be safe places for educators to teach and for students to learn. Incidents of school violence not only affect the students involved, but also impact the school climate, the observers of violent incidents, the educational process, and the surrounding community (Henry, 2000). Unfortunately, physically aggressive behavior continues to be a major concern in the school environment (Alexander & Langford, 1992; Jemmott, Jemmott, Hines, & Fong, 2001; Pakaslahti & Keltikangas-Jarvinen, 2000; Williams-Evans & Myers, 2004). This kind of physically aggressive behavior interferes with the learning environment at all school levels (Alexander & Langford, 1992; Pakaslahti & Keltikangas-Jarvinen, 2000). More specifically, the National Center for Education Statistics (NCES) has expressed great concern about the level of violent incidents at the middle school level (Dinkes, Cataldi, & Lin-Kelly, 2007). Adolescents’ aggressive behaviors are usually indicators of future dropouts; alcohol abuse; child abuse; criminal behaviors (Kerbs & Jolley, 2007; Pakaslahti & Keltikangas-Jarvinen, 2000); and long-term academic, social, and emotional problems (Kerbs & Jolley, 2007). Additionally, the report published by the NCES, \textit{Indicators of School Crime and Safety 2007} (Dinkes et al., 2007), pointed out...
that the issue of school disorder and student achievement is "of great concern to students, parents, educators, and policy makers" (p. 40).

The U.S. public became much more aware of school violence after a series of school shootings was publicized across the nation via the media, with the Columbine High School shooting in April 1999 receiving the most attention from the media and public (Greene, 2005). This high school had a middle-class, predominantly White student population, where parents and students generally felt safe. This tragedy prompted the fear that school violence could occur anywhere in the nation. Moving forward, the media began to cover intensely any and all incidents of school violence, leading to unprecedented levels of paranoia about school violence within all schools across the United States (Fong, Vogel, & Vogel, 2008). For example, a national survey conducted after the Columbine shooting revealed that the number of individuals who believed that a shooting could occur at their neighborhood school increased from 49% to 70% (Fong et al., 2008). Even though the media coverage of school violence continued after the Columbine shooting and the public concern about the safety of children in schools has continued to increase, the actual occurrence of school shootings has been very rare (Gottfredson, Gottfredson, Payne, & Gottfredson, 2005; Wilcox, Augustine, Bryan, & Roberts, 2005).

There are many forms of school violence. Unfortunately, incidents of school violence are not an uncommon occurrence in many of U.S. middle schools and high schools (Fong et al., 2008). Aggressive behaviors of students in schools have prompted many U.S. legislative changes to be made so that an assault on an administrator, teacher, or teacher's aide is considered to be a form of aggravated assault punishable by a fine or imprisonment (Alexander & Langford, 1992). Although extreme incidents of school violence such as this have been rare in the United States, incidents involving physical fights among students (Brener, Simon, Krug, & Lowry, 1999; Jemmott et al., 2001; Valois, MacDonald, Bretous, Fischer, & Drane, 2002) and assaults against other students are major problems in U.S. schools (Alexander & Langford, 1992). Even though fighting might not always lead to a physical injury, fights provide the opportunity for students to be intimidated, threatened, susceptible to fear, and vulnerable to the more aggressive students (Brener et al., 1999). In the 2001 National Crime Victimization Survey, 36% of serious violent crimes (aggravated assault, rape, sexual assault, or robbery) occurred during school (Gottfredson et al., 2005). Data collected in 2003 by Kerbs and Jolley (2007) revealed that students aged 12 to 18 years were victims of approximately 740,000 violent crimes in U.S. schools, including assaults and other serious violent crimes such as rape, sexual assault, robbery, and aggravated assault.

Male students have been found in many studies to be much more likely to engage in aggressive and dangerous behaviors than are female students (e.g., Brener et al., 1999). More specifically, middle school students who were male and represented a minority group were much more likely to engage in physical altercations than were White students (Brener et al., 1999; Clubb et al., 2001; Jemmott et al., 2001). For students in high school, the older they were, the less likely they were to engage in aggressive behaviors at school (Brener et al., 1999).

According to Staub and Rosenthal (1994), a large social component is associated with aggressive adolescents. These aggressive adolescents are more likely to connect with peers who are similar to themselves—that is, those students who are also aggressive. The occurrence of conflicts at school might be explained, in part, by the social nature of the school environment and the way that students are known to behave as perceived by their peers and staff members (Valois et al., 2002). Students of diverse backgrounds spend a large majority of their time at school in close proximity to their peers. Therefore, it stands to reason that student peers would be the greatest source of information about the level of violence occurring on school campuses, with teachers providing the next most information about the social interaction of students (Pakaslahti & Keltikangas-Jarvinen, 2000). Moreover, some researchers believe that the best sources of information are the students who are involved in exhibiting aggressive behaviors because they best know their own personality and behaviors when it comes to being aggressive (Pakaslahti & Keltikangas-Jarvinen, 2000). Unfortunately, some of the self-reported information from participants could have been biased due to their tendency to have provided more socially desirable responses (Pakaslahti & Keltikangas-Jarvinen, 2000). Basically, the perceptions of students, peers, and teachers are going to be different, but this information could be a valuable source of information when attempting to determine the best intervention strategy to use with aggressive adolescents (Pakaslahti & Keltikangas-Jarvinen, 2000).

Overwhelming evidence exists to support the claim that incidents of school violence are much less likely to occur in small schools than in large schools (Amodei & Scott, 2002; Ferris & West, 2004; Klonsky, 2002; Leung & Ferris, 2008; Williams-Evans & Myers, 2004). More specifically, students tend to behave better in schools where they are known by teachers and staff members (Williams-Evans & Myers, 2004). The impersonality of large schools has created a social environment where students feel isolated, alienated, and rejected by staff and their peers (Leung & Ferris, 2008; Malley, Beck, & Adorno, 2001). Due to the consistent focus on compli-
ance, control, and orderliness, coupled with the preoccupation of grades, achievement, and individual success, students get lost in the crowd of a large school (Klonsky, 2002; Malley et al., 2001).

In response to the levels of incidents of violence, political leaders, school administrators, and law enforcement officials have turned their focus to finding solutions and preventative measures to curb some of the violence occurring on school campuses (Fong et al., 2008; Solomon, Bradshaw, Wright, & Cheng, 2008). Because schools are a primary source of social development, there are many opportunities to provide students with nonviolent intervention strategies when faced with conflict (Valois et al., 2002). The key in finding the most successful intervention is to identify the population of students who are most aggressive in the individual schools so that an intervention program can be developed to fit their needs (Brener et al., 1999). Additionally, identification of the kinds of situations where youth find themselves at risk for use of violent behavior would be beneficial when creating an intervention program to fit individual student needs. Further, the effectiveness of violence prevention programs would greatly increase if researchers could determine when physically aggressive students are more likely to use the nonviolent responses learned through an intervention program (Farrell et al., 2008; Park-Higgerson, Perumean-Chaney, Bartolucci, Grimley, & Singh, 2008). When preparing and/or creating a violence prevention program, consideration should be given to the significance of gender because boys are much more likely to be involved in assaultive behaviors than are girls (Fong et al., 2008). Stoltz (2005) noted that the degree to which male students identify with the traditional male stereotypes will greatly depend on how they respond to violence prevention programs.

School-based violence prevention programs need to include parents as part of the prevention strategies because there is a link between poor parenting and anti-social behavior (Greene, 2005; Wright & Fitzpatrick, 2006). Furthermore, Swaim, Henry, and Kelly (2006) documented that the single most predictive factor for students demonstrating aggressive forms of behavior was anger. This is not really new information except that this finding suggests that school violence prevention programs should include a cognitive-behavioral component to assist students with anger management (Farrell et al., 2008; Fong et al., 2008). Further, most of the violence prevention programs attempt to train students to take responsibility for their actions and to help them find other means of reacting to potentially volatile situations. It might be assumed that students believe violence is a problem but there is the possibility that students might find the experience of violence at school as fun or entertaining depending on their perceptions (Kerbs & Jolley, 2007).

Violence is permeating middle school classrooms, impeding the efforts of educators as well as young adolescents’ overall levels of school success (Banks, 2000). In order to eliminate or to impact greatly the incidents of school violence, the school environment must change (Malley et al., 2001). It is important to determine the realities of middle school violence levels from large and small environments. This information will be critical in determining the safest environment for middle school students so that the efforts of educators can be directed toward providing a safe and productive learning environment for these students.

**School Violence and School Size**

Violence among young people has been declared a public health problem in the United States (Clubb et al., 2001; Jemmott et al., 2001; Park-Higgerson et al., 2008; Solomon et al., 2008; Valois et al., 2002; Williams-Evans & Myers, 2004). According to researchers in this area, violence and aggressive behavior often reach a climax during the adolescent years (Valois et al., 2002), with some of the reports indicating that large numbers of youth are engaging in physical fights (Clubb et al., 2001; Jemmott et al., 2001; Solomon et al., 2008). According to Meyer, Astor, and Behre (2004), physical fights (i.e., two students engaging in mutual combat) have been the most common form of school violence occurring at school among students. Further, a survey completed by principals throughout the nation revealed that students in middle schools were more likely to engage in physical fights than were students at the elementary level (Meyer et al., 2004). However, incidents of school violence vary depending on the size and geographic locations of the school (Clubb et al., 2001). Research evidence indicates that large schools are impersonal and, therefore, are more likely to have incidents of school violence (Amodei & Scott, 2002; Glass, 1997; Malley et al., 2001; Raywid & Oshiyama, 2000), but also there is research evidence that indicates that the size of a school has no link to school violence (i.e., Chen & Weikart, 2008; Conant, 1967; Lee & Smith, 1997). The studies thus far regarding school violence and school size have primarily focused on high schools instead of middle schools. However, there are many studies about middle school violence encompassing several aspects of school violence and violence prevention programs as part of the studies. Also, many of the studies of school violence, regardless of the grade level, focus on a wide variety of violent incidents, many of them being more severe cases of weapons carrying and drug use. Notwithstanding, there have been numerous studies...
outlining information about the variety of benefits that smaller schools offer for students versus larger schools. Specifically, many of the studies about school size do focus or partially focus on the different levels of violence that occur in larger schools compared to smaller schools. From observing middle school students, there is a need to understand better the levels of violence that are occurring in middle schools in Texas, specifically fighting, assault, and aggravated assault, and whether the size of the school plays a role in the levels of violence, so that educators can make more informed decisions when planning to build and to organize the internal structure (i.e., teacher teaming, scheduling, and location of grade levels) of middle schools.

Selecting Texas

The selection of the state of Texas for this study was based on several factors. First, Texas is the second largest populated state, after California (Davis & Bauman, 2008). The enrollment in Texas public schools increased by 795,137 students from the 1998–1999 school year to the 2008–2009 school year—a 20.1% increase. Second, Texas has experienced a continued rise in diversity of the student population in comparison to the enrollment trends across the United States. From fall 1996 to fall 2006, enrollment in U.S. public schools increased by 8.1%, according to national figures (Dinkes, Kemp, & Baum, 2009). At the same time, Texas public school enrollment increased by 20.1%—an increase of more than three quarters of a million new students (Dinkes et al., 2009). In the fall of 1996, White student enrollment in U.S. public schools was 64.2%, and Hispanic student enrollment was 14.0%. In the same year in Texas public schools, White student enrollment was 45.6%, and Hispanic student enrollment was 37.4%. By fall 2006, White student enrollment in U.S. public schools had decreased to 56.5%, and Hispanic student enrollment had increased to 20.5%. In the same period, White student enrollment in Texas public schools declined to 35.7%, whereas Hispanic enrollment rose to 46.3% (Dinkes et al., 2007). During the 10-year time period of 1998-1999 to 2008-2009, enrollment increased for all of the ethnic groups except for White students; the enrollment of White students in Texas public schools declined by 7.5%. On the other hand, enrollment of Hispanic students had the largest numerical increase, rising by more than 49% or 748,385 students (Texas Education Agency [TEA], 2009).

Finally, the availability of data from TEA, as reported via the Public Education Information Management System (PEIMS), offers a wide array of information. These data include all of the requested information from “TEA about public education, including student demographic and academic performance, personnel, financial, and organizational information” (TEA, 2008, p. 2). Also, TEA utilizes the Academic Excellence Indicator System (AEIS) to report the ratings of schools, including student performance on the Texas Assessment of Knowledge and Skills (TAKS) test, student enrollment, financial information, class size, and so forth.

Theoretical Framework

Albert Bandura’s social learning theory posits that aggressive behavior is learned rather than inborn (Bandura, 1977; Bandura & Walters, 1959). According to his theory, aggressive behavior develops via observational learning (e.g., seeing aggressive behavior modeled in real-life settings or the media), direct experience (e.g., being rewarded for aggressive behavior), and self-regulation (e.g., rewarding or punishing oneself for manifesting the behavior) (Bandura & Walters, 1959). With aggressive behavior being one of the major problems in schools, social learning theory offers one explanation for this deviant behavior (Alexander & Langford, 1992).

Another explanation for deviant behavior is the sociological version of social learning theory developed by Akers and his colleagues (Akers, 1985; Akers, Krohn, Lanza-Kaduce, & Radosевич, 1979). Akers’s social learning theory differs from Bandura’s theory in that Akers et al. (1979) theorized that “the principal behavioral effects come from the interaction in or under the influence of those groups which control individuals’ major sources of reinforcement and punishment and expose them to behavioral models and normative definitions” (p. 638). According to Akers (1985), the strength of deviant behavior depends on the amount, frequency, and probability of its reinforcement. Akers theorized that four independent variables explain deviant behavior: (a) the extent of an individual’s imitation of admired models, (b) the extent of an individual’s definitions regarding deviant behaviors, (c) the extent of an individual’s differential association, and (d) the extent of an individual’s differential reinforcement.

Purpose of the Study

Although several studies have been conducted regarding (a) school violence in middle schools (e.g., Kerbs & Jolley, 2007) and (b) the size of schools (e.g., Lay, 2007), to date, no researcher appears to have examined the
role that the size of the middle school plays in determining incidents of violence specifically fighting, assaults, and aggravated assaults. Thus, the purpose of this mixed research study was twofold. The first purpose was to examine the relationship between the incidents of school violence and the size of middle schools in the state of Texas (i.e., Phase I: Quantitative Phase). Additionally, perceptions of school violence of principals from different-sized middle schools were examined to ascertain whether they believe school size plays a role in the number of incidents of school violence, as well as whether their perceptions align with the discipline data, specifically fighting, assaults, and aggravated assaults, reported to TEA (i.e., Phase II: Qualitative Phase).

Research Questions

Using Plano Clark and Badiee’s (2010) typology, the research questions addressed in Phase II of this mixed methods research study represented combination research questions, which involves at least one mixed methods question combined with separate quantitative and qualitative questions. Specifically, the following research questions were addressed:

**Quantitative research question.** The following quantitative research question was addressed in this study:

1) What is the relationship between incidents of school violence, specifically fighting, assault, and aggravated assault, and the size of middle schools in the state of Texas?

**Qualitative research question.** The following qualitative research question was addressed in this study:

2) What are the similarities and differences in perceptions regarding the role that school size plays in incidents of violence among select principals from different-sized middle schools?

**Mixed research question.** The following mixed research question was addressed in this study:

3) To what extent do the perceptions of principals regarding the level of violence in their schools reflect the actual reported incidents?

Research Hypothesis

The following research hypothesis was tested: There is a relationship between the size of the school and incidents of school violence among students in Texas middle schools.

Significance of the Study

It was hoped that the results of this mixed research study would provide valuable information to educators, administrators, parents, and community leaders that would better enable them to plan for future building needs of schools within their school districts. Also, it was hoped that the findings from this study would provide school leaders with information to assess the current needs of their schools, depending on the size of their facilities and the number of violent incidents. Most importantly, this information was expected to help educators understand better the role that the size of the middle school plays in the formation and frequency of school violence, whether in a large school or in a small school. With the varied use of preventions in schools, it was hoped that the new knowledge gained from this study would help develop and modify future and current violence prevention programs to assist better the individual needs of the students.

Method

**Participants, Instruments, and Procedures**

**Quantitative phase.** The quantitative phase of this mixed research study involved the use of convenience sampling (Onwuegbuzie & Collins, 2007). Specifically, archival discipline data indicating numbers of specific discipline incidents (e.g., referrals to school principals) that were collected by the Texas Education Agency (TEA) and stored in the Public Education Information Management System (PEIMS) database were examined. The PEIMS database is a system that stores all the data collected from public education schools and school districts. These data include student demographics, academic performance, student discipline, and organizational information that are collected electronically based on the procedures set forth in the PEIMS Data Standards (TEA, 2008). The selected population for this study represented middle schools in the state of Texas.

The selected middle schools contained students in Grades 6-8. However, Charter schools and alternative schools or any other school that did not meet the definition of a middle school were not included in this study.
Thus, the final sample size was 842 middle schools. Further, the target sample consisted of different-sized middle schools (i.e., very small, small, medium, large, and very large). Additionally, the discipline data were requested from TEA for the 2006-2007, 2007-2008, and 2008-2009 school years. The discipline data indicated the size of the school where high and low levels of violent incidents occurred, specifically fighting, assaults, and aggravated assaults.

Upon approval from the Institutional Review Board (IRB), a request was submitted to the PEIMS database coordinators in order to retrieve the archival data consisting of the discipline records of middle schools, as previously defined. The rationale for selecting more than one school year was to facilitate examination of trends over a three-year period. After the data were retrieved, analysis of the 842 middle schools took place.

The quantitative research question (i.e., What is the relationship between incidents of school violence, specifically fighting, assaults, and aggravated assaults, and the size of the middle schools in the state of Texas?) was addressed using a correlational research design. Correlational research designs describe and measure the degree of relationship between two or more variables (Johnson & Christensen, 2013). The independent variable for the quantitative research question was the size of the middle schools, whereas the dependent variable was incidents of school violence (i.e., fighting, assaults, and aggravated assaults).

After the data had been retrieved, they were analyzed based on the definitions of very small (< 300 total student enrollment), small (300-599 total student enrollment), medium (600-899 total student enrollment), large (900-1,999 total student enrollment), and very large (2,000 or more total student enrollment) middle schools, as specified by the Division of Accountability Research at TEA (1999). The data were analyzed using the Statistical Package for the Social Sciences (SPSS) to determine the size of middle schools that have high and low incidents of violence. After a correlational analysis had been conducted, an analysis of variance (ANOVA) was conducted to compare the number of incidents of school violence among the five size groups (i.e., very small, small, medium, large, very large) of the middle schools. None of the 842 schools met the enrollment criteria for being deemed a very large school, thereby resulting in an ANOVA that compared four size groups, instead of five size groups. This test also helped to examine whether there was a linear trend in incidents of violence as a function of size of school. A 5% level of statistical analysis was used for the ANOVA.

**Qualitative phase.** Convenience sampling was used to select the principals of different-sized middle schools. According to Teddlie and Yu (2007), convenience sampling involves “drawing samples that are easily accessible and willing to participate in the study” (p. 78). The selected principals were requested to participate in an interview about their particular campus’ discipline incidents, specifically fighting, assault against a student, and aggravated assault against a student, as well as their perceptions of middle school sizes and school violence. The interview consisted of open-ended questions so that the principals had opportunities to provide thorough responses to the questions instead of having limited response options such as with closed-ended questions (Creswell, 2005).

A nested sampling design was employed for the qualitative phase of this study. According to Onwuegbuzie and Leech (2007), nested sampling designs “represent sampling strategies that facilitate credible comparisons of two or more members of the same subgroup, wherein one or more members of the subgroup represent a sub-sample of the full sample” (p. 246). One school district in the state of Texas was selected to participate in the study. This school district contained seven principals who were participants. These seven principals represented one small school (300-599 total student enrollment), four medium schools (600-899 total student enrollment), and two large schools (900-1,999 total student enrollment), as defined by the Division of Accountability at TEA (1999). Ideally, the selected principals would have served on the selected campus for the two school years of 2007-2008 and 2008-2009 because this was from where the discipline information from TEA was extracted, and they must have been able to share their knowledge about those school years, at a minimum. Fortunately, all but one of the principals met this criterion. Each of the principals selected a pseudonym of her/his choice.

The qualitative research question (i.e., What are the similarities and differences in perceptions regarding the role that school size plays in incidents of violence among select principals from different-sized middle schools?), was addressed using an instrumental case study. The term instrumental case study is used if “a particular case is examined mainly to provide insight into an issue or to redraw a generalization” (cf. Stake, 2005, p. 437). More specifically, a multiple case study or collective case study was employed because of the interest on more than one particular case, which represents an instrumental case study extended to include several cases. Therefore, a number of cases were studied jointly “in order to investigate a phenomenon, population, or general condition” (cf. Stake, 2005, p. 437). In a multiple or collective case study, the cases are selected because it is believed that understanding them will lead to better theorizing and a better understanding of a larger population of cases (cf. Stake, 2005).
After the interviews had been conducted, they were transcribed. The transcribed interviews were analyzed to identify emergent themes. The information collected from the interviews was used to explain further the quantitative discipline data collected from TEA. After all of the interviews had been conducted and transcribed, a classical content analysis (Berelson, 1952) was used to analyze these interview data. Classical content analysis focuses on the frequency of codes used to determine the concepts most often cited throughout the data (Leech & Onwuegbuzie, 2008). The software program QDA Miner 3.2 (Provalis Research, 2009) was used to facilitate analysis of the interview responses to determine common themes among the responses from the participants. Additionally, the software program was used to determine whether the principals’ perceptions of the incidents of violence aligned with the discipline data collected from TEA.

Mixed research phase. The research philosophy that drove this study was what Johnson (2011, 2012, 2017; Johnson, Onwuegbuzie, Tucker, & Icenogle, 2014) labeled as dialectical pluralism. This philosophy refers to an epistemology which necessitates that the researcher incorporates multiple epistemological perspectives. Specifically, in this mixed research study, the following two epistemological perspectives were combined: pragmatism-of-the-middle and social constructionism. According to Onwuegbuzie, Johnson, and Collins (2009), pragmatism-of-the-middle “offers a practical and outcome-oriented method of inquiry that is based on action and leads, iteratively, to further action and the elimination of doubt; paradigms routinely are mixed” (p. 134). In contrast, social constructionism focuses more on social processes and interactions (Schwandt, 2007). More specifically, the social constructionist paradigm involves a quest to seek understanding through recollections and vicarious experiences of individuals (Schwandt, 2000). Because school violence represents a social act (i.e., has a social context), the social constructionist research paradigm was deemed appropriate for the present study.

The selection of principals represented a multistage purposeful sampling scheme because the choice of participants in the study was purposive in all of the stages in this study (Onwuegbuzie & Collins, 2007). More specifically, the mixed sampling design involved both (a) a concurrent sampling design using nested samples and (b) a concurrent sampling design using multilevel samples. For the former mixed sampling design, the qualitative sample was nested within the quantitative sample, whereas for the latter mixed sampling design, the qualitative sample contained some participants (i.e., principals) who were at a different level than were the participants in the quantitative sample (i.e., students).

With respect to the mixed research design, the overall study involved the use of a fully mixed concurrent equal status research design (Leech & Onwuegbuzie, 2009). This particular design involved mixing qualitative and quantitative research approaches within one or more or across the following components of a single research study: research objective, type of data and operations, type of analysis, and type of inference. Both the quantitative and qualitative phases occurred concurrently at one or more or across the stages, with both elements being given approximately equal weight, thereby resulting in an equal status design (Leech & Onwuegbuzie, 2009). For a concurrent mixed research design study, the following three conditions must be met: (a) quantitative and qualitative data are collected separately at approximately the same time, (b) the quantitative and qualitative data are not mixed during the data analysis stage, and (c) both sets of data are collected and analyzed separately, with mixing of the analysis occurring at the data interpretation stage (Leech & Onwuegbuzie, 2009).

For the mixed analysis, phase, where appropriate, the qualitative data were quantitized (Tashakkori & Teddlie, 1998). Specifically, for each emergent theme, if a participant (i.e., principal) made a statement that was eventually characterized under a particular theme, then a score of “1” was given to the theme for the principal response; a score of “0” was given otherwise. This dichotomization led to the formation of an inter-respondent matrix of themes (i.e., participant x theme matrix) (Onwuegbuzie, 2003; Onwuegbuzie & Teddlie, 2003), which consisted only of 0s and 1s. By calculating the frequency of each theme from the inter-respondent matrix, percentages were computed to determine the prevalence rate of each theme. These frequencies served as effect sizes (Onwuegbuzie, 2003; Onwuegbuzie & Combs, 2010; Onwuegbuzie & Teddlie, 2003). Inferences stemming from the quantitative analysis, qualitative analysis, and mixed analysis were combined to yield meta-inferences, which involve inferences stemming from both the qualitative and quantitative findings being combined into a coherent whole (Tashakkori & Teddlie, 1998).

The analysis for this study was built upon the framework of Onwuegbuzie and Teddlie (2003). These authors described the use of quantitative and qualitative data analytic techniques in a complementary manner. They also identified the following seven stages of the mixed analysis process: data reduction (e.g., descriptive statistics for quantitative data, exploratory thematic analysis for qualitative data); data display (e.g., charts, graphs, tables); data transformation (e.g., quantitzing [i.e., transforming qualitative data to a numerical form; Tashakkori & Teddlie, 1998] or quantifying data [i.e., transforming quantitative data into data that can be analyzed qualitatively; Tashakkori & Teddlie, 1998]); data correlation (i.e., correlating qualitative data with quantitized...
data or vice versa); data consolidation (i.e., combining qualitative and quantitative data to create new data sets); data comparison (i.e., comparing the qualitative and quantitative data findings); and data integration (integrating both qualitative and quantitative data into a whole or two separate sets). Of the seven stages described by Onwuegbuzie and Teddlie (2003), this study employed five of them: data display, data correlation, data consolidation, data comparison, and data integration. Figure 1 provides a visual representation of the research implementation process employed for this study.

Results

Quantitative Findings

The quantitative research question was analyzed using SPSS version 17 to examine incidents of violence as a function of the size of the middle school. For each analysis conducted, the independent variable was the mean size of the school, which represented the mean school size over a 3-year period (i.e., 2006-2009) (cf. Table 1), and the dependent variable was incidents of school violence (i.e., fighting, assaults, and aggravated assaults).

Table 1. Mean and Standard Deviation for the Discipline Variables and School Size Variable (n = 842)

<table>
<thead>
<tr>
<th>Variable</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proportion of Students Involved in Fights</td>
<td>77.76</td>
<td>78.85</td>
</tr>
<tr>
<td>Proportion of Students Involved in Assaults</td>
<td>5.14</td>
<td>7.75</td>
</tr>
<tr>
<td>Proportion of Students Involved in Aggravated Assaults</td>
<td>0.33</td>
<td>8.60</td>
</tr>
<tr>
<td>Proportion of Incidents of Fights</td>
<td>61.14</td>
<td>67.76</td>
</tr>
<tr>
<td>Proportion of Incidents of Assaults</td>
<td>4.94</td>
<td>7.48</td>
</tr>
<tr>
<td>Proportion of Incidents of Aggravated Assaults</td>
<td>0.32</td>
<td>0.85</td>
</tr>
<tr>
<td>Mean School Size (2007-2009)</td>
<td>796.17</td>
<td>395.60</td>
</tr>
</tbody>
</table>

Correlational findings. All of the variables suggested non-normality because, for each variable, the standardized skewness coefficient (i.e., skewness divided by the standard error of skewness) and/or the standardized kurtosis coefficient (i.e., kurtosis divided by the standard error of kurtosis) were outside the ±3 range (Onwuegbuzie & Daniel, 2002). Therefore, Spearman’s correlation coefficient (i.e., Spearman’s rho)—a non-parametric correlation coefficient—was performed. Because six correlation coefficients were computed, a Bonferroni adjustment was applied to avoid the total experimentwise error rate from exceeding 5% (Chandler, 1995), which yielded an adjusted level of statistical significance of .0083 (i.e., .05/6 = .0083). After applying this adjustment, the series of Spearman’s rho correlations revealed that all six discipline variables were statistically significantly and positively related to school size. Cohen’s (1988) criteria suggested that these correlations represented either small or medium relationships. The stronger correlations involved the proportion of students who commit assaults and the proportion of incidents of students committing assaults (cf. Table 2).

Table 2. Spearman’s rho Correlations Between School Size and the Six Discipline Variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>School Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students Involved in Fights Proportional</td>
<td>.12*</td>
</tr>
<tr>
<td>Students Involved in Assaults Proportional</td>
<td>.26*</td>
</tr>
<tr>
<td>Students Involved in Aggravated Assaults Proportional</td>
<td>.17*</td>
</tr>
<tr>
<td>Number of Incidents of Fights Proportional</td>
<td>.12*</td>
</tr>
<tr>
<td>Number of Incidents of Assaults Proportional</td>
<td>.25*</td>
</tr>
<tr>
<td>Number of Incidents of Aggravated Assaults Proportional</td>
<td>.17*</td>
</tr>
</tbody>
</table>

Note: *p < .001.

ANOVA findings. Following the series of Spearman’s correlation coefficients, a nonparametric ANOVA was conducted. Specifically, a series (n = 6) of Kruskal-Wallis tests was employed, one test for each dependent variable. These Kruskal-Wallis tests revealed a statistically significant difference among the four middle school size categories with respect to all six dependent variables (cf. Table 3). Using Cohen’s (1988) criteria, school size had a small-to-moderate relationship with the proportion of students involved in assaults and the proportion of incidents of aggravated assault occurring on middle school campuses. School size had a small relationship with the other variables.
Figure 1. Research implementation process.

**Research Questions**

**Data Collection**

**Quantitative**
Archival discipline data from TEA

**Qualitative**
Principal and Student Interviews

**Data Analysis**

**Quantitative Research Questions**
1. Data Reduction
   - Compute school size and incidents of violence
   - Compare school sizes to determine statistical significance (ANOVA)

**Qualitative Research Questions**
1. Data Reduction
   - Identify themes and trends (QDA Miner 3.2)

**Mixed Research Questions**
1. Data Comparison
   - Compare qualitative and quantitative data
2. Data Correlation
   - Relate thematic responses with school size and incidents of violence
3. Data Integration
   - Integrate findings from Quant (size/incidents) and Qual (thematic) into the data analysis
4. Data Display
   - Use of charts, graphs, and figures
5. Data Consolidation
   - Combine quantitative and qualitative data
Table 3. Findings Pertaining to the Kruskal-Wallis Test

<table>
<thead>
<tr>
<th>Variable</th>
<th>X²</th>
<th>df</th>
<th>p-value</th>
<th>Effect Size (Cramer’s V)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proportion of Students Involved in Fights</td>
<td>12.84</td>
<td>3</td>
<td>.005</td>
<td>.07</td>
</tr>
<tr>
<td>Proportion of Students Involved in Assaults</td>
<td>124.17</td>
<td>3</td>
<td>&lt; .0001</td>
<td>.22</td>
</tr>
<tr>
<td>Proportion of Students Involved in Aggravated Assaults</td>
<td>25.58</td>
<td>3</td>
<td>&lt; .0001</td>
<td>.10</td>
</tr>
<tr>
<td>Proportion of Incidents of Fights</td>
<td>14.93</td>
<td>3</td>
<td>&lt; .0001</td>
<td>.08</td>
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<tr>
<td>Proportion of Incidents of Assaults</td>
<td>25.56</td>
<td>3</td>
<td>&lt; .0001</td>
<td>.10</td>
</tr>
<tr>
<td>Proportion of Incidents of Aggravated Assaults</td>
<td>123.17</td>
<td>3</td>
<td>&lt; .0001</td>
<td>.22</td>
</tr>
</tbody>
</table>

Note: df = degrees of freedom.

Trend analysis. Next, a series (n = 6) of tests of orthogonal polynomials was conducted to examine the trend of the incidents of school violence, specifically, the trend in fighting, assaults, and aggravated assaults as a function of the four school size types. With respect to the proportion of students involved in fights, a test of orthogonal polynomials revealed a quadratic trend, \(F(1, 838) = 8.68, p = .003\). Specifically, the proportion of students involved in fights increased sharply from very small schools to small schools—peaking at small schools, before decreasing slightly and linearly for medium schools and large schools. In contrast, with regard to the proportion of students involved in assaults, a cubic trend emerged, \(F(1, 838) = 8.68, p = .003\). Specifically, the proportion of students involved in assaults increased sharply from very small schools to small schools—peaking at small schools, before decreasing somewhat sharply for medium schools and less sharply between middle schools and large schools. With respect to the proportion of students involved in aggravated assaults, a linear trend was revealed, \(F(1, 838) = 5.05, p = .025\). Specifically, the proportion of students involved in aggravated assaults increased sharply from very small schools to small schools—peaking at small schools, before decreasing very slightly for both medium and large schools. With regard to the proportion of incidents of fights, a quadratic trend emerged, \(F(1, 838) = 14.80, p < .0001\). Specifically, the proportion of incidents of fights increased very sharply from very small schools to small schools—peaking at small schools, before decreasing sharply and approximately linearly for medium schools and large schools. With respect to the proportion of incidents of assaults, a quadratic trend also was revealed, \(F(1, 838) = 3.86, p = .05\). Specifically, the proportion of incidents of assaults increased very sharply from very small schools to small schools—peaking at small schools, before decreasing sharply and approximately linearly for medium schools and large schools. Finally, with regard to the proportion of incidents of aggravated assaults, a cubic trend emerged, \(F(1, 838) = 5.40, p = .02\). Specifically, the proportion of incidents of aggravated assaults increased very sharply from very small schools to small schools—peaking at small schools, before decreasing somewhat sharply for medium schools and less sharply between middle schools and large schools.

Qualitative Findings

Interview Question Set 1. The first set of interview questions (i.e., What are your thoughts about the optimal size of middle schools? What do you think would be an optimum size for a middle school? Why?) prompted a variety of responses from the seven principals. Regarding the middle portion of the interview question (i.e., What do you think would be an optimum size for a middle school?), all seven principals indicated that they believed that the current size of the campus for which they served as principal was a good size for a middle school. All of the principals, except Eric Anderson (pseudonym), mentioned the approximate number of students at their respective campuses, although the total enrollment (852 for the 2009-2010 school year) on his campus fell within the size range that he stated was optimal for a middle school: “I think about 800 to 1,000 is probably a good size.”

Figure 2 depicts a correspondence analysis plot—representing a crossover mixed analysis technique (Onwuegbuzie & Combs, 2010)—that demonstrates how the principals relate to one another with regard to the themes that emerged from their responses. In Figure 2, Danny Nave, John Flemmings, and Eric Anderson are clustered together close to the themes of staff utilization and 600-899 students medium size because these were the two reasons provided by these principals as to why they thought a particular size middle school is optimal. Mary Jones and Sharon Brown are clustered together around 600-899 students medium size and build relationships because they believed these were the two reasons for an optimal-sized middle school.
The themes of staff utilization, physical limitations of the building, 600-899 students medium size, and no optimal size are on the top portion of the plot representing non-relationship issues. The other themes of build relationships, parental involvement, and no opinion are on the bottom portion of the plot, with the former two themes representing relationship issues. In examining the themes on the left and right sides of the plot, there are school size relevant factors (i.e., staff utilization and 600-899 students medium size) on the left hand side, and factors not relevant to school size (i.e., physical limitations of building, no optimal size, build relationships, parental involvement, and no opinion) on the right hand side. An interesting observation was that the two large-sized middle school principals, Denise Smith and Samuel Edry, both stated that they did not believe there was an optimal size for a middle school. This observation is reflected in Figure 2 in which both Denise Smith and Samuel Edry are located nearest to the theme no optimal size, with Denise Smith also being located near
build relationships, parental involvement, and no opinion on school size themes, whereas, in contrast, Samuel Edry also is located near the physical limitations of the building theme. Denise Smith reported, “So, if you hire the right people who understand that vision then I don’t think it really matters about the size so to speak.” Samuel Edry surmised, “Well, I don’t think there is an optimal size by itself. I think it depends upon the physical limitations of the building.” Further, the two large-sized middle schools had the lowest percentage of economically disadvantaged students, the highest percentage of White students, and Denise Smith’s middle school had the lowest percentage of Hispanic students, whereas Samuel Edry’s middle school was in the bottom three with respect to the percentage of Hispanic students. The other five principals indicated that a medium-sized school would be the ideal size for a middle school.

Three of the principals (Danny Nave, Eric Anderson, and John Flemmings) mentioned staff utilization as they shared their thoughts and perceptions about the optimal size of middle schools. All three principals were from medium-sized middle schools and all of them mentioned that they utilized teams or communities within their grade levels. Eric Anderson shared, “... you can do learning communities like true middle school when you have that number of people (800–1,000 students). It makes it easy to utilize people, so that is the best size.”

Interview Question Set 2. The second set of interview questions contained one interview question that asked the seven principals to share their experiences with school violence. Figure 3 depicts the correspondence analysis plot differentiate high violence level incidents from low violence level incidents. Thus, the two dimensions underlying this correspondence analysis plot represent high violence level incidents. The other themes of community issues, fighting, bullying, and theft are on the left side of the plot representing low violence level incidents. The other themes of gang activity, weapons, and assaults are on the right side of the plot representing high violence level incidents. Thus, the two dimensions underlying this correspondence analysis plot differentiate high violence level incidents from low violence level incidents.
Interview Question Set 3. The third interview set of questions also involved one question (i.e., How would you account for differences in the levels of violence that some campuses experience?) that prompted some interesting feedback. One of the main themes that emerged from this question was the SES of the students. Figure 4, another correspondence analysis plot, shows how the principals relate to each other with regard to their responses to this interview question.

All but one of the principals indicated that they believed that the SES of the students attending the middle school played a key role in the different levels of violence that middle school campuses experience. In particular, Samuel Edry declared, "I think the economic status of the students I think makes a big, big difference. I think from the anecdotal conversations from the principals I talked about or to, there seems to be more violence on the emphasis at the big title schools that have lots of difficulty economically and come from economically deficient backgrounds and things.

Interestingly, only one of the principals indicated that she believed that the size of the school accounted for some differences in the levels of violence at middle schools. Principal Sharon Brown concluded, "I think some schools probably have less violence than we do in this district so I think we’re small is one of the reasons. We are one of the smallest middle schools." Her response indicated that she believed that being small was a reason that she did not see a lot of violence on her campus.

There were three principals (Mary Jones, Danny Nave, and John Flemmings) who believed that having expectations for behavior could account for some of the different levels of violence. John Flemmings shared, "I know that discipline within a school will help. I mean if you don’t have good discipline within a school from top down, I mean that could affect your school." In mentioning the expectations of behavior, the principals were referring to the administrators as setting up the guidelines and the rules for which the students are expected to follow and the teachers to reinforce. They believed that having clear rules and structure within the school setting would send a message to the students that the adults are in charge.
Psycho-Behavioral Factors

Parental Involvement

Denise Smith

Fluctuating Factors

Expectations of behavior

Perceptions

Danny Nave

John Flemmings

Immutable Factors

SES

Samuel Edry

Size of school

Sharon Brown

Figure 4. Correspondence analysis plot for Interview Question Set 3.

Figure 4 is interesting in that three of the principals (i.e., Mary Jones, Danny Nave, and John Flemings) are on one side of one of the dimensions and the other four (i.e., Denise Smith, Eric Anderson, Samuel Edry, and Sharon Brown) are on the other side. More specifically, this dimension separated the theme expectations of behavior from all other themes, namely, parental involvement, SES, and size of school. Interestingly, the themes represent either immutable factors (i.e., SES, and size of school), which are located at the bottom of the correspondence plot, from psycho-behavioral factors (i.e., parental involvement, expectations of behavior), which are located at the top of the correspondence plot. Thus, the two dimensions underlying this correspondence analysis plot differentiate immutable factors from psycho-behavioral factors. Samuel Edry is closest to the theme of SES because he believes this to be the one factor that plays a role in the different levels of violence seen on individual campuses. Danny Nave, John Flemmings, and Mary Jones are clustered together near the theme of expectations of behavior, whereas Sharon Brown is near the theme of size of school because she was the only one to mention that the size of the school plays a role in the level of violence occurring on individual campuses. Denise Smith is near the theme of parental involvement because she mentioned this more than once in her response to this interview question. Finally, Eric Anderson is between the themes of SES and parental involvement because he mentioned both of these as contributing factors to different levels of violence in middle schools.

In addition to the top and bottom portion of the plot having a pattern of the themes, the right and left side also have a pattern. Specifically, the left side of the plot has the one theme of expectations of behavior representing perceptions. The right side of the plot has the themes of parental involvement, SES, and size of school, representing fluctuating factors because they can change each school year.

Interview Question Set 4. For the interview question (i.e., How do you feel the size of the middle school plays a role in the level of violence occurring on individual campuses?), there were not a majority of principals who shared the same opinion. Figure 5 displays a correspondence analysis plot to illustrate the relationship of the principals as to how they responded to this interview question set. Three of the principals (Denise Smith,
Samuel Edry, and John Flemmings) believed that the size of the school did not play a role in the level of violence. As such, these three principals are closest to the size does not matter theme in the correspondence analysis plot. Contrastingly, the four other principals (Eric Anderson, Mary Jones, Danny Nave, and Sharon Brown) did believe that the size of school played a role in the level of violence. Interestingly, these four principals had various years of service, different demographics at their respective campuses, and one of them (Sharon Brown) was principal of a small school. Collectively, the four of them did not share any similarities that would suggest why they believed school size plays a role in the level of violence in middle schools.

In Figure 5, John Flemmings and Samuel Edry are clustered together near the theme of size does not matter because this was the only reason that they provided when asked about how they felt the size of the middle school played a role in the level of violence occurring on individual campuses. Interestingly, John Flemmings and Samuel Edry were from a medium-sized and a large-sized middle school, respectively. Further, the student demographics on their individual campuses were very different as well. The only similarity was the years of service as principal, with John Flemmings serving 4 years and Samuel Edry serving 5 years. Denise Smith also is clustered near the theme of size does not matter, as well as connectedness to school. She was the principal of the other large middle school, a similarity shared with Samuel Edry. Another cluster in the correspondence analysis plot is Mary Jones and Eric Anderson. They are clustered near the theme of size does matter because this was the only reason provided by Eric Anderson, and Mary Jones mentioned it three times in her response to the question. These two principals were similar in that they both served at medium-sized schools. On the other hand, the demographics of their respective campuses were very different, and there was a 3-year difference in their years of service.

Another cluster in Figure 5 is Danny Nave and Sharon Brown, who are near the themes of building relationships, connectedness to school, and size does matter. These two principals discussed all three of these themes when responding to the interview question. The differences between these principals were their years of service, the size of the school, and the overall student demographics. However, the similarity was that they both

Figure 5. Correspondence analysis plot for Interview Question Set 4.
had high percentages of economically disadvantaged students and high percentages of Hispanic students on their campuses.

Figure 5 differentiates relationship themes (i.e., connectedness to the school and building relationships), which are on the top, from the size of school themes (i.e., size does matter and size does not matter), which are on the bottom. Thus, the correspondence analysis plot underlies two dimensions that contrast relationships from school size. Further, the plot differentiates the non-school size factor (i.e., size does not matter), which are on the right side, from school size factors (i.e., size does matter and building relationships), which are on the left side. The theme of connectedness to school is split between the right and left side. Because this is a relationship theme, it would be reasonable to include this theme as a school size factor with the theme of building relationships.

The two additional themes that emerged when talking to the principals about the role that school size plays on the level of violence on middle school campuses were building relationships and connectedness to the school. The three principals who indicated the importance of building relationships with students were Mary Jones, Danny Nave, and Sharon Brown, who had a large percentage of economically disadvantaged students on their campuses. Those three principals all shared that they believed that school size did play a role in the level of violence occurring on individual middle school campuses. For example, Sharon Brown shared, “... they [the teachers] may have an opportunity to get to know their kids so that they have that opportunity to build relationships to know them, which means that they can then be more successful, you know in their academics ...”

The three principals who mentioned the need for students to feel connected to the school were Denise Smith, Danny Nave, and Sharon Brown. Denise Smith stated:

You know, middle school, you are looking for your place and kids are trying to find their niche and their trying to find their group that they can gravitate to. We are very much a proponent of getting kids involved in some sort of extracurricular activity or some sort of club or something, even an after-school program or something that can keep them connected to the school or connected to a group, having a group of kids.

These three principals were from three different-sized middle schools; large, medium, and small, respectively. The demographics of the school and the individual principals were markedly different; therefore, there does not appear to be a relationship between why the principals think students feeling connected to the school are important and the selected demographic variables (e.g., gender). In particular, the principals’ responses did not appear to vary as a function of the size of school that they served.

Danny Nave and Sharon Brown did both indicate that building relationships and students feeling connected to the school were important. However, these two principals were different in years of service, size of the middle school, and overall student demographics. The only similarity is that they both had high percentages of economically disadvantaged students and Hispanic students on their campuses.

Interview Question Set 5: When the principals were asked about the most common violent incidents occurring on their respective campuses, all but one of them indicated that it was fighting. Some of the other violent incidents that were mentioned included assaults, bullying, bringing weapons, dress code violations, and gang-related activities. Figure 6 displays a correspondence analysis plot that shows the relationship between the principals as to the most common violent incidents occurring on their campuses. With regard to the principals who reported that fighting was the most common violent incident, Samuel Edry explained, “When we get violence, it is usually fighting. And we are not talking about horse playing now, we are talking about actual fist fighting. That would be the one.” Also, Mary Jones shared, “There are school fights that you would have at any school no matter if it’s a rich school, poor school, large school or small school.”

Denise Smith was the only principal who did not mention fighting as a common violent incident. Although she did indicate that fights have occurred on her campus, she did not believe that it was the most common violent incident. Rather, she reported that bullying was the most common school violence issue that they dealt with at her school. She stated,

Our kids are more into the Facebook and that kind of stuff but in terms of physical violence, we don’t really have a lot of that we just have more of that emotional stuff that goes on with kids. Just the bullying. We deal with a lot of bullying, we have a lot of anti-bullying stuff on our campus and stuff to help the social emotional development of kids.

Denise Smith was the principal of one of the two large middle schools selected for this study. Also, on her campus was the smallest number of economically disadvantaged students, with most of the population comprising White students.
The three principals clustered together in Figure 6 are Mary Jones, Samuel Edry, and Eric Anderson. They are near the themes of bring weapon, dress code violation, and assault. In addition to sharing that fighting was one of the most common violent incidents occurring on their campuses, Mary Jones mentioned dress code violation and assault, John Flemmings mentioned assault, and Samuel Edry mentioned bring weapon and assault. These three principals were different in their years of service, size of school, and overall student demographics. The other four principals are clustered near different themes on the correspondence analysis plot. Specifically, Sharon Brown and Danny Nave are closest to fights. In contrast, John Flemmings is clustered close to gang-related activity and Dennis Smith is closest to bullying.

In examining the correspondence analysis plot for patterns among themes, the one similarity is that all of them were control-seeking behaviors. Some of the behaviors were more severe (i.e., assault, bring weapon, gang-related activities) than were others (i.e., fights, bully, dress code violations); however, all of them, to some degree, were attempting to gain or to maintain control. For example, if students brought a weapon to school, they might be seeking to control another student with violence. Further, the top of the plot is represented by individual-based behaviors (i.e., bring weapon, dress code violation, assault, and fighting), whereas the bottom is represented by group-based behaviors (i.e., bullying and gang-related activity).

**Interview Question Set 6.** Six themes emerged when the principals were asked this particular interview question (i.e., Why do you think students engage in fights, assaults, or aggravated assaults?). The three most commonly mentioned themes were (a) lack of problem solving/control, (b) save face/peer pressure, and (c) learned behavior. Figure 7 displays the correspondence analysis plot.
Peer-/Family-Related Factors

Outside family dispute
Dispute over boy/girl
Sharon Brown

Save face/peer pressure
Denise Smith

Rumors
Danny Nave

Learned behavior
Mary Jones
Samuel Edry

Lack of problem solving/control
Eric Anderson

Behavioral Factors

Figure 7. Correspondence analysis plot for Interview Question Set 6.

Four of the principals (Eric Anderson, Samuel Edry, Mary Jones, and Danny Nave) shared that they believed that students were lacking the appropriate problem solving or control skills to know how to deal with a conflict involving their peers. Eric Anderson shared the following:

I just think that a lot of kids that we deal with, with them having those social issues they just don’t have any coping skills. They have not been taught those and I think that is an error of the school and I think it is an error of the community at large; and I think that I know their parents love them the best they can but I think that the reality of the world where they don’t necessarily have a traditional family structure, the parents are working a lot and can’t really give them the kind of structure they need...

These four principals were from one large (Samuel Edry) and three medium-sized (Eric Anderson, Mary Jones, and Danny Nave) middle schools. Also, the demographics of the four campuses were quite different. Further, the years of experience ranged from 4 to 7 years as principal at their respective campuses. Therefore, there did not appear to be any similarities in these four principals as to why they would all indicate that students lacking appropriate problem solving or control skills explains why students engage in fights, assaults, or aggravated assaults.

There were three principals (Denise Smith, Danny Nave, and Sharon Brown) who indicated that students engage in fights, assaults, or aggravated assaults because of the need to save face and/or peer pressure not to walk away from a conflict. Denise Smith stated the following:

... sometimes it is because of peer pressure when we see it the peer pressure it is “hey come on are you going to let him talk to you like that or that way,” and they are egging each other on ...

These three principals were all from different-sized middle schools with very different demographics and they all had served as principal for a different number of years.
Also, three principals (Denise Smith, Samuel Edry, and Mary Jones) believed that students learn behaviors about engaging in physical altercations from the community and/or their parents. Mary Jones explained,

"So, the first thing that comes up is what they either see outside whether it’s the fight club, whether it’s the parents, whether it’s a lot of plaguing the poverty schools. If they are in homes where there is a high incident of violence related to poverty, there’s more drug use, there’s more alcohol, there’s more everything. There’s less problem solving."

Denise Smith and Samuel Edry were from large middle schools, and Mary Jones was from a medium-sized middle school. The overall student demographics of their respective campuses were quite different. Also, the years of service as principal of their middle school ranged from 4 to 7 years. Thus, there did not appear to be any similarities among these three principals that would explain the reasoning behind their beliefs that students learn behaviors about engaging in physical altercations from the community and/or their parents.

The correspondence analysis plot for this interview question set is quite interesting because all of the principals are on the right side of the quadrant. Further, two of the seven principals are in the upper quadrant (i.e., Sharon Brown, Denise Smith), whereas four of the principals are in the lower quadrant (i.e., Danny Nave, Mary Jones, Samuel Edry, and Eric Anderson), with John Flemmings lying in the center of the continuum. John Flemmings is the one principal who is out to the far right by himself because he mentioned only rumors as being the reason why students engage in fights, assaults, or aggravated assaults. The two principals who are very close are Mary Jones and Samuel Edry because they both mentioned lack of problem solving/control and learned behavior as the two reasons why students engage those violent behaviors. These two principals served different-sized schools and varied in their years of service and the overall student demographics. Finally, Eric Anderson is closest to lack of problem solving/control. Sharon Brown and Denise Smith are closest to outside family dispute, dispute over boy/girl, and save face/peer pressure.

In Figure 7, the top quadrant contains peer-/family-related factors (i.e., outside family dispute, dispute over boy/girl, save face/peer pressure, and rumors), whereas the bottom quadrant is represented by behavioral factors (i.e., learned behavior and lack of problem solving/control). Thus, the correspondence analysis plot underlies two dimensions contrasting behaviors from external factors.

**Interview Question Set 7**. The two main themes that emerged from this interview question (i.e., If a fight, assault, or aggravated assault were to take place on your campus and students were witness to the incident, how might the students react?) were (a) cheering and (b) reporting to an adult. Figure 8 displays the correspondence analysis plot that shows how the principals relate to one another with regard to their responses.

Of the seven principals, five of them (Eric Anderson, Mary Jones, Danny Nave, John Flemmings, and Sharon Brown) described cheering as an action that students would demonstrate if they were witnessing a fight, assault, or aggravated assault. Danny Nave shared,

"Some are cheering. Some are, are, well it is such an emotional thing. I could visualize right now. I could visualize it. It is such an emotional thing. [Alternate voice] Hit her! Get him! Hey! People just completely loose themselves and get this mentality."

These five principals comprised the four medium-sized and one small-sized middle school selected for this study. The two principals who did not mention cheering as an action that students would demonstrate were from the two large-sized middle schools, suggesting a relationship between school size and this theme. All five of the principals mentioned earlier have percentages of economically disadvantaged students ranging from 46.5% to 89.1%. The two principals who did not mention cheering led schools with lower percentages of economically disadvantaged students, suggesting a relationship between socioeconomic status and this theme. However, the other demographics of the individual campuses vary in terms of White, Hispanic, African American, and Limited English Proficient (LEP).

The other theme of reporting to an adult was described by principals Denise Smith, Samuel Edry, John Flemmings, and Sharon Brown. Principal Samuel Edry explained, “Most students will intervene to break the fight up and then the other percentage of students will come to tell us. When it happens I don’t think it is 15 seconds before we find out about it.” These principals were from the large-sized campuses, one medium-sized campus, and one small-sized campus. In addition, the demographics of the individual campuses varied in all areas. Thus, there does not appear to be a relationship between this theme and the selected demographic variables.
Low Level of Mature Reactions

Crying

Reporting to an adult

Cheering

Trying to stop the incident

High Level of Mature Reactions

Scared

Denise Smith

Sharon Brown

Danny Nave

John Flemmings

Samuel Edry

Mary Jones

Figure 8. Correspondence analysis plot for Interview Question Set 7.

In Figure 8, even though five of the principals stated that cheering was a reaction to students who witness a fight, assault, or aggravated assault, they all had some other but different reaction as well. Danny Nave was the only principal who stated only cheering was a student reaction, as reflected by his location on the correspondence analysis plot. Interestingly, no two principals responded in a similar way, as depicted in the correspondence analysis plot. The top quadrant of Figure 8 is represented by low levels of mature reactions (i.e., scared, cheering, and crying), whereas the bottom quadrant contains high levels of mature reactions (i.e., reporting to an adult and trying to stop the incident). Thus, the correspondence analysis plot underlies two dimensions representing level of mature reaction.

Similarities and differences. Throughout the interviews, there were some very clear differences and similarities in opinions among the principals. Therefore, a closer examination of the similarities and differences will better help to understand the various perceptions of the principals that emerged during the interviews. Figure 9 depicts a correspondence plot showing the relationship between the principals and these common themes. As the information in the table displays, the principals share some very similar perceptions regarding school size, school violence, and some reasoning behind the different levels of violence, and how some students behave when they are exposed to those violent incidents.

Mixed Methods Research Question

The mixed methods research question (i.e., To what extent do the perceptions of principals regarding the level of violence in their schools reflect the actual reported incidents?) was examined by asking the principals how many fights, assaults, and aggravated assaults that they thought had occurred over the past 3 to 4 years at their respective campuses. The responses to this question then were compared to the archival discipline data
requested from TEA. Table 4 depicts the information provided by the principals in the interview and the actual numbers provided by TEA.

![Figure 9](image-url) Correspondence analysis plot of main themes among principals.

**Table 4. Principal Perceptions Versus Actual Numbers of Fights, Assaults, and Aggravated Assaults (2007-2009)**

<table>
<thead>
<tr>
<th>Principal</th>
<th>Years of Service</th>
<th>Size of School</th>
<th>Perceived # of fights</th>
<th>Actual # of fights</th>
<th>Perceived # of assaults</th>
<th>Actual # of assaults</th>
<th>Perceived # of aggravated assaults</th>
<th>Actual # of aggravated assaults</th>
</tr>
</thead>
<tbody>
<tr>
<td>Denise Smith</td>
<td>4</td>
<td>Large</td>
<td>10</td>
<td>18</td>
<td>2-3</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Eric Anderson</td>
<td>4</td>
<td>Medium</td>
<td>10</td>
<td>44</td>
<td>1</td>
<td>5</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Samuel Edry</td>
<td>5</td>
<td>Large</td>
<td>40</td>
<td>26</td>
<td>30</td>
<td>2.5</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>Mary Jones</td>
<td>7</td>
<td>Medium</td>
<td>20-40</td>
<td>135</td>
<td>8</td>
<td>2.5</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Danny Nave</td>
<td>7</td>
<td>Medium</td>
<td>60-80</td>
<td>108</td>
<td>8</td>
<td>2.5</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>John Flemmings</td>
<td>4</td>
<td>Medium</td>
<td>40-45</td>
<td>39</td>
<td>0</td>
<td>2.5</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Sharon Brown</td>
<td>3</td>
<td>Small</td>
<td>40-60</td>
<td>20</td>
<td>5</td>
<td>2.5</td>
<td>2</td>
<td>0</td>
</tr>
</tbody>
</table>

In Table 4, the number 2.5 represents the median between 1 and 5. The data requested from TEA were masked for any frequencies of 5 or less with a 999 for a particular school if the numbers of students or incidents were between 1 and 5. This was undertaken to uphold student confidentiality. Therefore, in order to analyze the data, the median of 2.5 was used to reflect the number of students or incidents where appropriate. It should be noted that only Samuel Edry, Mary Jones, and Danny Nave were principals for the three school years of discipline data included in this study.
In Table 4, the actual number of fights, assaults, and aggravated assaults represents an average of the three years of archival discipline data requested and received from TEA. All of the principals were asked about their knowledge of how many fights, assaults, and aggravated assaults had occurred on their campuses over the course of the last 4 school years if they had served on the campus for that length of time. There was only one principal, Sharon Brown, who had only served as principal for 3 years. Also, the principals were asked to provide the numbers of the different violent incidents for the last 4 school years, and the discipline data are only representative of 3 school years. This might have had an impact on the difference in the numbers provided by the principals when they were asked questions about how many fights, assaults, and aggravated assaults had occurred on their campuses.

For the assaults and aggravated assaults, most of the principals needed a definition of these incidents, which was surprising because all of them had served as an assistant principal before becoming a principal. On these campuses, the assistant principals were those who entered all of the discipline data—although the interviewed principals might not ever have had to deal with an assault or an aggravated assault incident during their service as an assistant principal, not requiring them to be knowledgeable of the difference. All of the principals, except for Samuel Edry, were fairly close to the actual number of assaults occurring on their campuses. Samuel Edry indicated that on his campus they treated fights as assaults and issued the same consequences. He stated,

We treat a fight as an assault. The kid goes home for three days, he is ticketed by the police. And the police issue it as assault by contact and then the student would move off campus. The only time we wouldn't do that is if there were some variables of one sort or another or there was more pushing.

However, according to the archival discipline data, assaults are not coded the same because the numbers of fights and assaults were very different. Also, all of the principals were fairly close to knowing the actual number of aggravated assaults that had occurred on their campuses. All but two of the principals indicated that there had been zero aggravated assaults on their campus, and there had been zero reported to TEA. Interestingly, again, Samuel Edry was one of the two principals who thought there had been four aggravated assaults. However, when he originally answered, he stated that there had been zero aggravated assaults but then he asked for a definition and went on to state that there had been maybe one per year. He also stated,

I am just trying to remember. We haven’t had one this year so I don’t know off hand. So, just to be safe just in case but you can do some checking because my memory is a little faulty but it is very, very rarely.

The other principal who indicated there had been two aggravated assaults on her campus was Sharon Brown. However, she was very confused about the definitions of assaults and aggravated assaults, and she was very unsure in her response. She stated, “I would say two over the three years. I could not think there would be more. I mean give or take, I am sure it has happened but not really too much.”

Interestingly, the two principals who had the greatest discrepancy in perceived versus actual numbers of fights were Mary Jones and Danny Nave, the two principals with the longest years of service. Also, they were both from medium-sized campuses. Mary Jones indicated that there had been a total of 20 to 40 fights over the past 4 years but the actual number of fights for the 3 years of discipline data was 135. During the interview, she had actually called on one of her assistant principals to help her come up with the number of 20 to 40 fights because she was not certain that she was providing me with what she felt was good information. The assistant principal, who had stated that she had been there for 4 years, indicated that there had been very few fights in the last 4 years. The conversation occurred as follows:

Mary Jones: Hey Suzette, how many fights a year do we have? I am not talking the pushing; I am talking the fights? (Suzette is one of the assistant principals that was walking by the office.)

Suzette: Fights? Not really.

Mary Jones: I know hardly any.

Suzette: Yeah.

This exchange indicates that they were coding incidents as fights but they did not really consider them as representing a fight. As she was answering this question, Ms. Jones did make the distinction that they considered a fight to be when two students are pushing but according to the earlier conversation, she was providing a number not based on the pushing incidents that might have been coded as a fight but as a real fist throwing or
mutual combative incident. On the other hand, Danny Nave did state that what gets reported as a fight on his campus is not what he would necessarily consider as such. He declared the following:

Here’s the thing, we write up in our disciplinary records a lot of things that I would not consider a fight. As a fight, and so it would look in our disciplinary records like we’ve had a lot more fights than we really have had.

This would be a very accurate statement considering the numbers that he provided in comparison to the actual numbers of fights that were reported to TEA.

Overall, it appears as though principals had very good perceptions of what was happening on their respective campuses. With some clarification of definitions and reasons for how incidents were reported to TEA, the numbers of perceived versus actual incidents of fights, assaults, and aggravated assaults were fairly close. The concern that arose from this portion of the interview was the confusion between the principal and his or her assistant principals as to how incidents were coded and what the perception was regarding what is considered a fight, an assault, or an aggravated assault. Although TEA provides definitions for each of these three incidents, it is evident that they are being left up to interpretation as to how they are coded and reported. This is important in assuring that violent incidents are coded accurately and consistently on individual campuses to avoid under- or over-reporting.

**Discussion**

Findings from the quantitative phase revealed that, as school size increases, to a small to moderate degree, the proportion of students involved in violent incidents and the proportion of incidents also increase. This finding is consistent with the findings from numerous studies that have indicated that levels of violence are more common in larger schools than in smaller schools (i.e., Ferris & West, 2004). In particular, Ferris and West (2004), who compiled data from NCES, concluded that “school violence rapidly rises with school size and almost exponentially so for seriously violent crimes” (p. 1681). At the same time, these results also somewhat support the findings of a study conducted by Chen and Weikart (2008), which revealed that “the effect of school size is small and often insignificant in affecting school safety and student performance” (p. 15). The findings from both of these studies suggest that school violence increases with school size, but this increase varies. Notwithstanding, the findings from the quantitative phase of this mixed research study provide incremental validity to this conclusion because the effect of school size ranged from small to moderate. Further, the finding that compared to small schools, medium schools, and large schools, very small schools had a statistically significantly lower proportion of students involved in assaults, proportion of students involved in aggravated assaults, proportion of incidents of assaults, and proportion of incidents of aggravated assaults, suggests that very small schools appear to be at a greater advantage than are the other types of schools with respect to incidents of school violence.

Akers et al. (1979) theorized that behaviors develop through imitation (i.e., duplication of a behavior after viewing another individual exhibiting that same behavior) or modeling. According to Akers et al. (1979), individuals imitate each other because they have been vicariously reinforced to engage in a behavior, because of operant conditioning (i.e., behavior is directly rewarded), or because they have seen another individual engage in this behavior and be rewarded. Therefore, the statistically significant relationship between school size and incidents of violence that emerged in the quantitative phase of this mixed research study lends support to this theory. Specifically, the level of violent incidents increases as school size increases because larger schools likely will have more opportunities for students to witness violent incidents; thus, more students are likely to duplicate this behavior.

With respect to the qualitative findings, in particular, that four principals’ perceptions that size of the middle school plays a role in the level of violence are consistent with the quantitative findings from the present study that as school size increases, so does the level of violent incidents. Further, three of the principals commented about the importance of building relationships with the students. This finding is consistent with the results of studies indicating that smaller schools allow the staff members to get to know the students and create a personal connection with them that has been conducive to a sense of belonging for the students (Glass, 1997; Lay, 2007; Leung & Ferris, 2008; Wasley, 2002). Further, the finding that six of the seven principals stated that fighting was the most serious school-related violent incident that they had experienced is consistent with the results of a study conducted by Meyer et al. (2004). The results of their study indicated that physical fights (i.e., two students engaging in mutual combat) have been the most common form of school violence occurring at school among students.
When principals were asked about how they would account for the different levels of violence that some middle school campuses experience, all but one of the principals believed that it was due to students’ SES. This finding is consistent with the results of a study conducted by Ferris and West (2004), who reported that school violence rates have depended on student demographics, regional location of the school, and the percentage of low socioeconomic status students.

Two other themes that emerged from the interview data surrounded the importance of building relationships with students and connectedness to the school. Critics of larger schools have argued that the personal relationships with students and the sense of community offered by smaller schools has been at the sacrifice of increased efficiency (Bracey, 2001; Fong et al., 2008; Gottfredson et al., 2005; Klonsky, 2002; Lay, 2007). Finally, when asked to share their perceptions as to why they think students engage in fights, assaults, or aggravated assaults, the three most commonly mentioned themes were (a) lack of problem solving/control, (b) save face/peer pressure, and (c) learned behavior. In a study conducted by Thornton (2002), students and teachers agreed on similar causes of violence, which were (a) lack of conflict resolution, (b) inability of students to control their levels of anger, and (c) learned behavior in the home and surrounding community.

**Implications of the Mixed Research Findings**

The present study has implications for the size of middle schools and levels of violence, specifically fighting, assault, and aggravated assault. Fighting has been and continues to be a problem in middle schools (Solomon et al., 2008; St. George & Thomas, 1997). The quantitative findings indicate that very small schools (< 300 total student enrollment) are at a distinct advantage regarding school violence. In future planning and designing of schools, this finding should be taken into consideration so that very small schools are built or larger schools are designed such that a very small school atmosphere is created.

Establishing a line of communication between the Assistant Principal(s) and the Principal is important to ensure that all are aware of what violent incidents are taking place on campuses. Also including school counselors in the line of communication could help provide some intervention with the students that possibly alleviate future violent incidents. One method of prevention is a school-wide assembly addressing violence and how to respond appropriately in those situations. As some of the principals indicated in their interviews, cheering is a reaction that students have to witnessing a violent incident. Therefore, helping the students to understand better the impact that cheering has on other witnesses and the students involved in the incident could be beneficial in preventing further violent incidents.

**Recommendations for Policy**

According to Welsh, Stokes, and Greene (2000), disciplinary records partially reflect the implemented policies within each individual school district, resulting in some variation in the actual numbers of disciplinary incidents. Within each school district, a policy should be established to refer to the TEA definitions of fighting, assaults, and aggravated assaults in an effort to avoid any under- or over-reporting of these incidents. During the principal interview, it became evident that there was some confusion as to the definition of these particular incidents, indicating that there could be confusion about other violent incidents and how to report accurately those as well.

Taylor, Liang, Tracy, Williams, and Seigle (2002) suggested starting with a prevention program in the elementary schools to help students adjust to transitioning to middle school by providing the students with problem solving and social skills. Policymakers should take a more proactive approach in preparing youth for the challenges ahead by implementing policies to educate students on how to resolve conflict and to deal with the many facets of peer pressure in their school environments. However, policies are usually implemented as a reactive approach to school violence.

With the development of large schools on the rise (Hampel, 2002), many educators and policymakers have argued that large schools cannot provide for the human aspect of schooling to the same extent as can smaller schools (Fong et al., 2008; Glass, 1997; Klonsky, 2002; Lay, 2007) because they create an environment of impersonality and anonymity (Chen & Weikart, 2008). In response to the levels of incidents of violence, school administrators, political leaders, and law enforcement officials have turned their attention to finding solutions and preventative measures to reduce some of the violence occurring on school campuses (Fong et al., 2008; Solomon et al., 2008). Consideration should be given in the creation of curriculum to support the human aspect of schooling in the larger schools due to the fact that it is a permanent feature. Identification of the kinds of situations where youth find themselves at risk for committing violent acts would be beneficial when creat-
ing an intervention program to fit individual student needs (Brener et al., 1999). Further, the effectiveness of violence prevention programs would greatly increase if researchers could determine when physically aggressive students are more likely to use the nonviolent responses learned through an intervention program (Farrell et al., 2008; Park-Higgerson et al., 2008).

**Recommendations for Practice**

National statistics continue to indicate that physical fighting is the most common form of school violence among students (Meyer et al., 2004). According to Dinkes et al. (2007), the largest percentage of schools reported that the disciplinary actions taken were in response to a physical attack or a fight, with 32% of schools indicating that the disciplinary action was serious. Conducting a needs assessment should be the first step in identifying the strengths and risks of the schools so that a prevention program could be created based on the needs of that school (Furlong, Felix, Sharkey, & Larson, 2005). Identifying those students who have a history of violent behavior, who show signs of anger, or who are engaged in aggressive behaviors would be beneficial because anger is the single most significant predictor of aggressive behavior (Fong et al., 2008; Gable & Manning, 1996).

Additionally, identifying those students who are economically disadvantaged is important so that appropriate interventions can be put in place. These students need support not only within school but also outside of school with family supports. The number of economically disadvantaged students at each campus will vary depending on the size and location of the school. Teachers, counselors, and administrators should take a more proactive approach in responding to the needs of the students on their campuses. This proactive approach could include intervention and prevention programs to help students manage better their levels of anger in an effort to minimize incidents of violence on campuses. Further, counselors play a vital role in the implementation of these intervention and prevention programs because they are often the organizers and/or facilitators of the programs. For example, character education can be incorporated into the classroom curriculum. This kind of education often incorporates strategies of good citizenship and ethics. A component of this curriculum should address violence prevention, conflict resolution, anger management, and appropriate peer interactions. Again, conducting a needs assessment will provide the individual school leaders with valuable information so that prevention and intervention programs can be appropriately applied to assist the needs of students on different campuses.

**Recommendations for Future Research**

Future research should explore very small schools more closely because this was the size of middle school that had a statistically significantly lower proportion of students involved in violent incidents and a statistically significant lower proportion of violent incidents. At the same time, an examination of large-sized middle schools with low levels of violence should be examined because much can be learned from such schools. Because there are so many large-sized middle schools currently existing, understanding the systems and structures that best support the students could provide leaders of other existing large-sized middle schools with information to make decisions that best support the students. Further, schools with high levels of economically disadvantaged students but low levels of violence should be studied. An examination of these campuses might reveal programs, interventions, systems, and/or structures that are effective in addressing the needs of those students who have unique family situations and economic status. This information would be beneficial to school leaders so that at-risk students can be appropriately supported at school.

A more detailed examination of why middle school students fight should be explored because compared to all other age groups, adolescents have more frequently engaged in fighting (Franke, Huynh-Hohnbaum, & Chung, 2002), the most common form of dysfunctional behavior that adolescents have exhibited as they learned to deal with the many changes that they are experiencing (Wright & Fitzpatrick, 2006). Additionally, future researchers should explore the relationship between fighting and academic success. Students who participate in fights have been found to be less likely to be successful in their studies (Valois et al., 2002). Further, future researchers should investigate the student perceptions of school violence at various-sized middle schools in Texas and beyond because, according to Chen and Weikart (2008), student perceptions of violence at their schools are as important as are the realities of what is actually happening on campus. Comparing student interviews and principal interviews might provide some further insight into the different perceptions of school size and the levels of violence. Perceptions of violence in schools vary greatly among the public, the teachers, and the students (Ferris & West, 2004). Additionally, youth who have witnessed or have been victims
of domestic violence are two-and-a-half times more likely than are their counterparts to commit acts of violence in the subsequent years (Barrow, VanZommeren, Young, & Holtman, 2000). Therefore, examining the community and/or family factors that influence adolescents’ perceptions about violence could provide schools with valuable information about from where students’ beliefs derive. Finally, some school districts in the United States have their own police department and some campuses have designated police officers (Denham & Onwuegbuzie, 2011). Interviewing these police officials about their perceptions of school size and school violence in relation to the layout of the building would provide an additional yet different perspective because they are not school officials.

**Conclusion**

Physically aggressive behavior continues to be a major concern in the school environment (Alexander & Langford, 1992; Jemmott et al., 2001; Pakaslahti & Keltikangas-Jarvinen, 2000; Williams-Evans & Myers, 2004) because it interferes with the learning environment at all school levels (Alexander & Langford, 1992; Pakaslahti & Keltikangas-Jarvinen, 2000). A safe and orderly school environment can greatly increase the likelihood of student success (Chen & Weikart, 2008; Furlong et al., 2005) and the realization of their full potential as students (Dinkes et al., 2007; Larson, 2008). Further, violence continues to be a serious health problem on many school campuses across the United States (Clubb et al., 2001; Jemmott et al., 2001; Valois et al., 2002), impeding the development of an environment that is safe and conducive to learning for all students (Greene, 2005; Lay, 2007). When students are not engaged in their academic studies at school, they are more likely to become aggressive (Graham, Bellmore, & Mize, 2006), especially during the adolescent years when violence and aggression hits a climax (Valois et al., 2002). Creating a safe supportive school is essential to the academic and overall social well-being of the students (Furlong et al., 2005).

As evidenced in this present mixed research study, overwhelming evidence exists to support the claim that incidents of school violence are much less likely to occur in small schools than in large schools (Amodei & Scott, 2002; Ferris & West, 2004; Klonsky, 2002; Leung & Ferris, 2008; Williams-Evans & Myers, 2004). With violence and aggressive behavior coming to a peak during the adolescent years (Valois et al., 2002), determining how the size of the middle school impacts student engagement in incidents of school violence, specifically fighting, assault, and aggravated assault, provides beneficial information to educators as they plan to structure current buildings and plan for future construction of middle schools. For the current larger-sized middle schools, the current findings suggest that the administration should consider creating smaller environments within the schools (e.g., teaming, communities, separation of grade levels) where students are known by their teachers, so that an environment ensues where students feel welcome, decreasing the feeling of isolation. And, students tend to behave better in schools where they are known by teachers and staff members (Williams-Evans & Myers, 2004).

The results of this mixed research study suggest that there is a small to moderate effect on incidents of violence as a function of school size. However, as the results indicate, school size is not necessarily the only factor that plays a role in the level of violence. Every school district and every campus utilizes a variety of supports and structures, such as teaming, scheduling, organization of the grade levels, and prevention programs. These supports and structures play a role in addressing the needs of the students and the morale of the staff and students. If the appropriate systems are in place, the discipline management in the classroom becomes second as the learning and academic achievement of the students comes first. School leaders are ultimately responsible for ensuring that learning is taking place in the classroom, an accomplishment not attainable with constant classroom disruptions. Thus, it is important not only to identify the size of middle schools where less violence is likely to occur, but also to understand why there is less violence occurring on different-sized campuses, so that students are able to focus more on their academic studies.

**References**


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