

**SOCIAL-EMOTIONAL SKILLS, PARENTAL MONITORING, AND
BEHAVIORAL AND ACADEMIC OUTCOMES IN 5TH to 8TH GRADE
STUDENTS: A LONGITUDINAL STUDY ON CHARACTER DEVELOPMENT**

A Dissertation

by

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ABSTRACT

School-based programs designed to reduce general problematic behaviors, increase prosocial behaviors, and improve academic achievement have often been characterized as social-emotional learning or character development (education) programs. The primary aims of this longitudinal study were: 1) to determine if the *Second Step* curriculum decreased negative school behaviors and increased positive school behaviors compared to control schools across 4 school semesters for 5th to 8th grade students, 2) to examine potential linkages between parental monitoring, school behaviors, and school grades, and 3) to investigate whether participation in the *Second Step* curriculum moderated the relationship between parental monitoring and school behaviors and grades.

This study consisted of two samples. To address questions related to the role of *Second Step* on school outcomes, a sample of 5,189 students from 5th to 8th grades (between Fall of 2012 and Spring of 2014) from 35 schools (16 control and 19 treatment schools) in an open-enrollment charter school system in Texas participated. To address questions related to the role of parental monitoring on school outcomes and whether there are joint (interactive) effects between parental monitoring and *Second Step* on school outcomes, a sample of 763 parents and their children who were in 5th to 8th grades were recruited in Spring of 2014 to participate from the 22 (8 control and 14 treatment) schools among the 35 schools mentioned above. Three-level longitudinal growth model analysis was conducted to examine the effectiveness of *Second Step* curriculum on

students' school outcomes. In addition, a two-level random coefficient model was tested to assess the effect of parental monitoring on school outcomes, as well as the interaction between character development (education) curriculum and parental monitoring.

Study results indicated that 5th to 8th grade students who participated in the *Second Step* (social-emotional or character development) curriculum attained higher school grades and exhibited fewer negative school behaviors than students in the control schools (without the *Second Step* curriculum) across 4 school semesters (between Fall of 2012 to Fall of 2014). In addition, students in schools with the *Second Step* curriculum exhibited more prosocial behaviors than students in the control schools although this finding was marginally significant or approaching significance. In addition, parental monitoring was found to be a significant predictor on school outcomes; parental monitoring was linked to school behaviors and achievement. Furthermore, *Second Step* curriculum was found to significantly moderate the relationship between parental monitoring and school outcomes (problem behaviors, prosocial behaviors, and school grades).

DEDICATION

To my wonderful wife
Selma
and my precious daughter
Elif Sude
for their endless love, support, affection, and encouragement.

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CHAPTER I

INTRODUCTION

The school and learning environment for children and youth have undergone substantial transformations between the 20th and 21st centuries. In the 1940s and 1950s, public school teachers ranked classroom misbehaviors such as talking, making noise, chewing gum, getting out of turning in line, running in the halls, not putting paper in the waste basket, and dress code infractions as the top student discipline problems; however, contemporary teachers ranked suicide, pregnancy, drug abuse, robbery, alcohol abuse, rape, and assaults as the top seven main problems (Jeynes, 2010). There appears to be an urgent need for understanding the home- and school-related factors that are linked to students' behavioral outcomes.

Given what appears to be escalating rates in youths' conduct problems which includes delinquent or illegal activities, efforts to educate young people about moral and socially appropriate behaviors may be one way to reduce youths' problem behaviors and to increase positive behaviors. While societal institutions of family or religion play roles in socializing children about moral and socially appropriate behaviors, schools also serve as powerful socializing institutions to educate children about being moral and socially responsible citizens. As the former Secretary of Education, Margaret Spellings, underscored, "Education at its best should expand the mind and build character" (as cited in Hiatt-Michael, 2008, p.123). For this reason, schools should consider character development as part of basic curriculum (Lickona & Davidson, 2005).

Children spend a significant part of their days both at schools and in their homes. Thus, the family and parents play an important role in socializing their children in regard to socially responsible and socially appropriate behaviors. One of the critical parental duties is parental monitoring which includes direct or indirect supervision of their children. In addition to reducing the likelihood of children's misbehavior, parental monitoring plays a protective role against social and emotional risk (Brookmeyer, Henrich, & Schwab-Stone, 2005). Through parental monitoring, adult supervision may prevent children from harm or wrongdoing and also give children a secure feeling that someone is caring for and looking after them. Therefore, children experience a safe environment and a close parent-child relationship (Ceballo, Ramirez, Heran, & Maltese, 2003), which may reduce misbehaviors in the home, school, and community (Garbarino, 1999).

Background of the Problem

The present study focuses on increasing prosocial behavior and school grades, and also reducing misbehavior or misconduct in the school through a school-based program called *Second Step*, which has been characterized as a social-emotional learning or character development (education) program. In addition, the role of parental monitoring in children's behavioral and academic outcomes is examined. Many schools in the United States have yet to integrate social-emotional learning with academic learning into curriculum, although research suggests that social-emotional and academic competencies go hand-in-hand (Liew, 2012; Liew & McTigue, 2010). Furthermore, Elias, White, and Stepney (2014) found that improving the school environment and

climate through social-emotional learning and character development are viable steps to promoting academic achievement. Regarding students' behavioral outcomes at school, an increase in aggressive and violent behaviors in American schools has been documented over the last 4 decades (U.S. Department of Justice, 1999).

Such school-related aggression and violence include both student-student and student-teacher assaults. It has been documented for the last 4 decades that approximately 1,000 teachers needed to seek medical attention or hospitalization from student-teacher assaults (U.S. Department of Health and Human Services, 1998; U.S. Department of Justice, 1999). One way to address students' conduct problems and to promote students' prosocial behaviors that could contribute to a positive school climate is through social-emotional learning or character development (education) programs (Elias et al., 2014). Therefore, it is important to examine whether school-based programs that target social-emotional learning or character development reduce students' problem behaviors while increase prosocial behaviors in schools.

It is believed that character development (education) programs could influence students' academic achievement through students' school behaviors in ways that distract or deter students from learning or foster relationships and environments that support learning. The underlying assumption is that students' social behaviors impact their quality of learning in school (Putnam, Horner, & Algozzine, 2006), and a large body of research has shown the link between problem behaviors and academic achievement (e.g., Caprara, Barbaranelli, Pastorelli et al., 2000; Hinshaw, 1992; Masten, et al., 2005; Malecki & Elliot, 2002). For example, in a 5-year-long longitudinal study, both

antisocial and prosocial behaviors were examined as predictors of academic achievement; and it was found that early prosocial behaviors contributed significantly in later academic outcomes, but early antisocial behavior was found to have no significant effect on later academic outcomes (Caprara, et al., 2000). Therefore, study results suggest that it is not only about preventing or reducing problem behaviors, but also promoting or increasing prosocial behaviors that actually contribute to students' learning and achievement.

Statement of the Problem

School-based curricula or programs that target reducing students' problem behaviors while increasing students' prosocial behaviors have often been characterized as social-emotional learning or character development programs. By teaching students social-emotional skills that promote prosocial and socially responsible behaviors, social-emotional learning or character development curricula have been proposed as one approach to decrease problem behaviors and increase prosocial behaviors so that the school climate is safe and supportive (Cohen, 2006).

While children spend a significant amount of time at school, the home environment and children's parents also play important roles in children's social behaviors and achievement. Therefore, school-based curriculum that target social-emotional learning and character development as well as parenting factors likely have joint contributions to children's behavioral and academic outcomes. For children without much parental monitoring, school-based social-emotional learning or character development curricula may be particularly important in reducing children's problem

behaviors so they can focus on learning and achieve academically.

Purpose of the Study

Historically, the primary institution responsible for children's moral and character development has been and still remains the family (CEP, 2004). While the Family continues to be the first and oftentimes the most influential social institution for socializing children, Education is also highly influential in socializing children about shared values, beliefs, knowledge, and skills of a community or society. Given this, one way that schools might support children's positive behaviors and positive classroom environments in schools is through character development initiatives. Children may live in homes where parents are not providing adequate levels of parental monitoring for a variety of reasons, including parents not having adequate time due to work schedules or parents not having the motivation, knowledge, or skills to monitor children (Lippold, Greenberg, & Feinberg, 2011). Therefore, school-based curricula or programs aimed at social-emotional learning or character development may support children's positive behaviors and achievement in schools, particularly when levels of parental monitoring are low.

In summary, this study investigates if student participation in a school-based curriculum called *Second Step* (which has been characterized as a social-emotional learning or character development program) reduces negative school behaviors and increases positive school behaviors compared to control schools across 4 semesters, Fall 2012, Spring 2013, Fall 2013, and Spring 2014. In addition, the linkages between parental monitoring, school behaviors, and school grades were examined. Lastly,

parental monitoring was tested as a moderator in the link between exposure to the *Second Step* curriculum and the 3 schooling outcomes (i.e., problem behaviors, prosocial behaviors, and school grades).

Significance of the Study

Schools have always been crucial places for school-based curricula interventions aimed at improving students' developmental needs (McNeely, Nonnemaker, & Blum, 2002). Schools are also critical socializing places that can play important roles in promoting social behaviors (Jennings & Greenberg, 2009). Since antisocial behaviors can occur due to misinterpretation of social and emotional cues, social information processing intervention programs that teach children to encode and interpret social cues and to use self-regulation skills before selecting and enacting a response may reduce impulsive and problematic behaviors (e.g. Dodge, Coie, & Lynam, 2006). Furthermore, not only does promoting social-emotional skills in schools contribute to positive schools adjustment (Schonert-Reichl, Smith, Zaidman-Zait, & Hertzman, 2012), but social-emotional competencies are also linked to academic achievement (see Liew, 2012). Thus, fostering school-based curricula interventions that focus on social-emotional skills can contribute to students' learning and reduce problem behaviors (Pulkkinen & Tremblay, 1992).

In addition to school-based curricula aimed at social-emotional learning or character development, parental monitoring may jointly influence schooling outcomes. It is plausible that parental monitoring could directly influence children's school outcomes (Crouter, MacDermid, McHale, & Perry-Jenkins, 1990; Kristjansson & Sigfusdottir,

2009; Shumow & Lomax, 2002). Alternatively, participation in the *Second Step* (social-emotional learning or character development) program may moderate the relation between parental monitoring and schooling outcomes. Hence, this study examined the joint roles of *Second Step* and parental monitoring on schooling outcomes.

Research Questions

The present study is designed to address the following research questions:

1. Is there a significant difference in the initial mean schooling outcomes (problem behaviors, prosocial behaviors, and school grades) between treatment schools and control schools after controlling for student demographics such as gender, ethnic background, SES background?
2. Does the rate of change in schooling outcomes (problem behaviors, prosocial behaviors, and school grades) significantly differ in treatment schools and control schools throughout 4 semesters after controlling for student demographics such as gender, ethnic background, SES background?
3. What proportion of the variance in the growth rate in schooling outcomes (problem behaviors, prosocial behaviors, and school grades) did participation in the *Second Step* curriculum explain?
4. What is the mean effect of parental monitoring on schooling outcomes across all schools after controlling for student demographics such as gender, ethnic background, SES background?
5. To what degree does the relationship between parental monitoring and schooling outcomes (problem behaviors, prosocial behaviors, and school grades) vary

across schools after controlling for student demographics such as gender, ethnic background, SES background?

6. How does participation in the *Second Step* curriculum affect the relationship between parental monitoring and schooling outcomes (problem behaviors, prosocial behaviors, and school grades) after controlling for student demographics such as gender, ethnic background, SES background?

Theoretical Framework

Two theoretical frameworks guided this study. Social information processing theory and ecological systems theory were theoretical frameworks that grounded the research approach for this study.

Social Information-Processing

Social information processing models (e.g., Dodge, 1986) define how cognitive and emotional processes leading how a child encodes and interprets social cues will guide if a child reacts with appropriate behavior. Arsenio and Lemerise (2001) suggested a model of social information processing theory that incorporates emotion processes and encoding of emotional cues to elucidate why some children respond to peers in a given situation with prosocial behaviors or empathy while other children respond to the same peers or same situation with hostility and aggression. These models are beneficial to comprehend why some students exhibit problematic behaviors in schools whilst other students do not have. For instance, social-emotional learning programs that teach empathy, emotion regulation, conflict resolution, and responsible decision-making skills would be coherent with social information processing models. Thus, social emotional

learning approaches teach children to identify and understand social cues so that they avoid making hostile attributions and react aggressively to socially ambiguous situations.

Some of the studies have found links between social information processing (SIP) patterns and prosocial behaviors (e.g., Mayeux & Cillessen, 2003; Nelson & Crick, 1999). There have also been studies showing relationship between children social skills and their actual academic achievement in school (e.g., Bulotsky-Shearer, Fernandez, Dominguez, & Rouse, 2011; Pianta & McCoy, 1997); that is, children with high levels of social competence perform better academically than those with low levels of social competence. These studies quite clearly illustrate that prosocial behaviors or social competence are linked to school achievement.

Ecological Systems Theory

Urie Bronfenbrenner (1979; 1997) proposed the ecological systems theory of child development, which was influential in initiating the Head Start Program in 1965 in the United States. Bronfenbrenner's ecological systems theory (1979; 1997) emphasizes that human development must be understood within the interrelated environmental and societal influences on individuals. According to ecological systems theory, there are five "subsystems" that include microsystems, mesosystems, exosystems, macrosystems, and chronosystems that influence human development. The microsystems Bronfenbrenner (1997, p. 5) proposed that all five subsystems operate like a "nested structure" with the interrelated structures having influence upon one another. While this dissertation study focuses on the home environment (e.g., parental monitoring) and the school environment which represent the microsystems and mesosystems of Bronfenbrenner's ecological

systems model, it is acknowledged that other environments and systems in the ecological systems not included in this dissertation study play some role in influencing the home and school environments. The subsystems in Bronfenbrenner's ecological systems model are briefly shown in Figure 1 and explained below.

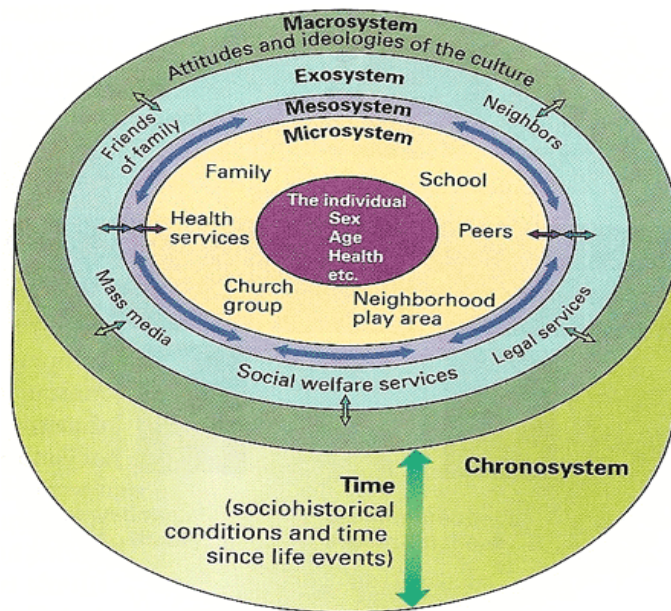


Figure 1. Bronfenbrenner's bio-ecological systems model.

Microsystems

Microsystems can be explained by an array of interpersonal experiences and relationships with individuals in the family, school, and community (Bronfenbrenner, 1979; 1997). For this study, the home (e.g., parental monitoring) and school environments were the primary focus as potential influences on students' behavioral and academic outcomes.

Mesosystems

Mesosystems refer “the linkages and processes taking place between two or more settings containing the developing person” (Bronfenbrenner, 1997, p. 6). Since ecological systems model has a nested structure, mesosystems encompass microsystems and involve interrelations with the developing person and more than one microsystem. The interconnections between the school and home can impact decisions made by a developing adolescent. For this study, the interaction between the family (specifically parental monitoring) and the school (specifically participation in a social-emotional learning or character development program) on student’s behavioral and academic outcomes were examined.

Exosystems

Exosystems cover two or more settings and their activities, but at least one of the settings does not contain the developing adolescent. A developing adolescent’s life is indirectly influenced by the activities, such as the parent’s workplace, family social networks, etc. (Bronfenbrenner, 1979; 1997). For example, the interrelations between the school environment and the parents’ work environment may exert influence on the child’s developmental outcomes because the school environment and parents’ work schedules or availability can jointly influence adolescents’ developmental outcomes.

Macrosystems

Macrosystems involve the all-encompassing pattern of the microsystems, mesosystems, and exosystems in a developing adolescent’s culture (Bronfenbrenner, 1979; 1994). It comprises structures, customs, and beliefs in a specific culture. For

example, cultural or societal values and ideologies could impact parenting and school practices which then influence children's developmental outcomes.

Chronosystems

Chronosystems include sociohistorical conditions that may exert influences over consistencies and changes over time in how people develop (Bronfenbrenner, 1979; 1994). For example, events such as major economic growth or major economic decline may impact the other systems in the ecological systems model that jointly impact how individuals' developmental outcomes.

Generally, each of these subsystems helps us recognize and understand how human development can be influenced by interconnections in multiple environments and systems. For the purposes of this dissertation, the family and the school were the parts of student's microsystems that were the primary focus in order to examine their joint influences on student's behavioral and academic adjustment.

CHAPTER II

LITERATURE REVIEW

This dissertation study focuses on the roles of parental monitoring and *Second Step*, which is a social-emotional learning or character development curriculum, on students' behavioral and academic outcomes. While distinct from traditional character development (education) programs, social-emotional learning or character development curriculum has some similarities or linkages to character or moral education. Therefore, relevant literatures on parental monitoring as well as a brief overview of character education in relation to children's behavioral and academic outcomes will be included.

Definitions of Key Terms

Second Step - The *Second Step Student Success Through Prevention* program is a universal curricular classroom intervention (Committee for Children, 2008; 2014) utilized to teach and develop children's social-emotional and character competence. For the purpose of this dissertation study, *Second Step* is implemented and evaluated as a mechanism to increase students' social-emotional competencies and to promote character development, which would then have impact on students' behavioral and academic outcomes.

Social-Emotional Learning- The Collaborative for Academic, Social, and Emotional Learning (CASEL) (2014b) defines *Social and Emotional Learning* (SEL) as "the knowledge, attitudes and skills necessary to understand and manage emotions, set and achieve positive goals, feel and show empathy for others, establish and maintain

positive relationships, and make responsible decisions”. In the present study, the *Second Step* is a form of SEL (CASEL, 2014a) and the curriculum is designed to increase students’ social-emotional skills such as communication, empathy, and compassion as well as promote character development such as social responsibility and honesty.

Character Education - *Character* is of Greek etymology meaning “to engrave” indicating that an understanding of moral behavior should be “engraved upon us” (O’Sullivan, 2004, p.1). In other words, character becomes a part of the person’s self-concept and moral self-identity (Narvaez & Lapsley, 2009). As an umbrella term, character education has been defined in various ways. One definition of character education is “the deliberate effort to develop virtues that are good for the individual and good for society” (McGuinty, 2003, p. 15). Similar to this, the Character Education Partnership (CEP) defines character education as “knowing, caring about, and acting upon core ethical values such as caring, honesty, fairness, responsibility and respect for self and others” (Berkowitz & Fekula, 1999, p. 18). Character education is sometimes described as a method that is comprehensive in stimulating the moral development of students (Berkowitz & Bier, 2005a).

Character development can be approached in numerous ways, but character education curriculum that targets behavioral, cognitive, social and emotional areas of development would likely be most effective (Elias, 2003). In this respect, the definition of Thomas Lickona (1991), “knowing the good, desiring the good, and doing the good” (p. 51), is perceived as a comprehensive definition because it highlights the importance of curriculum for effective character development via “knowing good”, school climate

via “desiring the good”, and partnership with the community via “doing the good”.

Parental Monitoring - The term “to monitor”, in the dictionary, represents “to keep watch over or check as a means of control” (Read et al., 1995, p. 822). Parental monitoring is conceptualized as “a set of correlated parenting behaviors involving attention to and tracking of the child’s whereabouts, activities, and adaptations” (Dishion & McMahon, 1998, p. 61). For the purpose of this dissertation study, parental monitoring is operationalized as parental knowledge about child’s whereabouts, actions, and social or peer relationships.

Discipline Point System (DPS) - The Discipline Point System (DPS) is the primary measurement tool used by teachers to observe and record students’ classroom or school behaviors.

Prosocial Behavior Rating System (PBRS) - The Prosocial Behavior Rating System (PBRS) is the primary measurement tool used by teachers to observe and record students’ positive and healthy school behaviors.

Grade Point Average (GPA) – Students’ grade point average as recorded by official school records is the primary measure of students’ academic progress.

Rationale for Studying Behavioral and Academic Outcomes

The main school outcomes for this study include students’ school behaviors and school grades. Students’ school behaviors impact the way they and their peers learn and engage in the school environment (Johnson, Crosnoe, & Elder Jr, 2001; Newmann, 1992; Smerdon, 1999). In a meta-analysis that examined 213 school-based SEL programs, Durlak, Weissberg, Dymnicki, Taylor, and Schellinger (2011) found that SEL

programs improved students' social and emotional skills and school behaviors and reflected an 11-percentile-point gain in academic achievement. Thus, improving students' social and emotional skills and affecting their school behaviors as a viable method to increasing student's academic achievement.

A substantial body of research has demonstrated the association between social behaviors and academic achievement (e.g., Caprara, et al., 2000; Hinshaw, 1992; Masten, et al., 2005; Malecki & Elliot, 2002). The link between school behaviors and learning or achievement might be partly explained through behavioral perspectives. When students are attentive and on-task in the learning process, fewer disruptive or off-task behaviors are exhibited (e.g., Drevno, Kimball, Possi, Heward, Gardner, & Barbetta, 1994; McDowell & Keenan, 2001; Warren et al., 2006). The classroom environment and school climate might also have impacts on students' motivation and learning. For example, a negative school climate might increase students' sense of failure, anxiety, embarrassment, etc. (Cassady, 2010; Zeidner & Matthews, 2005).

History of Character Education

The belief that schools are places where young people could be educated about ethical values is at least as deep-rooted as the nation itself. Thomas Jefferson, the American Founding Father, argued in his *Bill for the More General Diffusion of Knowledge* that an educational system ought to strengthen people with moral probity. In *the Proposals Relating to the Education of Youth in Pennsylvania*, Benjamin Franklin strongly recommended the study of moral values in a program (Bennett & Delattre, 1978). The discussions about the function of character have been present in the history

of the United States. Thus, it is important to understand character education from a historical perspective and how character education might be linked to social-emotional learning and moral development. The history of character education (CE) could be broadly classified into 4 distinct periods: CE prior to the 1830s, CE from 1830 to 1962, CE after 1962, and current CE trends. These periods of CE will be briefly reviewed below.

CE prior to the 1830s

Prior to the 1830s, the roles of the family and local church played critical roles in children's character development. For example, in a Massachusetts law of 1642, parents were stimulated and provided assistance in forming a model society; and town officials were given the right to fine irresponsible parents and to place their children in apprenticeships for a proper character education (Ryan, Sweeder, & Bednar, 2001). Simultaneously, the early Puritan schools were founded "in response to fears that families were increasingly unable or unwilling to inculcate their children with the spiritual beliefs and moral virtues of the Puritan Commonwealth" (Purpel, 1997, p. 141). Leming (2001) described moral training in the schools before the 1830s as having two central goals, which were to help churches assure the salvation of youths and to homogenize social diversity to guarantee social control.

CE from 1830 to 1962

From 1830 to 1962, character education continued to play an important role in American schools. Furthermore, "an important purpose for the schools was as a place where immigrants were to be socialized into a common culture" (Leming, 2001, p. 65).

Being a good citizen was one of the central educational missions in the United States, and the McGuffey Readers was an introductory textbook for character education that was highly influential in teaching students about moral behaviors (Ryan et al., 2001). The McGuffey Readers sold 120 million copies between 1836 and 1920 (Jeynes, 2010), and was instrumental in educating American youth to become moral citizens including emphasizing virtues of diligence, love, kindness, and piety (Field, 1996; Hunt & Mullins, 2005; Nash, 1997).

In the early period of the 20th century, John Dewey's ideas on the rejection of religious doctrines in schools began to be influential. According to Dewey, moral behaviors should depend on circumstances of individuals rather than religious doctrines (Hunter, 2000). By the end of the 1960s, the importance of character education had diminished. Lickona (1993) identified two reasons why character education started to decline. The first one was Darwinism, highlighting what Lickona termed the "metaphor" of evolution "that led people to see all things, including morality, as being in flux" (p. 1). The second reason was the increasing acceptance of logical positivism, which separated facts from values and deemed lower status to values that were "mere expressions of feeling, not objective truth". Morality was therefore "relativized and privatized- made to seem a matter of personal 'value judgment,' not a subject for public debate and transmission through the schools" (p.1).

CE after 1962

Between 1960s and 1970s, character education was not widely accepted in schools. During this period, there were two legal cases that either restricted or prohibited

character education from public schools. The case of *Engle versus Vitale* and the *Schemp*, ruled in 1962 and 1963, respectively, that character education was part religious education which did not belong in public schools. With the first case, it was ruled that “nondenominational prayer at the beginning of class was unconstitutional in public schools”. With the second case, it was ruled that “devotional Bible reading was prohibited in public schools” (Salls, 2007, p.13). These court decisions played a critical role in shaping character education because the separation of church and state brought an end to even nondenominational values in public education. By the end of 1960s, social approval that formerly supported character education had turned; character education had all but disappeared from schools (Salls, 2007).

CE trends in the 21st century

Since the Supreme Court rulings that eliminated from character education curricula from public schools, character education has often been relegated to the church or the home. In the 21st century, the integration character education with of social-emotional learning is an approach to improving school behaviors and achievement.

Values Clarification

Values Clarification was a program initially developed by Louis E. Rath, Merrill Harmin, and Sydney B. Simon aimed at helping students recognize that the process of valuing that would be beneficial for them to develop social skills for a proper relationship with the society, rather than learning a specific set of values (McClellan, 1992). Specifically, the role of character education classes is not to posit values directly, but is to allow students to develop character on their own (Salls, 2007). In a values

clarification program, teachers use nondoctrinative ways to help students determine their own values. Teachers neither recommend the values to be taught nor persisted on the teaching of moral values; instead values are defined as preferences and students are encouraged to contemplate and discuss. Generally, three approaches in classes were proposed such as dialogue, value sheets, and group discussions (McClellan, 1992).

Despite utilizing such a nonjudgmental method, ethical relativism came out as a challenge to values clarification. That is, students might be confused and not distinguish the difference between personal preferences and moral principles so that they tend to think that all moral opinions are equally valid. In addition, the assertion that values clarification is value-free does not convince everyone that schools could be completely neutral. Thus, there are risks of using such school programs to manipulate students emotionally (McClellan, 1992).

Cognitive Developmental Approach

Lawrence Kohlberg (1958) developed a theory of moral development that focused on moral reasoning, which he viewed as the basis for moral behaviors. In his theory, Kohlberg identified 6 moral stages that people progressed through across their life-span. Kohlberg did not agree with moral absoluteness or with autonomous relativism. Rather, stages of moral development depended on individuals' moral reasoning based on varying qualities of justice and fairness (Kohlberg & Turiel, 1971). Kohlberg wanted to elucidate children's capacity to resolve moral problems, and particularly to understand the moral reasoning process and whether it changes over time (Salls, 2007). In his moral reasoning approach, pluralism, a social reality by 1968, was

also considered. Moral reasoning from a pluralism perspective suggests that all opinions have equal value and schools should help students make their moral decisions without controlling or restricting students' thoughts. Although Kohlberg remains an important scholar in the field of moral development, Kohlberg's theory of moral development has yet to become widely adopted in the field of character education.

The Integration of Social-Emotional Learning into Character Education

Although Social-Emotional Learning (SEL) and Character Education (CE) are two educational approaches that emerged independently, they both share a central belief that it is necessary to educate children in holistic ways (Elias, 2003). School-based and character social-emotional development program have been implemented to provide students with the best protective factors and skills against high-risk and health-compromising behaviors (Washburn et al., 2011).

According to the Character Education Partnership (CEP) (2010), there are similarities between character development and social-emotional learning (SEL) programs. For example, CE and SEL both promote fundamental human values and life skills. Teaching empathy and building a caring and safe community is at the center of both CE and SEL. To support student academic success and social development, parents are perceived as critical role models and should be involved in their children's learning and development in schools. *Second Step* is an example of curricula that meet the learning objectives and goals of both character development and social-emotional learning (Committee for Children, 2014).

Research on Parental Monitoring

As children become adolescents, they increasingly spend greater amounts of time away from their parents and from home in many Western societies. Parental monitoring is conceptualized in the current study as parental knowledge or awareness and “a set of correlated parenting behaviors involving attention to and tracking of the child’s whereabouts, activities, and adaptations” (Dishion & McMahon, 1998, p. 61). Parental monitoring likely provides children with a sense of safety if they are being cared for or looked after by their parents and protects children from risky behaviors (Brookmeyer et al., 2005; Ceballo et al., 2003). Furthermore, a large body of research indicates that parental monitoring is linked to lower rates of delinquency, alcohol use, and peer deviance (e.g., Dishion, Nelson, & Kavanagh, 2003; Fletcher, Darling, & Steinberg, 1995).

Studies on over two decades of research on parental monitoring generally show links between parental monitoring and various unwanted adolescent behaviors that include reductions in drug usage, misbehavior, deviant peers, and poor school performance (for reviews, see Crouter & Head, 2002; Dishion & MacMahon, 1998; Fletcher et al., 1995; Snyder & Patterson, 1987; Weintraub & Gold, 1991). Therefore, effective parental monitoring is an important factor in the prevention or reduction of adolescent problem behaviors (Stattin, Kerr, & Tilton-Weaver, 2010).

Character Education on School Outcomes

Literature review of studies on the effectiveness of character education curriculums show that researchers have targeted various outcome measures such as

“academic motivation and aspirations, academic achievement, prosocial behavior, bonding to school, prosocial and democratic values, conflict-resolution skills, moral-reasoning maturity, responsibility, respect, self-efficacy, self-control, self-esteem, social skills, and trust in, and respect for teachers” (Was, Woltz & Drew, 2006, p. 151). In addition, a recent study revealed that a school-wide character education and social-emotional program, *Positive Action*, substantially improved the school quality including student safety and well-being, the responsiveness of the system, quality student support, satisfaction, standards-based learning, etc. (Snyder, Vuchinich, Acock, Washburn, & Flay, 2012). These outcome measures may be broadly represented as school outcomes and classified broadly into students’ school behaviors and achievement. In the next sections, studies on effects of character development and social emotional learning programs on school behaviors and academic achievement were reviewed. As part of this review, the *Second Step* curriculum was described.

Character Education on School Behaviors

Reducing Problematic Behaviors

Studies on character education curricula that were implemented with fidelity have found positive effects on student behaviors, including reduction in problematic behaviors such as violence, aggression (Frey, Nolen, Van Schoiack Edstrom, & Hirschstein, 2005; Holsen, Smith & Frey, 2008; Smokowski, Fraser, Day, Galinsky, & Bacallao, 2004), discipline referrals (Cassell, 1995), absenteeism, discipline problems, tardiness, and school dropout (Brooks & Kann, 1993; Hogan, 1996), also inattention, overactivity, and defiance (Prince, Ho, & Hansen, 2010). In a recent study in which

Capturing Kids' Hearts-Campus by Design program was implemented, compared to the control schools whose school referrals increased 11%, the schools with the Capturing Kids' Hearts-Campus by Design program showed 22% decrease in school referrals, (Holtzapple, Griswold, Cirillo, Rosebrock, Nouza, & Berry, 2011). It must also be noted that many previous studies on character education and school behaviors have not been methodologically rigorous (Was et al., 2006). For example, some studies in which character education programs were implemented to reduce problematic school behaviors either utilized self-reports or qualitative data analyses to measure behavioral changes (e.g., Davidson & Stokes, 2001; Harrington, Giles, Hoyle, Feeney, & Yungbluth, 2001; Leming, 2000). To address such methodological limitations in this dissertation study, students' school behaviors were measured using teachers' observations and ratings of students' school behaviors.

Encouraging Healthy and Prosocial Behaviors

In addition to helping reduce problematic behaviors, character education can inculcate positive and prosocial behaviors (Bernard, 2004), and enhance qualities such as respect, responsibility (Duer, Parisi, & Valintis, 2002), citizenship, social skills (Bohlin, Farmer, & Ryan, 2001), peer acceptance, social communication, and cognitive concentration (Smokowski et al., 2004). Studies show that character development and social-emotional learning curricula were effective in promoting attitudinal and behavioral changes in students. For instance, Battistich, Schaps, and Wilson (2004) conducted a study that consisted 334 students in the *Child Development Program* (CDP) and 191 students in the comparison group, and found an increase in having a greater

sense of the school as a community, liking school more, having higher educational aspirations, working harder, engaging more in their courses, having superior trust in and respect for teachers in CDP students relative to comparison students. In a study on a curriculum called *Positive Action* conducted by the U.S. Department of Education and the *What Works Clearinghouse* (WWC), 19% improvement in students' school behaviors was found (United States Department of Education, 2007). Another study on a program called *Living Skills* found that 2nd to 5th grade students showed significant increases in peer-preferred behavior, teacher-preferred behavior, and positive school adjustment (Prince et al., 2010). In a study in which Capturing Kids' Hearts-Campus by Design program was implemented, compared to the control schools whose prosocial behaviors decreased 15%, the schools with the Capturing Kids' Hearts-Campus by Design program exhibited 26% increase in prosocial behaviors (Holtzapple et al., 2011). While the evidence suggests that these programs can be effective in promoting positive behaviors and reducing negative behaviors in students, it should also be noted that most of these studies used self-reports to measure behavioral changes in students.

Second Step on School Behaviors

Previous studies about the *Second Step* program have found mixed results on students' behaviors. For example, in a study conducted on 1st to 3rd grade students, after the implementation of the *Second Step* program, physical aggression was significantly decreased in the treatment group, but not in the control group. Although the *Second Step* program was effective in increasing socially competent behaviors, that increase was not statistically significant (Grossman et al., 1997). In a study on preschool and kindergarten

children who participated in *Second Step*, interview data showed that children were able to understand many of the concepts and observational data showed that general problem behaviors such as physical aggression, verbal aggression, and disruptive behavior significantly diminished (McMahon, Washburn, Felix, Yakin, & Childrey, 2000). Another study on *Second Step* administered in nine schools (six elementary and three middle) and six comparison (control) schools (three elementary and three middle) found that students in the intervention (*Second Step*) groups showed greater reductions in discipline referrals than those in comparison schools (Sprague, Walker, Golly, White, Myers, & Shannon, 2001). Another study found that students who participated in *Second Step* tend to support the utilization of relational and physical aggression less than students in the control group (Schoiack-Edstrom, Frey, & Beland, 2002).

Teachers in the *Second Step* program reported decrease in antisocial behavior and increase in prosocial behaviors of elementary grade students compared to the control group (Frey, et al., 2005). *Second Step* program had also an impact on improvement in students' prosocial behaviors, but not in aggressive behaviors (Cooke, Ford, Levine, Bourke, Newell, & Lapidus, 2007; Taub, 2002). Furthermore, *Second Step* demonstrated effectiveness in reducing internalizing behaviors and anxiety, as well as improving socially appropriate behavior (Schick & Cierpka, 2005).

When we look at aforementioned studies that evaluated the impact of the *Second Step* program, we see that outcome assessments of student behaviors generally come from the reports of students, parents, and teachers. That is, although these are generally experimental studies, there appears to be no systematic measurement system used to

measure behavioral changes in students. In addition, studies on the *Second Step* program generally focused on kindergarten and elementary school students with limited research on middle school students or adolescents. Thus, this dissertation study addressed such limitations in past work by using a systematic measurement approach to observe and document school behaviors in middle school students.

Character Education on Achievement

A growing body of work shows that a positive school climate is linked to students' academic performance (Benninga, Berkowitz, Kuehn, & Smith, 2003; Berkowitz & Bier, 2005b; Walberg, Zins, & Weisberg, 2004). The pattern of results suggest that when implemented with fidelity, character education programs are more likely to be effective in improving school climate which could then lead to improved academic achievement (Sherblom, Marshall, & Sherblom, 2006).

There are also studies conducted to determine the role of SEL curricula on academic achievement. For example, a study on the *Talking with TJ* program, a social emotional learning intervention, found that students who were delivered higher dosage intervention exhibited lower drops in school achievement than did students in lower dosage classrooms (Rosenblatt & Elias, 2008). In another study on a program called *Promoting Alternative Thinking Strategies* (PATHS; Kusché & Greenberg, 1994), social and emotional skills in kindergarten predicted academic success in 1st grade (Rhoades, Warren, Domitrovich, & Greenberg, 2011; also see Liew, 2012). In another study on the *You Can Do It!* (YCDI) program, students in the non-YCDI classes showed lower gains in their levels of reading achievement than the students in YCDI classes (Ashdown &

Bernard, 2012). In a study on Greek 5th and 6th grade students, students who participated in a social-emotional learning curriculum showed higher academic gains than those who were not in the curriculum (Babalís, Tsoli, Artíkis, Mylonakou-Keke, & Xanthakou, 2013).

Parental Monitoring on School Outcomes

As underscored above, many of the studies on parental monitoring have been conducted since the 1980s, and its associations included various variables such as drug usage, misbehavior, risky sexual activity, deviant peers, poor school performance, etc. (for reviews, see Crouter & Head, 2002; Dishion & MacMahon, 1998). However, previous research on parental monitoring rarely focused on students' school behaviors and academic achievement. Research examining the link between parental monitoring and students' school outcomes was reviewed in the following sections.

Parental Monitoring on School Behaviors

Prior studies on parental monitoring tend to focus on adolescents' risky and antisocial behaviors such as alcohol or substance usage, risky sexual behavior, and violence, but there has been extremely limited work on the role of parental monitoring in adolescent's classroom or school behaviors. Thus, this dissertation study explored whether parental monitoring had an influence on adolescents' behaviors in the school environment.

It is hypothesized that parental monitoring will be associated with fewer misbehaviors at school, because research demonstrated that parents who are more knowledgeable of their adolescents' activities and whereabouts are more likely to have

adolescents who avoid more negative behaviors such as tobacco, drug, and alcohol usage (e.g., Cohen & Rice, 1995; Fletcher et al., 1995; Wood, Read, Mitchell, & Brand, 2004; Strunin et al.), delinquency and violence (e.g., Kilgore, Snyder, & Lentz, 2000; Luster & Oh, 2001; Wang, Stanton, Li, Cottrell, Deveaux, & Kaljee, 2013), unsafe sexual behavior and early beginning of sexual contact (e.g., Capaldi, Stoolmiller, Clark, & Owen, 2002; Fosco, Stormshak, Dishion, & Winter, 2012; French & Dishion, 2003; Jacobson & Crockett, 2000), and anxiety/depression (Bacchini, Miranda, & Affuso, 2011; Jun & Choi, 2013). Furthermore, poor parental knowledge is perceived as a risk factor for adolescent maladjustment (Forehand, Miller, Dutra, & Chance, 1997; Flannery, Vazsonyi, Torquati, & Fridrich, 1994; Kilgore et al., 2000; Shumow & Lomax, 2002).

Parental Monitoring on School Achievement

While schools are institutions aimed at educating children and youths, both families and schools contribute to students' academic development (Lerner 1995; Stockard & Mayberry 1992). Parental monitoring could be part of the home environment and inculcates children with the idea that schooling is important and there is always someone who cares about their schoolwork.

Multiple studies have examined the role of parental monitoring on academic achievement. Shumow and Lomax (2002) examined the relation between parental efficacy and academic adjustment, and found that parental monitoring mediated the effect of parental efficacy on academic adjustment. That is, parental monitoring had a direct effect on adolescents' academic adjustment. In another study, the impact of

parental monitoring on school performance was examined, and results show that parental monitoring predicted academic achievement above and beyond effects of parental support and amount of time spent with parents (Kristjansson & Sigfusdottir, 2009). In a qualitative study in which parental monitoring was assessed through telephone interviews, qualitative findings suggest that boys who received greater levels of parental monitoring attained higher school grades than did boys who received less monitoring from their parents (Crouter et al., 1990).

CHAPTER III

METHOD

Institutional Review Board (IRB) approval was obtained previous to data collection. To address the research aims and questions, this dissertation study used a quasi-experimental research design with non-equivalent groups. Schools were not randomly assigned, but schools self-selected into the treatment and control conditions. In the treatment condition, there were 19 schools that implemented the *Second Step* curriculum for four school semesters between Fall 2012 and Spring 2014. In the control condition, there were 16 schools that did not implement the *Second Step* curriculum. Data was collected on parental monitoring, school behaviors, and school grades for students in both the treatment and control conditions. The following sections provide information on study participants, instruments or measures, procedures, and data analytical approaches.

Participants

In order to address the research questions of this dissertation study, two different samples were utilized. The first sample was used to address questions related to the effect of *Second Step* on school outcomes. The first sample consisted of 5,189 students from 5th to 8th graders between the semesters, Fall 2012 and Spring 2014, from an open enrollment charter school system in Texas. The system is the largest charter school system in Texas and the open-enrollment charter school (Deis, 2011). Moreover, the charter school system is the only school system that has specific school behavior

measurement method. The percentage of female, Hispanic, and low socio-economic students were 49%, 48%, and 46%, respectively. Table 1 shows the descriptive statistics of study variables for the 1st sample.

Table 1

Summary of descriptive statistics of study variables in level 1, 2, and 3 for the 1st sample

Level-1 descriptive statistics					
<u>Variable</u>	<u>N</u>	<u>Mean</u>	<u>SD</u>	<u>Minimum</u>	<u>Maximum</u>
GPA	20622	3.25	0.6	0	4
DPS	20622	28.66	31.08	0	357
PBRS	20622	28.11	27.34	0	303
TIME	20622	2.03	1.41	0	4
Level-2 descriptive statistics					
GENDER	5189	0.52	0.5	0 (49%)	1 (51%)
ETHNICITY	5189	0.5	0.5	0 (48%)	1 (52%)
SES	5189	0.95	0.93	0 (46%)	1 (54%)
Level-3 descriptive statistics					
SECSTEP	35	0.54	0.51	0 (46%)	1 (54%)

The second sample was collected to address research questions related to the joint roles of parental monitoring and *Second Step* on school outcomes. This sample

consisted of 763 parents from 22 (8 non-*Second Step* and 14 *Second Step*) schools among 35 mentioned above, and their children between 5th and 8th grade students to measure their levels of parental monitoring.

Table 2

Summary of descriptive statistics of study variables in level 1, 2, and 3 for the 2nd sample

Level-1 descriptive statistics					
<u>Variable</u>	<u>N</u>	<u>Mean</u>	<u>SD</u>	<u>Minimum</u>	<u>Maximum</u>
GENDER	763	0.47	0.5	0 (53%)	1 (47%)
ETHNICITY	763	0.68	0.47	0 (32%)	1 (68%)
SES	763	0.59	0.49	0 (42%)	1 (58%)
GPA	763	3.47	0.46	1	4
DPS	763	31.43	29.63	1	103
PBRS	763	19.08	16.9	1	96
PMONITOR	763	3.94	0.77	1	5
Level-2 descriptive statistics					
SECSTEP	22	0.64	0.49	0 (37%)	1 (63%)

Students in the second sample consisted of the same students who were in the first sample but were then matched with data collected from parents through students' ID

numbers. Measures of students' school outcomes were collected during Spring of 2014 when parents also completed surveys to provide information on parental monitoring. Neither children nor parents were monetarily compensated for their participation in this study. The percentage of female, Hispanic, and low socio-economic students were 53%, 32%, and 42%, respectively. Table 2 shows the descriptive statistics of study variables for the 2nd sample.

Instruments

The *Parental Monitoring Scale* (PMS) (Stattin & Kerr, 2000), the *Second Step* curriculum, *Discipline Point System* (DPS), and *Prosocial Behavior Rating System* (PBRs) were used as the instruments of this study. The PMS ($\alpha = .89$) uses 5-point Likert scales and consists of 9 items to measure the levels of parents' knowledge about the child's associations, whereabouts, and activities (Stattin & Kerr, 2000). The charter school system was provided with the PMS, and the school system distributed the questionnaire randomly to parents of middle school students. Parents received basic instructions on how to complete the surveys, and understood that participation was strictly voluntary.

The *Second Step* curriculum is considered a social-emotional learning and character development curriculum utilized to enhance children's social and emotional competence. *Second Step* aims to inculcate skills in the areas of empathy, perspective taking, problem solving, self-control or self-regulation, and anger management or emotion regulation (Holsen et al., 2008). *Second Step* makes extensive use of social learning theory" (as cited in Holsen et al., 2008, p. 73) and "social information-

processing models of children’s social behavior” (as cited in Holsen et al., 2008, p. 73).

Second Step is a comprehensive, classroom-based curriculum that comes with pre-packaged syllabi and prescribed lessons that are developmentally consecutive to go along with progression of elementary and middle school grades.

Table 3

Discipline point system (DPS)

Case	Point	Case	Point
Lack of materials	-2	Not dressing for gym class	-4
Not turning in assigned work or	-2	Vulgarity	-2
Not wearing student ID	-1	Not being in assigned location	-3
Inappropriate behavior towards an	-3	Dress code violation	-3
Sleeping in class	-2	Talking back to teacher	-5
Running in hallway	-1	Gossiping/spreading tale	-3
Lack of cooperation	-2	Backpack in the classroom	-1
Leaning back in chair	-3	Monday envelope missing	-1
Antagonistic behavior	-2	Humming/singing/making noises	-3
Excessive talking	-3	Leaving the classroom without	-5
Inappropriate cafeteria behavior	-2	Leaving paper/trash on the floor	-2
Eating/drinking in class	-3	Being in the hallway without a pass	-1
Chewing gum	-3	Disturbing class	-3
Tapping	-2	Using profanity	-5
Horse playing	-3	Not attending tutorials	-3
Throwing things in	-3	Disturbing an extra-curricular	-2

Note. Adapted from Harmony Science Academy Administration. (2012, p. 47). *Student handbook*. Archives of Harmony Science Academy, Houston, TX. Retrieved from <http://hsahouston.org/pdfs/handbook.pdf>

To measure students' school behaviors, the *Discipline Point System* (DPS) ($a = .77$), and *Prosocial Behavior Rating System* (PBRS) ($a = .65$) were used so that teachers could observe and record students' behaviors. DPS scores are used to measure students' antisocial school behaviors and learn what kinds of problems students have. Prescribed unwanted behaviors and their points are shown in Table 3.

Table 4

Prosocial behavior rating system (PBRS)

<u>Case</u>	<u>Point</u>	<u>Case</u>	<u>Point</u>
Academic Improvement	3	Honesty	3
Active Participation	3	Donation to the school	3
All A's for a six-week period	3	Perfect Dress code	3
Behavioral Improvement	3	Perfect Hallway Behavior	2
Being a positive role model	3	Random act of Kindness	2
Going above the requirements of a project/assignment	2	Served After School Detention	5
Having all supplies during a random supply check	1	Served Saturday Detention	5
Helping a fellow student without being asked	2	Turning all work in on time for a three-week period	2
Helping Teacher without being asked	2	Volunteering in any school activities or events	3

Note. Adapted from the table Harmony Science Academy Administration. (2012, p. 47). *Student handbook*. Archives of Harmony Science Academy, Houston, TX. Retrieved on August 27, 2012, from <http://hsahouston.org/pdfs/handbook.pdf>

In this measurement system, students are allocated DPS points for their unacceptable behaviors. DPS has a list of behaviors that were decided as inappropriate for students to exhibit and students receive scores based on points assigned to specific behaviors. The charter school system also required all teachers and staff to inform parents about students' antisocial school behaviors, and teachers explained to all students what constituted these behaviors and the points and scoring for such behaviors. In addition, teachers can only assign points once for the same incident or behavior for one class period.

Prosocial school behavior scores are used to observe and measure students' positive school behaviors and learn what kinds of problems students have. In this measurement system, students are allocated prosocial school behavior points for their wanted behaviors such as socially appropriate, socially responsible, and prosocial behaviors. Prescribed desirable behaviors and their points are shown in Table 4.

Procedures

The open enrollment charter school system recommended their schools to implement the *Second Step* curriculum in Fall 2012 semester as a way to help students gain social and emotional skills and promote character development. Throughout 4 semesters, Fall 2012, Spring 2013, Fall 2013, and Spring 2014, 19 schools implemented the *Second Step* curriculum, and 16 schools did not. Students' Spring 2012 scores were used as the initial (baseline) scores prior to the implementation of the *Second Step* curriculum in any school. The *Parental Monitoring Scale* (PMS) (Stattin & Kerr, 2000) was administered as an online survey, and was distributed to parents via mass email

through the charter schools' database system. To match measures of students' school outcomes with the PMS, student ID numbers were used.

Students' school outcomes included their school behaviors (DPS and PBRs) and school grades (GPA) across 4 consecutive school semesters. In addition, parents provided permission to collect students' demographic information and students' free- or reduced-lunch status (as a proxy for students' socioeconomic status) from student records from the central office of the charter school system.

Data Analysis

The data was analyzed by using both IBM SPSS statistical software and HLM 7 software. A longitudinal growth model analysis was conducted to address research questions relevant to the effectiveness of the *Second Step* curriculum on students' school outcomes. To address research questions related to the unique and joint effects of parental monitoring and *Second Step*, a two-way random slope or random coefficient model was run to examine the unique and joint effects of parental monitoring and *Second Step* curriculum on school outcomes, as well as the relation between parental monitoring and *Second Step*.

The Models for the Study

The models to test effect of *Second Step* curriculum on school outcomes

(1) Is there a significant difference in the initial mean school outcomes (school behaviors and school grades) between treatment schools and control schools after controlling for student demographics such as gender, ethnic background, and SES?

(2) Does the rate of change in school outcomes (school behaviors and school grades) significantly differ in treatment schools and control schools across 4 consecutive school semesters after controlling for student demographics such as gender, ethnic background, and SES?

(3) What proportion of the variance in the growth rate in school outcomes (school behaviors and school grades) did *Second Step* curriculum explain?

Level-1 Model

$$GPA_{ijk} = \pi_{0jk} + \pi_{1jk} * (TIME_{ijk}) + e_{ijk}$$

Here we use semester Spring 2012 as the reference time point, so $TIME_{ij}=0, 1, 2, 3, 4$ for semesters Spring 2012, Fall 2012, Spring 2013, Fall 2013, and Spring 2014 respectively.

The meaning of the model: A student's GPA during a specific school semester in a specific school was modeled as the student's estimated initial GPA (i.e., π_{0jk}) plus the change over time, which is, the rate of change (π_{1jk}) times the time elapsed, plus an error.

Level-2 Model

$$\pi_{0jk} = \beta_{00k} + \beta_{01k} * (GENDER_{jk}) + \beta_{02k} * (ETHNICITY_{jk}) + \beta_{03k} * (SES_{jk}) + r_{0jk}$$

$$\pi_{1jk} = \beta_{10k} + \beta_{11k} * (GENDER_{jk}) + \beta_{12k} * (ETHNICITY_{jk}) + \beta_{13k} * (SES_{jk}) + r_{1jk}$$

The meaning of the model: A student's estimated initial status and estimated rate of change on GPA were further predicted by his GENDER, ETHNICITY, and SES.

Level-3 Model

$$\beta_{00k} = \gamma_{000} + \gamma_{001}(\text{SECSTEP}_k) + u_{00k}$$

$$\beta_{01k} = \gamma_{010} + u_{01k}$$

$$\beta_{02k} = \gamma_{020} + u_{02k}$$

$$\beta_{03k} = \gamma_{030} + u_{03k}$$

$$\beta_{10k} = \gamma_{100} + \gamma_{101}(\text{SECSTEP}_k) + u_{10k}$$

$$\beta_{11k} = \gamma_{110}$$

$$\beta_{12k} = \gamma_{120}$$

$$\beta_{13k} = \gamma_{130} + u_{13k}$$

The meaning of the model: An individual's mean initial status and mean rate of change on GPA were further predicted by the school level predictor, *Second Step* participation (SECSTEP) status.

Level-1 Model

$$DPS_{ijk} = \pi_{0jk} + \pi_{1jk}*(\text{TIME}_{ijk}) + e_{ijk}$$

The meaning of the model: A student's antisocial school behavior's in a specific semester in a specific school was modeled as his estimated initial antisocial school behavior (i.e., π_{0jk}) plus the change over time, that is, the rate of change (π_{1jk}) times the time elapsed, plus an error.

Level-2 Model

$$\pi_{0jk} = \beta_{00k} + \beta_{01k}*(GENDER_{jk}) + \beta_{02k}*(ETHNICITY_{jk}) + \beta_{03k}*(SES_{jk}) + r_{0jk}$$

$$\pi_{1jk} = \beta_{10k} + \beta_{11k}*(GENDER_{jk}) + \beta_{12k}*(ETHNICITY_{jk}) + \beta_{13k}*(SES_{jk}) + r_{1jk}$$

The meaning of the model: A student's estimated initial status and estimated rate of change on antisocial school behaviors were further predicted by his GENDER, ETHNICITY, and SES.

Level-3 Model

$$\beta_{00k} = \gamma_{000} + \gamma_{001}(SECSTEP_k) + u_{00k}$$

$$\beta_{01k} = \gamma_{010} + u_{01k}$$

$$\beta_{02k} = \gamma_{020}$$

$$\beta_{03k} = \gamma_{030}$$

$$\beta_{10k} = \gamma_{100} + \gamma_{101}(SECSTEP_k) + u_{10k}$$

$$\beta_{11k} = \gamma_{110}$$

$$\beta_{12k} = \gamma_{120}$$

$$\beta_{13k} = \gamma_{130}$$

The meaning of the model: A student's mean initial status and mean rate of change on antisocial school behaviors were further predicted by the school level predictor, *Second Step* participation (*SECSTEP*) status.

Level-1 Model

$$PBRS_{ijk} = \pi_{0jk} + \pi_{1jk}*(TIME_{ijk}) + e_{ijk}$$

The meaning of the model: A student's prosocial behavior's in a specific semester in a specific school was modeled as the student's estimated initial prosocial

school behavior (i.e., π_{0jk}) plus the change over time, that is, the rate of change (π_{1jk}) times the time elapsed, plus an error.

Level-2 Model

$$\pi_{0jk} = \beta_{00k} + \beta_{01k}*(GENDER_{jk}) + \beta_{02k}*(ETHNICITY_{jk}) + \beta_{03k}*(SES_{jk}) + r_{0jk}$$

$$\pi_{1jk} = \beta_{10k} + \beta_{11k}*(GENDER_{jk}) + \beta_{12k}*(ETHNICITY_{jk}) + \beta_{13k}*(SES_{jk}) + r_{1jk}$$

The meaning of the model: A student's estimated initial status and estimated rate of change on prosocial school behaviors were further predicted by the student's GENDER, ETHNICITY, and SES.

Level-3 Model

$$\beta_{00k} = \gamma_{000} + \gamma_{001}(SECSTEP_k) + u_{00k}$$

$$\beta_{01k} = \gamma_{010}$$

$$\beta_{02k} = \gamma_{020}$$

$$\beta_{03k} = \gamma_{030}$$

$$\beta_{10k} = \gamma_{100} + \gamma_{101}(SECSTEP_k) + u_{10k}$$

$$\beta_{11k} = \gamma_{110}$$

$$\beta_{12k} = \gamma_{120}$$

$$\beta_{13k} = \gamma_{130}$$

The meaning of the model: A student's mean initial status and mean rate of change on prosocial school behaviors were further predicted by the school level predictor, *Second Step* participation (CE) status.

The models to test effect of parental monitoring and Second Step on school outcomes

(4) What is the mean effect of parental monitoring on school outcomes across all schools after controlling for student demographics such as gender, ethnic background, and SES?

(5) To what degree does the relation between parental monitoring and school outcomes (school behaviors and GPA) vary across schools after controlling for student demographics such as gender, ethnic background, and SES background?

Level-1 Model

$$GPA_{ij} = \beta_{0j} + \beta_{1j}*(GENDER_{ij}) + \beta_{2j}*(ETHNICITY_{ij}) + \beta_{3j}*(SES_{ij}) + \beta_{4j}*(PKNOWLED_{ij}) + r_{ij}$$

The meaning of the model: A student's GPA was predicted by the student's GENDER, ETHNICITY, SES, and Parental Monitoring.

Level-2 Model

$$\beta_{0j} = \gamma_{00} + u_{0j}$$

The meaning of the model: The adjusted mean score in a school was further modeled as the mean score across all schools plus a residual.

$$\beta_{1j} = \gamma_{10} + u_{1j}$$

$$\beta_{2j} = \gamma_{20} + u_{2j}$$

$$\beta_{3j} = \gamma_{30} + u_{3j}$$

$$\beta_{4j} = \gamma_{40} + u_{4j}$$

The meaning of the model: The effect of GENDER, ETHNICITY, SES, and Parental Monitoring on GPA score in a school was further modeled as the mean effect across all schools plus an error.

Level-1 Model

$$DPS_{ij} = \beta_{0j} + \beta_{1j}*(GENDER_{ij}) + \beta_{2j}*(ETHNICITY_{ij}) + \beta_{3j}*(SES_{ij}) + \beta_{4j}*(PMONITOR_{ij}) + r_{ij}$$

The meaning of the model: A student's antisocial school behaviors were predicted by the student's GENDER, ETHNICITY, SES, and Parental Monitoring score.

Level-2 Model

$$\beta_{0j} = \gamma_{00} + u_{0j}$$

The meaning of the model: The adjusted mean score in a school was further modeled as the mean score across all schools plus a residual.

$$\beta_{1j} = \gamma_{10} + u_{1j}$$

$$\beta_{2j} = \gamma_{20} + u_{2j}$$

$$\beta_{3j} = \gamma_{30} + u_{3j}$$

$$\beta_{4j} = \gamma_{40} + u_{4j}$$

The meaning of the model: The effect of GENDER, ETHNICITY, SES, and Parental Monitoring on antisocial school behaviors were further modeled as the mean effect across all schools plus an error.

Level-1 Model

$$PBRS_{ij} = \beta_{0j} + \beta_{1j}*(GENDER_{ij}) + \beta_{2j}*(ETHNICITY_{ij}) + \beta_{3j}*(SES_{ij}) + \beta_{4j}*(PMONITOR_{ij}) + r_{ij}$$

The meaning of the model: A student's prosocial school behavior was predicted by his GENDER, ETHNICITY, SES, and Parental Monitoring score.

Level-2 Model

$$\beta_{0j} = \gamma_{00} + u_{0j}$$

The meaning of the model: The adjusted mean score in a school was further modeled as the mean score across all schools plus a residual.

$$\beta_{1j} = \gamma_{10} + u_{1j}$$

$$\beta_{2j} = \gamma_{20} + u_{2j}$$

$$\beta_{3j} = \gamma_{30} + u_{3j}$$

$$\beta_{4j} = \gamma_{40} + u_{4j}$$

The meaning of the model: The effect of GENDER, ETHNICITY, SES, and Parental Monitoring on prosocial school behavior was further modeled as the mean effect across all schools plus an error.

(6) How does participation in *Second Step* affect the relation between parental monitoring and school outcomes (school behaviors and GPA) after controlling for student demographics such as gender, ethnic background, and SES?

Level-1 Model

$$GPA_{ij} = \beta_{0j} + \beta_{1j}*(GENDER_{ij}) + \beta_{2j}*(ETHNICITY_{ij}) + \beta_{3j}*(SES_{ij}) + \beta_{4j}*(PMONITOR_{ij}) + r_{ij}$$

The meaning of the model: A student's GPA was predicted by the student's GENDER, ETHNICITY, SES, and Parental Monitoring score.

Level-2 Model

$$\beta_{0j} = \gamma_{00} + \gamma_{01}*(SECSTEP_j) + u_{0j}$$

The meaning of the model: The adjusted mean in a school was further predicted by the *Second Step* participation status.

$$\beta_{1j} = \gamma_{10} + u_{1j}$$

$$\beta_{2j} = \gamma_{20} + u_{2j}$$

$$\beta_{3j} = \gamma_{30} + u_{3j}$$

$$\beta_{4j} = \gamma_{40} + \gamma_{41}*(SECSTEP_j) + u_{4j}$$

The meaning of the model: The relationship between students' parental monitoring scores and GPA in a school was further predicted by the *Second Step* participation status.

Level-1 Model

$$DPS_{ij} = \beta_{0j} + \beta_{1j}*(GENDER_{ij}) + \beta_{2j}*(ETHNICITY_{ij}) + \beta_{3j}*(SES_{ij}) \\ + \beta_{4j}*(PMONITOR_{ij}) + r_{ij}$$

The meaning of the model: A student's antisocial school behaviors were predicted by the student's GENDER, ETHNICITY, SES, and Parental Monitoring score.

Level-2 Model

$$\beta_{0j} = \gamma_{00} + \gamma_{01}*(SECSTEP_j) + u_{0j}$$

The meaning of the model: The adjusted mean in a school was further predicted by the *Second Step* participation status.

$$\beta_{1j} = \gamma_{10} + u_{1j}$$

$$\beta_{2j} = \gamma_{20} + u_{2j}$$

$$\beta_{3j} = \gamma_{30} + u_{3j}$$

$$\beta_{4j} = \gamma_{40} + \gamma_{41}*(SECSTEP_j) + u_{4j}$$

The meaning of the model: The relation between students' parental monitoring scores and student antisocial behaviors in a school was further predicted by *Second Step* participation status.

Level-1 Model

$$PBR_{ij} = \beta_{0j} + \beta_{1j}*(GENDER_{ij}) + \beta_{2j}*(ETHNICITY_{ij}) + \beta_{3j}*(SES_{ij}) + \beta_{4j}*(PMONITOR_{ij}) + r_{ij}$$

The meaning of the model: A student's prosocial school behavior was predicted by the student's GENDER, ETHNICITY, SES, and Parental Monitoring score.

Level-2 Model

$$\beta_{0j} = \gamma_{00} + \gamma_{01}*(SECSTEP_j) + u_{0j}$$

The meaning of the model: The adjusted mean in a school was further predicted by the *Second Step* participation status.

$$\beta_{1j} = \gamma_{10} + u_{1j}$$

$$\beta_{2j} = \gamma_{20} + u_{2j}$$

$$\beta_{3j} = \gamma_{30} + u_{3j}$$

$$\beta_{4j} = \gamma_{40} + \gamma_{41}*(SECSTEP_j) + u_{4j}$$

The meaning of the model: The relation between students' parental monitoring scores and student prosocial behaviors (PBR) in a school was further predicted by *Second Step* participation status.

Normality and Homogeneity

Normality and homogeneity of level-1 residuals for the dependent variables of the current study, GPA, antisocial school behaviors, and prosocial school behaviors, were tested before running the data and interpreting the study results. To check the

normality of level-1 residuals, initially, level-1 residuals were saved through using HLM software, and then SPSS software was run to use histogram for visual inspections.

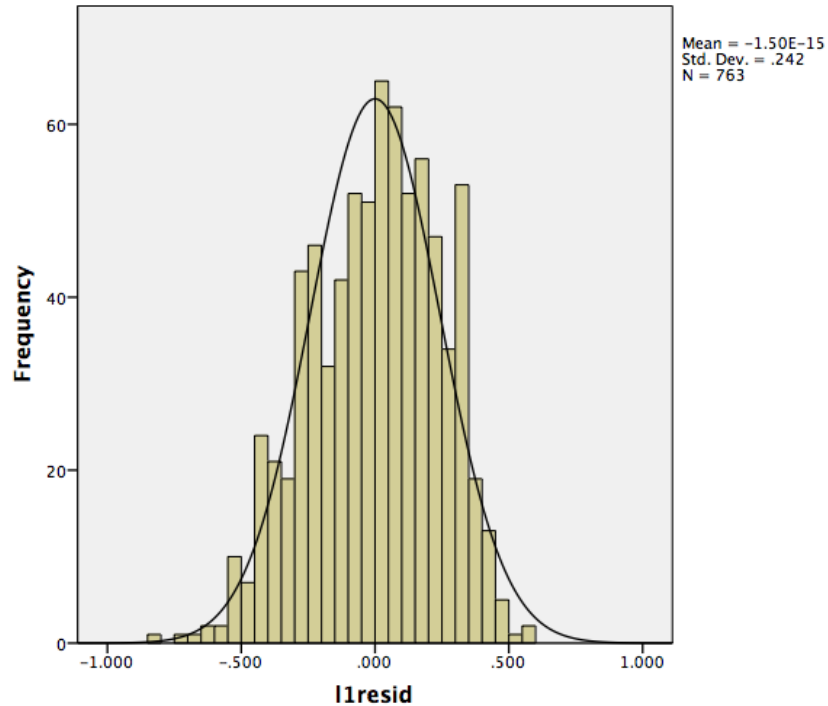


Figure 2. Normality of level-1 residuals (GPA).

If level-1 residuals for any dependent variable were not normally distributed (or, the assumption was violated), the robust standard error estimated would be used for the results. However, as shown in Figures, 2, 3, and 4, the histograms suggest those level-1 residuals are normally distributed. Although there are some observations that exceed slightly the peak, it is not that much far away. Thus, we could see those level-1 residuals are normally distributed in the present study.

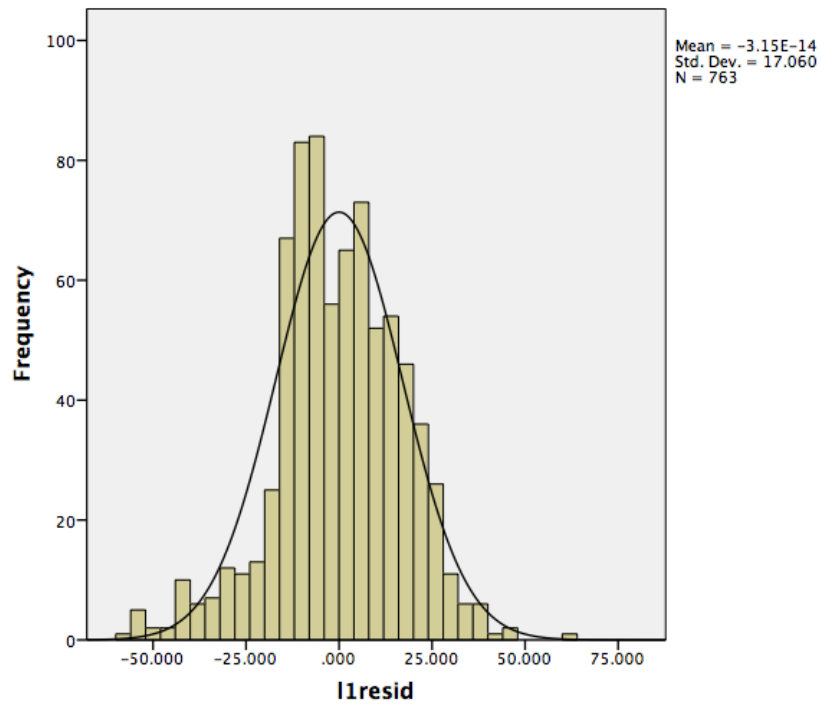


Figure 3. Normality of level-1 residuals (DPS).

To test the homogeneity of level-1 residuals for the dependent variables of the current study, GPA, antisocial school behaviors, and prosocial school behaviors, formal test for homogeneity, which is available in HLM 7 software, was run. According to the formal tests, the test for GPA ($\chi^2 = 14.83$) was not statistically significant at $p > .500$. That is, the level-1 residual variance for GPA is homogeneous.

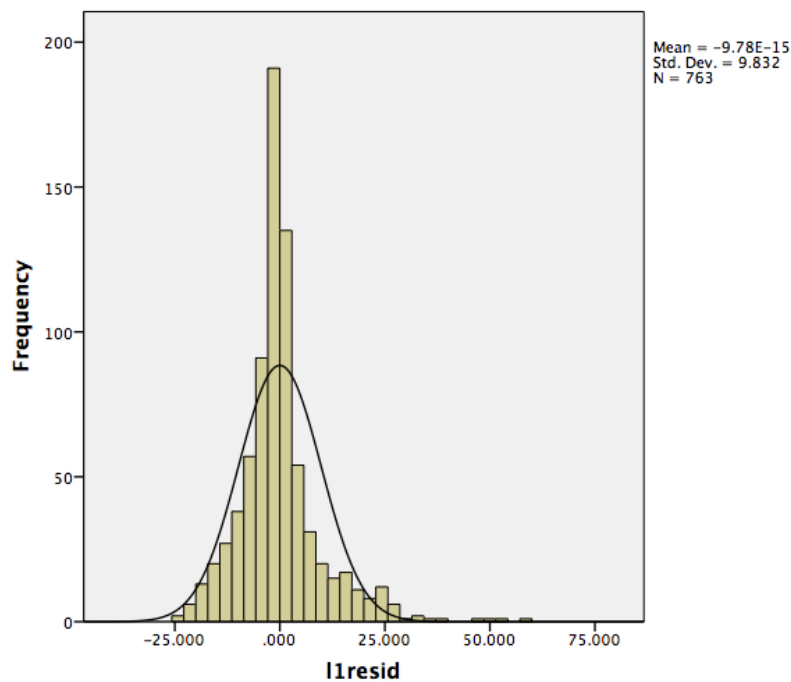


Figure 4. Normality of level-1 residuals (PBRS).

The test for prosocial school behaviors ($\chi^2 = 594.54$) was statistically significant at $p < .001$. To see which one is best for the model, homogenous or heterogeneous, heterogeneous residual variance was also modeled ($\chi^2 = 282.22$) was also statistically significant at $p < .001$. Since the variance explained in the homogenous model was higher than the heterogeneous model ($5764.43 > 5569.56$), homogenous model was used for the model with prosocial school behaviors. The test for antisocial school behaviors ($\chi^2 = 151.21$) was statistically significant at $p < .001$. To see which one is best for the model, homogenous or heterogeneous, heterogeneous residual variance was also

modeled ($\chi^2 = 26.98$) was not statistically significant, $p = 0.171$. That is, the level-1 residual variance for antisocial school behaviors is heterogeneous.

CHAPTER IV

RESULTS

To investigate the effectiveness of *Second Step* curriculum on students' school outcomes, school achievement and behaviors by investigating the differences before the beginning of the curriculum and throughout the implementation, three-level growth model in HLM software was conducted. As a second model, a two-level random coefficient model, was run to assess the effect of parental monitoring on school outcomes, and the interaction between *Second Step* participation status and parental monitoring.

Differences in the Initial Mean School Outcomes

In this section, Tables 5, 6, and 7 illustrate predicted mean scores (γ_{000} 's) of both school achievement (GPA) and schools behaviors (DPS and PBRs), and also differences (γ_{001} 's) in the initial mean schools outcomes (school behaviors and achievement) between treatment schools and control schools after controlling for student demographics such as gender, ethnic background, and SES.

When it comes to differences in the initial mean school outcomes (school behaviors and GPA) between treatment schools and control schools after controlling for student demographics such as gender, ethnic background, and SES, Table 5 shows that any difference between schools that participated in *Second Step* and schools that did not on initial achievement ($\gamma_{001} = 0.036$) was not statistically significant, $p = 0.445$. Thus, students in schools that implemented *Second Step* were not different in their initial

achievement than our reference group (Hispanic, female, low SES students in non-*Second Step* schools) after controlling for gender, ethnicity, and SES.

Table 5
Final estimation of fixed effects for initial GPA and for rate of change in GPA

Fixed Effect	Coefficient	Standard error	<i>t</i> -ratio	Approx. <i>d.f.</i>	<i>p</i> -value
For INTRCPT1, π_0					
For INTRCPT2, β_{00}					
INTRCPT3, γ_{000}	3.255824	0.025544	127.45	33	<0.001
SECSTEP, γ_{001}	0.035569	0.045985	0.773	33	0.445
For GENDER, β_{01}					
INTRCPT3, γ_{010}	-0.129040	0.020020	-6.445	34	<0.001
For ETHNICITY, β_{02}					
INTRCPT3, γ_{020}	0.156074	0.027833	5.607	34	<0.001
For SES, β_{03}					
INTRCPT3, γ_{030}	0.096443	0.014279	6.754	34	<0.001
For TIME slope, π_1					
For INTRCPT2, β_{10}					
INTRCPT3, γ_{100}	0.009077	0.010641	0.853	33	0.400
SECSTEP, γ_{101}	0.035230	0.017110	2.059	33	0.047
For GENDER, β_{11}					
INTRCPT3, γ_{110}	-0.006375	0.004547	-1.402	4977	0.161
For ETHNICITY, β_{12}					
INTRCPT3, γ_{120}	0.004114	0.005268	0.781	4977	0.435
For SES, β_{13}					
INTRCPT3, γ_{130}	-0.007994	0.003194	-2.503	34	0.017

Table 7 reported that the difference between treatment and control schools in the initial prosocial school behaviors ($\gamma_{001} = -1.99$) is not also statistically significant, $p = 0.788$, which indicates that students in treatment schools were not different in the initial prosocial school behaviors than our reference group after controlling for gender, ethnicity, and SES. However, as shown in Table 6, the difference between treatment and control schools in the initial antisocial school behaviors ($\gamma_{001} = 7.66$) is statistically

significant at $p < .05$, which indicates that students in treatment schools have higher antisocial behaviors in the initial semester, Spring 2012, than our reference group's antisocial school behaviors after controlling for gender, ethnicity, and SES.

Table 6
Final estimation of fixed effects for initial DPS and for rate of change in DPS

Fixed Effect	Coefficient	Standard Error	<i>t</i> -ratio	Approx. <i>d.f.</i>	<i>p</i> -value
For INTRCPT1, π_0					
For INTRCPT2, β_{00}			16.65		
INTRCPT3, γ_{000}	28.998833	1.740754	9	33	<0.001
SECSTEP, γ_{001}	7.660702	3.350369	2.287	33	0.029
For GENDER, β_{01}					
INTRCPT3, γ_{010}	10.774990	1.314969	8.194	34	<0.001
For ETHNICITY, β_{02}					
INTRCPT3, γ_{020}	-2.087731	1.046043	-1.996	5079	0.046
For SES, β_{03}					
INTRCPT3, γ_{030}	-3.057737	0.522826	-5.848	5079	<0.001
For TIME slope, π_1					
For INTRCPT2, β_{10}					
INTRCPT3, γ_{100}	-1.075401	0.518520	-2.074	33	0.046
SECSTEP, γ_{101}	-3.718942	1.031008	-3.607	33	0.001
For GENDER, β_{11}					
INTRCPT3, γ_{110}	-0.416665	0.270814	-1.539	5079	0.124
For ETHNICITY, β_{12}					
INTRCPT3, γ_{120}	0.230055	0.313973	0.733	5079	0.464
For SES, β_{13}					
INTRCPT3, γ_{130}	0.098813	0.156834	0.630	5079	0.529

Given the signs of differences in initial school outcomes (school behaviors and achievement), it appears that students in treatment schools displayed more negative schools behaviors than the students in control schools in Spring 2012.

Differences in the Growth Rate of School Outcomes

In this section, the average annual growth rate (γ_{100} 's) of both school achievement (GPA) and schools behaviors (DPS and PBRs), and also differences (γ_{101} 's) in the growth rate of schools outcomes (school behaviors and achievement) between treatment schools and control schools after controlling for student demographics such as gender, ethnic background, SES background were illustrated.

The average annual growth rate of achievement (GPA) of our reference baseline group (Hispanic, female, low SES students in control schools) is not statistically significant ($\gamma_{100} = 0.0091$, $p = 0.40$) (see Table 5), which shows that there has been no significant growth rate of achievement (GPA) of our reference baseline group per year. However, the average annual growth rate of antisocial school behavior and the prosocial school behavior of our reference baseline group (Hispanic, female, low SES students in control schools) are statistically significant ($\gamma_{100} = -1.075401$, $p = 0.046$) (see Table 6), and ($\gamma_{100} = 1.782338$, $p = 0.048$) (see Table 7), respectively, which shows that while the antisocial school behavior has decreased 1.07 per year, the prosocial school behavior has increased 1.78 per year.

When it comes to the differences in the growth rate of schools outcomes (school behaviors and achievement) between treatment schools and control schools after controlling for student demographics such as gender, ethnic background, SES background, the difference between treatment and control schools in the growth rate of achievement ($\gamma_{101} = 0.035230$) is statistically significant, at $p < 0.05$ (see Table 5), which

shows there is a statistically significant difference between treatment and control schools in terms of their growth in achievement.

Table 7

Final estimation of fixed effects for initial PBRs and for rate of change in PBRs

Fixed Effect	Coefficient	Standard error	t-ratio	Approx. d.f.	p-value
For INTRCPT1, π_0					
For INTRCPT2, β_{00}					
INTRCPT3, γ_{000}	23.635154	3.649931	6.476	33	<0.001
SECSTEP, γ_{001}	-1.989063	7.327388	-0.271	33	0.788
For GENDER, β_{01}					
INTRCPT3, γ_{010}	-1.365213	0.510331	-2.675	5113	0.007
For ETHNICITY, β_{02}					
INTRCPT3, γ_{020}	1.078154	0.595371	1.811	5113	0.070
For SES, β_{03}					
INTRCPT3, γ_{030}	0.102519	0.296048	0.346	5113	0.729
For TIME slope, π_1					
For INTRCPT2, β_{10}					
INTRCPT3, γ_{100}	1.782338	0.868734	2.052	33	0.048
SECSTEP, γ_{101}	1.911205	1.744220	1.096	33	0.281
For GENDER, β_{11}					
INTRCPT3, γ_{110}	0.287825	0.187817	1.532	5113	0.125
For ETHNICITY, β_{12}					
INTRCPT3, γ_{120}	0.177458	0.219465	0.809	5113	0.419
For SES, β_{13}					
INTRCPT3, γ_{130}	0.071072	0.109086	0.652	5113	0.515

Results show that students' growth rate of achievement in treatment schools was higher than students' growth rate of achievement in control schools after controlling for gender, ethnicity, and SES. The difference between treatment and control schools in the growth rate of antisocial school behaviors ($\gamma_{101} = -3.718942$) is also statistically significant, at $p < 0.01$ (see Table 6), which shows there is a statistically significant difference between treatment and control schools in terms of their growth in antisocial school behaviors. Students' growth rate of antisocial school behaviors in treatment schools was lower than students' growth rate of antisocial school behaviors in control schools after controlling for gender, ethnicity, and SES. That is, the reduction of antisocial school behaviors per year in treatment schools is greater than that in control schools.

However, the difference between treatment and control schools in the growth rate of prosocial school behaviors ($\gamma_{101} = 1.911205$) is not statistically significant, at $p = 0.28$ (see Table 7). The result shows that students' growth rate of prosocial school behaviors in treatment schools was not significantly different than students' growth rate of prosocial school behaviors in control schools after controlling for gender, ethnicity, and SES. Given the signs of differences in the growth rate of school outcomes (school behaviors and achievement), it might be reasonable to affirm that students in treatment schools have displayed higher achievement and less negative schools behaviors than the students in control schools throughout 4 semesters from Fall 2012 to Fall 2014.

The Proportion of the Variance in the Growth Rate of School Outcomes Explained by School Second Step Status

Since *Second Step* participation status (SECSTEP) is the school level variable at level- 3, level-3 variance components (u_{10}) from both reduced (without *Second Step* variable) and full (with *Second Step* variable) were used to learn predictive ability of schools' curricula status (SECSTEP) of the variance in the growth rate of school outcomes. From the differences in the growth rate of school outcomes, we know that schools' curricula status (SECSTEP) was the significant school-level predictor in the growth rate of both achievement and school antisocial behaviors, but not a significant school-level predictor in the growth rate of school prosocial behaviors. Thus, level-3 variance components (u_{10}) on both GPA and antisocial school behaviors were used in this section. To be able to calculate the proportion of the variance in the growth rate of both GPA and antisocial school behaviors explained by school curricula status, Pseudo R^2 (Raudenbush & Bryk, 1992) was utilized by applying the following formula:

$$R_1^2 = \frac{\sigma^2_{U10|M1} - \sigma^2_{U10|M2}}{\sigma^2_{U10|M1}}, \text{ in which, } M1 - \sigma^2_{U10} \text{ is the variance components of}$$

random growth rate in the reduced model, and $M2 - \sigma^2_{U10}$ is the variance components of random growth rate in the full model.

To calculate the predictive ability of schools' curricula status (SECSTEP) in the growth rate of school achievement (GPA), the variance component on GPA associated with U_{10k} ($\sigma^2_{U10} = 0.00436$) (see Table 8) in the reduced model was subtracted from the variance component associated with U_{10k} ($\sigma^2_{U10} = 0.00372$) (see Table 9) in the full

model, and divided the result by the variance component associated with U_{10k} (σ^2_{U10} =0.00436) in the reduced model as follows:

$$R_1^2 = \frac{\sigma^2_{U10|M1} - \sigma^2_{U10|M2}}{\sigma^2_{U10|M1}} = \frac{0.00436 - 0.00372}{0.00436} = 0.15$$

Table 8

Final estimation of level-3 variance components on GPA (Reduced Model)

Random Effect	Standard Deviation	Variance Component	d.f.	χ^2	p-value
INTRCPT1/INTRCPT2, u_{00}	0.13965	0.01950	34	235.5872	<0.001
INTRCPT1/ GENDER, u_{01}	0.06552	0.00429	34	56.97076	0.008
INTRCPT1/ ETHNICITY, u_{02}	0.11720	0.01374	34	94.87022	<0.001
INTRCPT1/ SES, u_{03}	0.06029	0.00364	34	68.36295	<0.001
TIME/INTRCPT2, u_{10}	0.06603	0.00436	34	586.6497	<0.001
TIME/ SES, u_{13}	0.01055	0.00011	34	46.15957	0.080

The above calculation showed that the predictor schools' schools' curricula status (SECSTEP) explained 15 % of the variance in the growth rate of school achievement (GPA) throughout 4 semesters from Fall 2012 to Fall 2014.

Table 9

Final estimation of level-3 variance components on GPA (Full Model)

Random Effect	Standard Deviation	Variance Component	d.f.	χ^2	p-value
INTRCPT1/INTRCPT2, u_{00}	0.13979	0.01954	33	238.9558	<0.001
INTRCPT1/ GENDER, u_{01}	0.06471	0.00419	34	56.94270	0.008
INTRCPT1/ ETHNICITY, u_{02}	0.11574	0.01339	34	94.85311	<0.001
INTRCPT1/ SES, u_{03}	0.06009	0.00361	34	68.35002	<0.001
TIME/INTRCPT2, u_{10}	0.06099	0.00372	33	494.5740	<0.001
TIME/ SES, u_{13}	0.01035	0.00011	34	46.16583	0.080

To calculate the predictive ability of schools' schools' curricula status (SECSTEP) in the growth rate of school antisocial behaviors, the variance component on antisocial school behaviors associated with U_{10k} ($\sigma^2_{U10} = 12.21330$) (see Table 10) in the reduced model was subtracted from the variance component associated with U_{10k} ($\sigma^2_{U10} = 8.55756$) (see Table 11) in the full model, and divided the result by the variance component associated with U_{10k} ($\sigma^2_{U10} = 12.21330$) in the reduced model as follows:

$$R_1^2 = \frac{\sigma^2_{U10|M1} - \sigma^2_{U10|M2}}{\sigma^2_{U10|M1}} = \frac{12.21330 - 8.55756}{12.21330} = 0.30$$

Table 10

Final estimation of level-3 variance components on DPS (Reduced Model)

Random Effect	Standard Deviation	Variance Component	d.f.	χ^2	p-value
INTRCPT1/INTRCPT2, u_{00}	10.36487	107.43043	34	520.17511	<0.001
INTRCPT1/ GENDER, u_{01}	5.51503	30.41556	34	105.65643	<0.001
TIME/INTRCPT2, u_{10}	3.49475	12.21330	34	690.27154	<0.001

The above calculation showed that the predictor schools' schools' curricula status (SECSTEP) explained 30 % of the variance in the growth rate of school antisocial behaviors throughout 4 semesters from Fall 2012 to Fall 2014.

Table 11

Final estimation of level-3 variance components on DPS (Full Model)

Random Effect	Standard Deviation	Variance Component	d.f.	χ^2	p-value
INTRCPT1/INTRCPT2, u_{00}	9.83189	96.66609	33	480.53816	<0.001
INTRCPT1/ GENDER, u_{01}	5.51667	30.43365	34	105.67149	<0.001
TIME/INTRCPT2, u_{10}	2.92533	8.55756	33	486.96014	<0.001

The Effects of Parental Monitoring on School Outcomes

Tables 12, 13, and 14 in this section illustrate grand mean scores (γ_{00} 's) of both school achievement (GPA) and schools behaviors (DPS and PBRs), and also the mean effect of parental monitoring (γ_{40} 's) on schools outcomes (school behaviors and achievement) across all schools after controlling for student demographics, gender, ethnic background, SES background. The mean achievement (GPA) for all schools, (γ_{00} =3.50) (see Table 12), the mean antisocial school behavior for all schools, (γ_{00} =33.97) (see Table 13), and the mean prosocial school behavior for all schools, (γ_{00} =10.92) (see Table 14), were all statistically significant at $p < 0.001$.

Table 12

The mean effect of parental monitoring on GPA controlled by demographics

Fixed Effect	Coefficient	Standard error	t-ratio	Approx. d.f.	p-value
For INTRCPT1, β_0					
INTRCPT2, γ_{00}	3.498334	0.016425	212.987	21	<0.001
For GENDER slope, β_1					
INTRCPT2, γ_{10}	0.005707	0.018049	0.316	695	0.752
For ETHNICITY slope, β_2					
INTRCPT2, γ_{20}	0.039683	0.020113	1.973	695	0.049
For SES slope, β_3					
INTRCPT2, γ_{30}	0.077018	0.022235	3.464	21	0.002
For PMONITOR slope, β_4					
INTRCPT2, γ_{40}	0.507013	0.016524	30.683	21	<0.001

When it comes to the mean effect of parental monitoring (γ_{40} 's) on schools outcomes (school behaviors and achievement), the mean effect of parental monitoring on school achievement (γ_{40} = 0.507013) (see Table 12) across all schools after controlling

for student demographics, gender, ethnic background, SES background, is statistically significant at $p < 0.001$, which indicates that one unit increase in parental monitoring level (PMONITOR) will make achievement increase by .51 after controlling for gender, ethnicity, and SES. The mean effect of parental monitoring on antisocial school behavior ($\gamma_{40} = -28.119043$) (see Table 13) across all schools after controlling for student demographics, gender, ethnic background, SES background, is statistically significant at $p < 0.001$, which indicates that one unit increase in parental monitoring level (PMONITOR) will make antisocial school behavior decrease by -28.12 after controlling for gender, ethnicity, and SES.

Table 13

The mean effect of parental monitoring on DPS controlled by demographics

Fixed Effect	Coefficient	Standard error	t-ratio	Approx. d.f.	p-value
For INTRCPT1, β_0					
INTRCPT2, γ_{00}	33.967800	1.680778	20.210	21	<0.001
For GENDER slope, β_1					
INTRCPT2, γ_{10}	0.594626	1.274207	0.467	716	0.641
For ETHNICITY slope, β_2					
INTRCPT2, γ_{20}	1.518911	1.432122	1.061	716	0.289
For SES slope, β_3					
INTRCPT2, γ_{30}	-2.680631	1.320449	-2.030	716	0.043
For PMONITOR slope, β_4					
INTRCPT2, γ_{40}	-28.119043	1.520771	-18.490	21	<0.001

The mean effect of parental monitoring on prosocial school behavior (PBRs) ($\gamma_{40} = 23.496238$) (see Table 14) across all schools after controlling for student demographics, gender, ethnic background, SES background, is statistically significant at

$p < 0.001$, which indicates that one unit increase in parental monitoring level (PMONITOR) will make antisocial school behavior increase by 23.50 after controlling for gender, ethnicity, and SES.

The tables presented in this section showed that parental monitoring (γ_{40} 's) on schools outcomes (school behaviors and achievement), parental monitoring was found as a significant predictor on both school behaviors and achievement. Taking into account the signs of the mean effects parental monitoring (γ_{40} 's) on schools outcomes (school behaviors and achievement), the level of parental monitoring was significantly associated with the increasing of student school achievement and prosocial school behaviors, and decreasing of student antisocial school behavior.

Table 14

The mean effect of parental monitoring on PBRS controlled by demographics

Fixed Effect	Coefficient	Standard error	t-ratio	Approx. d.f.	p-value
For INTRCPT1, β_0					
INTRCPT2, γ_{00}	10.917132	1.125401	9.701	21	<0.001
For GENDER slope, β_1					
INTRCPT2, γ_{10}	-0.468559	0.759119	-0.617	716	0.537
For ETHNICITY slope, β_2					
INTRCPT2, γ_{20}	1.467672	0.859270	1.708	716	0.088
For SES slope, β_3					
INTRCPT2, γ_{30}	-1.341974	0.787593	-1.704	716	0.089
For PMONITOR slope, β_4					
INTRCPT2, γ_{40}	23.496238	3.671090	6.400	21	<0.001

The Variance in the Relationship between Parental Monitoring and School Outcomes

Tables 15, 16, and 17 below show the variance (u_4 's) and correlations in the relationship between parental monitoring and school outcomes (school behaviors and achievement) across schools after controlling for student demographics such as gender, ethnic background, and SES background. After controlling for student demographics such as gender, ethnic background, and SES background, the variance ($u_4=0.01909$) (see Table 15) in the relationship between parental monitoring and school achievement across schools is statistically significant at $p < 0.001$, which indicates that the effect of parental monitoring on school achievement significantly varies across schools.

Table 15

Final estimation of variance components for GPA

Random Effect	Standard Deviation	Variance Component	d.f.	χ^2	p-value
INTRCPT1, u_0	0.04857	0.00236	21	48.88249	<0.001
SES slope, u_3	0.05481	0.00300	21	23.54970	0.315
PMONITOR slope, u_4	0.13817	0.01909	21	125.3815	<0.001
level-1, r	0.24333	0.05921			
Correlation		-0.35			

The variance ($u_4=30.0666$) (see Table 16) in the relationship between parental monitoring and antisocial school behavior across schools, is also statistically significant at $p < 0.001$, which indicates that the effect of parental monitoring on antisocial school behavior significantly varies across schools. The variance ($u_4=269.426$) (see Table 17)

in the relationship between parental monitoring and prosocial school behavior across schools, is also statistically significant at $p < 0.001$, which indicates that the effect of parental monitoring on school prosocial school behavior significantly varies across schools.

The correlations (u_{04} 's) also provide important information in the relationship between parental monitoring and school outcomes (school behaviors and achievement) across schools after controlling for student demographics such as gender, ethnic background, and SES background. The correlation (-0.35) (see Table 15) in the relationship between parental monitoring and school achievement indicates that the higher the mean achievement for a school, the lower the effect of parental monitoring on school achievement. That is, when school achievement increases, the effect of parental monitoring on school achievement decreases.

Table 16

Final estimation of variance components for DPS

Random Effect	Standard Deviation	Variance Component	d.f.	χ^2	p-value
INTRCPT1, u_0	7.05475	49.76948	21	93.19817	<0.001
PMONITOR slope, u_4	5.48327	30.06626	21	64.00166	<0.001
Correlation		0.93			

The correlation (0.93) (see Table 16) in the relationship between parental monitoring and antisocial school behavior indicates the higher the mean antisocial behaviors for a school, the higher the effect of parental monitoring on antisocial school behavior. That is, when school antisocial school behavior increases, the effect of parental

monitoring on antisocial school behavior also increases. The correlation (-0.71) (see Table 17) in the relationship between parental monitoring and prosocial school behaviors indicates that the higher the mean prosocial behaviors for a school, the lower the effect of parental monitoring on prosocial school behavior. That is, when school prosocial school behavior increases, the effect of parental monitoring on prosocial school behavior decreases.

Table 17

Final estimation of variance components for PBRs

Random Effect	Standard Deviation	Variance Component	<i>d.f.</i>	χ^2	<i>p</i> -value
INTRCPT1, u_0	4.29113	18.41384	21	91.43194	<0.001
PMONITOR slope, u_4	16.4142	269.42647	21	646.87383	<0.001
level-1, r	10.2162	104.37213			
Correlation		-0.71			

The Interaction Effects between Second Step and Parental Monitoring on School Outcomes

Tables 18, 19, and 20 in this section illustrate the effects of school schools' curricula status (SECSTEP) (γ_{0i} 's) on both school achievement (GPA) and schools behaviors (DPS and PBRs) after controlling for parental monitoring level and student demographics such as gender, ethnic background, SES background, and also the cross-level interaction effects between Second Step and parental monitoring (γ_{4i} 's) on schools

outcomes (school behaviors and achievement) after controlling for student demographics, gender, ethnic background, SES background.

After controlling for student demographics such as gender, ethnic background, SES background, when parental monitoring is at the average level, the effects of schools' curricula status (SECSTEP) ($\gamma_{01} = 0.114164$) (see Table 18) on adjusted school achievement (GPA), is statistically significant at $p < 0.01$, which indicates that the adjusted achievement is higher in schools with Second Step. The effects of schools' curricula status (SECSTEP) ($\gamma_{01} = -14.564381$) (see Table 19) on adjusted antisocial school behavior, is also statistically significant at $p < 0.001$, which indicates that the adjusted antisocial school behavior is lower in *Second Step* schools. In addition, the effects of schools' curricula status (SECSTEP) ($\gamma_{01} = 4.448746$) (see Table 20) on adjusted prosocial school behavior, is statistically significant at $p < 0.05$, which indicates that the adjusted prosocial school behavior is higher in *Second Step* schools.

When it comes to the cross-level interaction effects between *Second Step* and parental monitoring (γ_{41} 's) on schools outcomes (school behaviors and achievement), after controlling for student demographics, gender, ethnic background, SES background, the cross-level interaction effect between *Second Step* and parental monitoring ($\gamma_{41} = -0.188736$) (see Table 18) on school achievement, is statistically significant at $p < 0.01$, which indicates that the effect of parental monitoring on GPA decreases by .19 in *Second Step* schools. That is, parental monitoring is important to the increase of school achievement in *Non-Second Step* schools, or *Non-Second Step* schools might need more parental monitoring of school achievement compared to *Second Step* schools.

When we consider parental monitoring as moderator, the cross-level interaction effects between *Second Step* and parental monitoring ($\gamma_{41} = -0.188736$) (see Table 18) on school achievement, is statistically significant at $p < 0.01$, which might indicate that the effects of *Second Step* on GPA decreases by .19 on highly monitored students. In other words, *Second Step* is more effective in school achievement on less-monitored students.

Table 18

The fixed effect of CE curriculum on the relationship between parental monitoring and GPA controlled by demographics

Fixed Effect	Coefficient	Standard error	t-ratio	Approx. d.f.	p-value
For INTRCPT1, β_0					
INTRCPT2, γ_{00}	3.559342	0.016784	212.062	20	<0.001
SECSTEP, γ_{01}	0.114164	0.033038	3.455	20	0.002
For GENDER slope, β_1					
INTRCPT2, γ_{10}	0.023978	0.018349	1.307	664	0.192
For ETHNICITY slope, β_2					
INTRCPT2, γ_{20}	0.056063	0.020611	2.720	664	0.007
For SES slope, β_3					
INTRCPT2, γ_{30}	0.064867	0.022503	2.883	21	0.009
For PMONITOR slope, β_4					
INTRCPT2, γ_{40}	0.323826	0.032406	9.993	20	<0.001
SECSTEP, γ_{41}	-0.188736	0.055850	-3.379	20	0.003

In terms of school behaviors, the cross-level interaction effects between *Second Step* and parental monitoring ($\gamma_{41} = -8.807719$) (see Table 19) on antisocial school behavior, is statistically significant at $p < 0.01$, which indicates that the effect of parental monitoring on antisocial school behaviors decreases by 8.81 in *Second Step* schools. That is, parental monitoring is important to the decrease of antisocial school behavior in

Second Step schools, or *Second Step* schools might need more parental monitoring of antisocial school behavior compared to *Non-Second Step* schools. When we consider parental monitoring as moderator, the cross-level interaction effects between *Second Step* and parental monitoring ($\gamma_{41} = -8.807719$) (see Table 19) on antisocial school behavior, is statistically significant at $p < 0.01$, which might indicate that the effects of *Second Step* decreases antisocial school behaviors by 8.81 on highly monitored students. In other words, *Second Step* is more effective in antisocial school behavior on high-monitored students.

Table 19

The fixed effect of CE curriculum on the relationship between parental monitoring and DPS controlled by demographics

Fixed Effect	Coefficient	Standard error	t-ratio	Approx. d.f.	p-value
For INTRCPT1, β_0					
INTRCPT2, γ_{00}	34.127451	1.010666	33.767	20	<0.001
SECSTEP, γ_{01}	-14.564381	2.052305	-7.097	20	<0.001
For GENDER slope, β_1					
INTRCPT2, γ_{10}	0.577569	1.272115	0.454	716	0.650
For ETHNICITY slope, β_2					
INTRCPT2, γ_{20}	1.471670	1.390838	1.058	716	0.290
For SES slope, β_3					
INTRCPT2, γ_{30}	-2.771026	1.310945	-2.114	716	0.035
For PMONITOR slope, β_4					
INTRCPT2, γ_{40}	-26.685072	1.680148	-15.883	20	<0.001
SECSTEP, γ_{41}	-8.807719	2.891215	-3.046	20	0.006

The cross-level interaction effects between *Second Step* and parental monitoring ($\gamma_{41} = 31.192203$) (see Table 20) on prosocial school behavior, is statistically significant

at $p < 0.001$, which indicates that the effect of parental monitoring on prosocial school behaviors increased by 31.19 in *Second Step* schools. That is, parental monitoring is important to the increase of prosocial school behavior in *Second Step* schools, or *Second Step* schools might need more parental monitoring of prosocial school behavior compared to *Non-Second Step* schools.

Table 20

The fixed effect of CE curriculum on the relationship between parental monitoring and PBRs controlled by demographics

Fixed Effect	Coefficient	Standard error	<i>t</i> -ratio	Approx. <i>d.f.</i>	<i>p</i> -value
For INTRCPT1, β_0					
INTRCPT2, γ_{00}	10.588362	1.237506	8.556	20	<0.001
SECSTEP, γ_{01}	4.448746	1.970568	2.258	20	0.035
For GENDER slope, β_1					
INTRCPT2, γ_{10}	-0.460064	0.714741	-0.644	716	0.520
For ETHNICITY slope, β_2					
INTRCPT2, γ_{20}	1.324658	0.705402	1.878	716	0.061
For SES slope, β_3					
INTRCPT2, γ_{30}	-1.208332	0.906703	-1.333	716	0.183
For PMONITOR slope, β_4					
INTRCPT2, γ_{40}	23.379998	2.153847	10.855	20	<0.001
SECSTEP, γ_{41}	31.192203	3.378829	9.232	20	<0.001

When we consider parental monitoring as moderator, the cross-level interaction effects between *Second Step* and parental monitoring ($\gamma_{41} = 31.192203$) (see Table 20) on prosocial school behavior, is statistically significant at $p < 0.01$, which might indicate that the effects of *Second Step* increased prosocial school behaviors by 31.19 on highly

monitored students. In other words, *Second Step* is more effective in prosocial school behavior on high-monitored students.

CHAPTER V

DISCUSSION AND CONCLUSION

This was the first empirical study examining the joint roles of a social-emotional learning or character development program (i.e., *Second Step*) and parental monitoring on middle school students' behavioral and academic outcomes. This chapter will discuss study findings regarding the influences of the *Second Step* curriculum as well as parental monitoring on students' behavioral and academic outcomes. Implications will be discussed on the roles of the home and school environments in supporting youths' character and social-emotional development as well as their academic adjustment.

Effect of *Second Step* Curriculum on School Outcomes

While social-emotional learning (SEL) and character development programs are designed to enhance social-emotional competencies such as empathy, compassion, prosocial and socially responsible behaviors, relatively limited research exists on the effects of SEL and character development programs on students' school behaviors and school grades. This dissertation study represents one of the first systematic efforts to examine the effect of *Second Step* curriculum on middle school students. Previous studies on the *Second Step* program generally focused on kindergarten and elementary school students, but fewer studies have focused on the social-emotional and character development needs of middle school students. Thus, this dissertation addressed a gap in the literature by focusing on 5th to 8th graders who typically are becoming increasingly independent from their parents but may still require adult supervision and assistance.

Differences in the initial mean school outcomes and differences in the growth rate of school outcomes (i.e., student school behaviors and school grades) between treatment schools (i.e., schools that implemented *Second Step*) and control schools (i.e., schools that did not implement *Second Step*) after controlling for student demographics such as gender, ethnic background, and SES background were examined using a three-level growth model in HLM. In addition, the proportion of the variance in the growth rate of school outcomes explained by school condition (i.e., treatment and control) was calculated to examine whether participation in the *Second Step* program explained the variance observed in the growth rate of school outcomes.

Study results regarding differences in the initial mean school outcomes show that students in treatment schools (i.e., schools that implemented in the *Second Step* program) were not different in their initial school grades ($\gamma_{001} = 0.036$, $p = 0.45$) and in their initial prosocial school behaviors ($\gamma_{001} = -1.99$, $p = 0.79$) than our reference group (Hispanic, female, low SES students in control schools) in the initial semester, Spring 2012, after controlling for gender, ethnicity, and SES. The lack of differences found in initial school grades and prosocial behaviors make sense, given that students in treatment and the control groups were both in the same condition by spring of 2012. However, there were differences found in antisocial school behaviors; students in treatment schools were different in the initial antisocial school behaviors ($\gamma_{001} = 7.66$, $p < .05$) than our reference group (Hispanic, female, low SES students in control schools) in the initial semester, spring of 2012, after controlling for gender, ethnicity, and SES. This suggests that students in treatment schools displayed more negative schools behaviors than students in

the reference group in spring of 2012, and might partly explain the motivation of the 19 schools in this dissertation study that decided to implement the *Second Step* curriculum as a potential way to improve school climate and reduce antisocial school behaviors (Brooks & Kann, 1993; Cassell, 1995; Hogan, 1996; Prince, Ho, & Hansen, 2010).

Overall, study results show that the *Second Step* program improved students' school grades (GPAs) and reduced students' antisocial behaviors in the schools, but there were no effects on student's prosocial behaviors. More specifically, study results show that the growth rate of students' academic achievement (i.e., improved school grades) in treatment schools ($\gamma_{101} = 0.035$, $p < 0.05$) was higher than that of students in the control schools. Further, the growth rate of students' antisocial school behaviors in treatment schools ($\gamma_{101} = -3.72$, $p < 0.01$) was lower than that of students in the control schools, after controlling for gender, ethnicity, and SES. Although the literature shows that problem behaviors typically increase with age (Loeber, Farrington, Stouthamer-Loeber, & Van Kammen, 1998; Barriga, Doran, Newell, Morrison, Barbetti, & Robbins, 2002), the present findings on antisocial school behaviors suggest that the treatment, *Second Step*, counteracted that trend by helping reduce antisocial school behaviors in a longitudinal manner. However, no difference ($\gamma_{101} = 1.91$, $p = 0.28$) was found in the growth rate of prosocial school behaviors between treatment and control schools after controlling for gender, ethnicity, and SES. Study results are generally consistent with results from prior research (Brooks & Kann, 1993; Cassell, 1995; Frey et al., 2005; Hogan, 1996; Holsen, Smith & Frey, 2008; Prince, Ho, & Hansen, 2010; Sherblom et al., 2006; Smokowski et al., 2004). Students in treatment schools displayed higher levels

of academic achievement and fewer negative school behaviors than students in control schools across 4 consecutive school semesters. Study findings are also consistent with the notion that social-emotional and academic competencies go hand-in-hand (Liew, 2012; Liew & McTigue, 2010), and social-emotional and character development curricula such as *Second Step* teach students to create safe and supportive learning environments (Beninga, Berkowitz, Kuehn, & Smith, 2003; Berkowitz & Bier, 2005b), and to enhance the overall school quality such as student safety, coordinated team work, standards-based learning, quality student support, etc. (Snyder, Vuchinich, Acock, Washburn, & Flay, 2012).

While *Second Step* had positive effects were found for reducing antisocial behaviors and improving academic achievement, there were no effects found for prosocial behaviors, which is inconsistent with some previous studies (Cooke et al., 2007; Schick & Cierpka, 2005; Taub, 2002). But prior studies (e.g., Grossman et al., 1997) have also found no difference in prosocial behaviors between the treatment and control group. Importantly, the growth rate sign for prosocial behaviors changed from negative in the initial semester (Spring 2012) to positive, indicating that students in treatment schools displayed more prosocial school behaviors than students in control schools, although the increase was not statistically significant. That is, the increase of prosocial school behaviors in the control group was statistically significant ($\gamma_{100} = 1.78$, $p < 0.05$), and students in the control group increased in prosocial behaviors perhaps because of social-emotional maturity and development with age. However, students in the treatment group started off very low on prosocial behaviors and treatment may have

brought them to a “typical” level on prosocial behaviors, which was somewhat comparable to students in the control group.

One explanation for such mixed findings is that previous studies typically examined short-term effects of *Second Step* on prosocial behaviors, but this dissertation study examined longitudinal effects across 4 school semesters. Therefore, while *Second Step* might have increased students’ prosocial behaviors, such effects may not have been sustained into future semesters. Indeed, previous studies (Holsen, Smith & Frey, 2008; Schoiack-Edstrom et al., 2002) showed that *Second Step* curriculum was effective in improving prosocial school behaviors within a one-year period but long-term effects should not be expected without booster or supplemental curriculum. It is also plausible that methodological differences in measuring students’ behaviors (e.g., parent ratings, teacher ratings, and behavior observations) could partly explain the inconsistent finding (Denham & Almeida, 1987). In this study, student behaviors were measured using an in-class behavior observation system by teachers to observe and record school behaviors throughout the school semester, rather than using a survey administered at a single time-point during a school semester. In addition, the measurement system for prosocial school behaviors was not designed to record repeated occurrences of prosocial behaviors but only once a day; therefore, the measurement of prosocial behaviors systematically limited observations of increase or growth in prosocial behaviors. In addition, the Cronbach’s alpha for *Prosocial Behavior Rating System* (PBRs), $\alpha = .65$, was somewhat low but still adequate. Alternatively, the lack of effect of *Second Step* on increasing students’ prosocial behaviors might also be explained by the fact that many schools tend

to focus on curbing students' antisocial and aggressive school behaviors rather than focus on increasing students' empathy, compassion, and socially responsible and prosocial behaviors when schools are faced with tackling school-wide behavioral problems such as bullying and aggression.

In examining the prediction of the growth rate of school behaviors and school grades from treatment or control condition, the level-3 variance components (u_{10}) on both GPA and antisocial school behaviors from both reduced (without SECSTEP variable) and full (with SECSTEP variable) were used because the differences in the growth rate of school prosocial behaviors was not significant. Results indicated that implementation of *Second Step* explained 15% of the variance in the change (increase) of academic achievement (GPA), and 30% of the variance in the change (decrease) of antisocial school behaviors across 4 school semesters from Fall 2012 to Fall 2014. It is interesting to note that *Second Step* explained greater percentage of variance in change for antisocial school behaviors relative to academic achievement (GPA). Such a pattern is expected given that the fundamental aim of *Second Step* curriculum is to change positive changes on children's behaviors. However, given that social-emotional and academic competencies are very much intertwined and co-developing (Liew, 2012; Liew & McTigue, 2010), programs such as *Second Step* generally have indirect effects on academic achievement through improving school climate (Beninga, Berkowitz, Kuehn, & Smith, 2003; Berkowitz & Bier, 2005b; Sherblom et al., 2006). Thus, social-emotional learning (SEL) and character development programs likely have dual benefits

for students because of simultaneous benefits for students' school behaviors and academic achievement.

Parental Monitoring and Its Relationship with Character Education on School

Outcomes

As mentioned earlier, this is the first known study that examined the joint roles of *Second Step* curriculum and parental monitoring on middle school students' school behaviors and school grades with a longitudinal design. Study results show that parental monitoring was an important predictor of academic achievement ($\gamma_{40} = 0.51, p < 0.001$), antisocial school behaviors ($\gamma_{40} = -28.12, p < 0.001$), and prosocial school behaviors ($\gamma_{40} = 23.50, p < 0.001$) across all schools after controlling for student demographics of gender, ethnic background, and SES background. Consistent with patterns found in prior research (e.g., Crouter et al., 1990; Kristjansson & Sigfusdottir, 2009; Shumow & Lomax, 2002), taking into account the signs of the mean effects parental monitoring (γ_{40} 's) on schools outcomes (school behaviors and achievement), the level of parental monitoring significantly predicted growth (increase) in students' academic achievement and prosocial school behaviors, and decline (decrease) in student antisocial school behavior.

While there have been prior studies that demonstrated the importance of parental monitoring on academic performance, this is one of the first known studies to show the effect of parental monitoring on students' behaviors in the classroom. Past studies suggest that parents who monitor and are knowledgeable of their adolescents' activities and whereabouts tend to have adolescents who avoid delinquency and violence (e.g.,

Kilgore et al., 2000; Luster & Oh, 2001; Wang et al., 2013) and have better psychological adjustment (Bacchini et al., 2011; Jun & Choi, 2013). Findings are also consistent with Bronfenbrenner's ecological systems theory (1979; 1997), because the Family (particularly at the level of parenting and parental monitoring) is one of the fundamental factors in microsystems of ecological systems theory that is expected to influence adolescents' social and emotional development.

Study results also showed that the effect of parental monitoring on academic achievement ($u_4=0.02$), on antisocial school behaviors ($u_4=30.07$), and on prosocial school behaviors ($u_4=269.43$) varies across schools in the relationship between parental monitoring and school outcomes. In addition, the correlations revealed important findings. Specifically, when academic achievement increases, the effect of parental monitoring on academic achievement decreases. Since parental monitoring has a positive impact on youths' school performance (Crouter et al., 1990; Kristjansson & Sigfusdottir, 2009; Shumow & Lomax, 2002), one way to interpret the result is that when academic performance increases in a school, the impact of parental monitoring might have decreased because the need for parental monitoring also decreases in parallel. In regard to parental monitoring and antisocial school behaviors, when antisocial behaviors increase, the effect of parental monitoring on antisocial behaviors also increases.

In regard to parental monitoring and prosocial school behavior, when prosocial behaviors increase, the effect of parental monitoring on prosocial behaviors decreases. Overall, parental monitoring decreased students' antisocial school behaviors (see Table 13), and increased students' prosocial school behaviors (see Table 14). Thus, when

prosocial school behaviors increase in a school, the effectiveness of parental monitoring might have decreased because the need for parental monitoring decreases; however, when antisocial school behaviors increase in a school, the effectiveness of parental monitoring might have increased because the need for parental monitoring also increases.

Study results show interaction effects between *Second Step* curriculum and parental monitoring on school outcomes after controlling for student demographics such as gender, ethnic background, SES background, which is consistent with the overall pattern in the mesosystems of Bronfenbrenner's ecological systems model (Bronfenbrenner, 1997). The cross-level interaction effect between *Second Step* and parental monitoring ($\gamma_{41} = -0.19$) on school achievement (see figure 5) suggests that parental monitoring moderated the effect of *Second Step* on academic achievement so that parental monitoring was more important for youths' academic achievement in control schools than treatment schools.

It might also be interpreted in such a way that students in control schools (schools that did not implement *Second Step*) may require high levels of parental monitoring in order to be academically successful compared to students in treatment schools (perhaps because *Second Step* supported a positive school climate that facilitated learning and achievement). In other words, *Second Step* is less needed for students' academic achievement when those students are already receiving high levels of parental monitoring (Crouter et al., 1990; Kristjansson & Sigfusdottir, 2009; Shumow & Lomax, 2002). Importantly, this finding suggests that social-emotional learning (SEL) and

character development programs such as *Second Step* might be especially needed by students who are not afforded with appropriate levels of parental monitoring in the home.

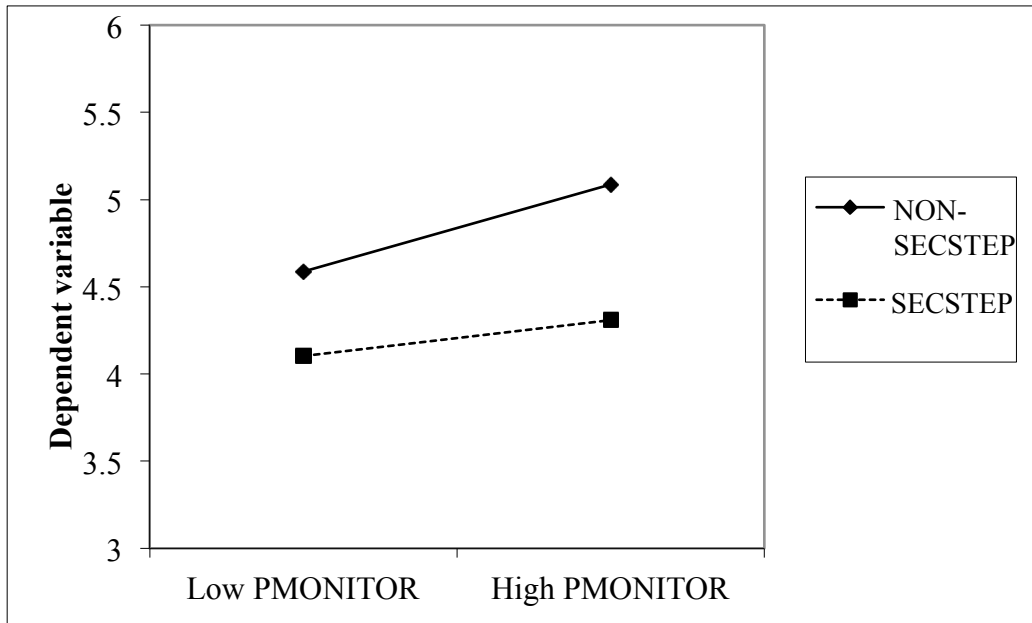


Figure 5. Cross-level interaction effect on GPA.

The cross-level interaction effects between *Second Step* and parental monitoring ($\gamma_{41} = -8.81$) on antisocial school behavior (see figure 6) suggest that parental monitoring was more important to the decrease of antisocial school behaviors in treatment schools. Alternatively, treatment schools might need more parental monitoring of antisocial school behaviors compared to control schools. Social information processing theory would say that character development (education) programs produce changes in students' social cognitions and socio-cognitive skills that then reduced students'

antisocial school behaviors (Brooks & Kann, 1993; Cassell, 1995; Frey et al., 2005; Hogan, 1996; Holsen, Smith & Frey, 2008; Prince, Ho, & Hansen, 2010; Sherblom et al., 2006; Smokowski et al., 2004). *Second Step* curricula might have moderated the impact of parental monitoring on students' antisocial school behaviors, because parental monitoring was also found as an important factor to reduce students' antisocial school behaviors. Thus, parental monitoring might have had more influence in the decrease of antisocial school behaviors in treatment schools.

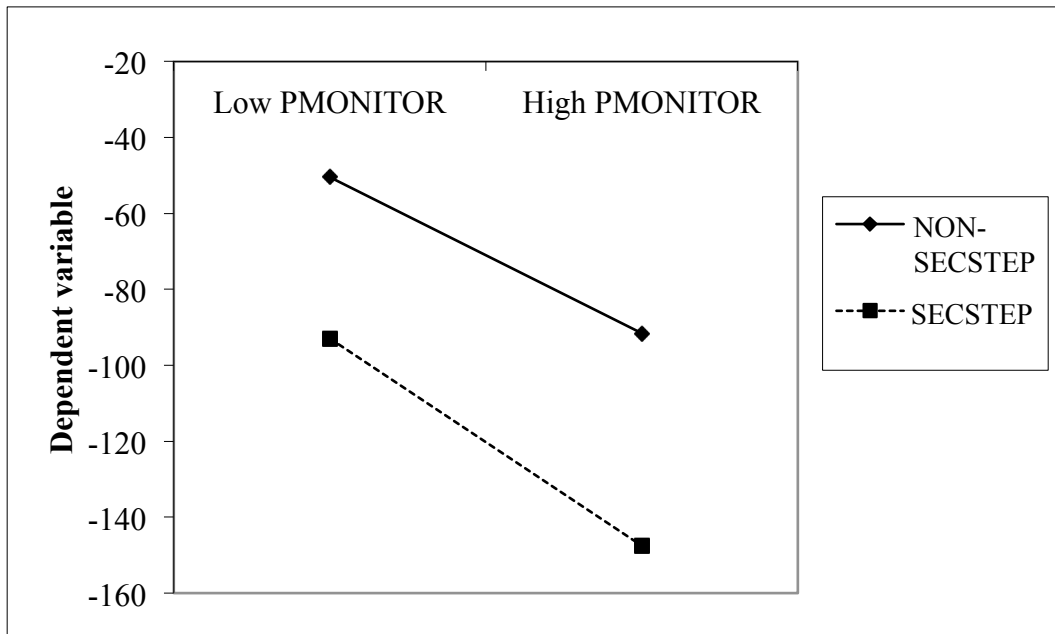


Figure 6. Cross-level interaction effect on DPS.

The cross-level interaction effects between *Second Step* and parental monitoring ($\gamma_{41} = 31.19$) on prosocial school behaviors (see figure 7) revealed that parental

monitoring was more important to the increase of prosocial school behaviors in treatment schools. One interpretation might be that *Second Step* moderated the impact of parental monitoring on prosocial school behaviors. Since both parental monitoring was found as an important factor in the increase of prosocial school behaviors, and the previous literature showed that *Second Step* program was also effective in the increase of prosocial behaviors (Holsen, Smith & Frey, 2008; Schoiack-Edstrom et al., 2002), parental monitoring might have had more influence in the increase of prosocial school behaviors in treatment schools.

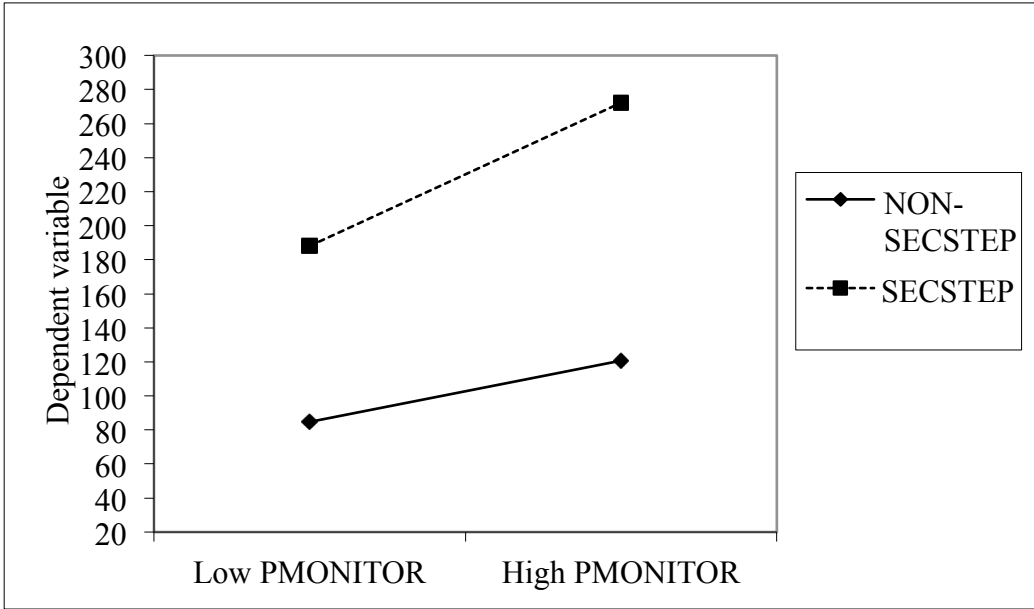


Figure 7. Cross-level interaction effect on PBRS.

As discussed earlier, *Second Step* did not have effects on prosocial school behaviors growth rate (also see Grossman et al., 1997). In light of this, when prosocial

school behaviors showed no significant increase in a school, the need for parental monitoring might have increased. Therefore, the importance of parental monitoring on prosocial behaviors might have increased in treatment schools. Another interpretation of cross-level interaction effects on school behaviors might be that parental monitoring might have moderated the effect of *Second Step* on antisocial school behaviors and prosocial school behaviors; hence, *Second Step* is more effective in decrease of antisocial school behaviors and in the increase of prosocial school behaviors for students who are receiving high levels of parental monitoring. Congruent also with social information processing (SIP) theories (e.g., Arsenio & Lemerise, 2001; Mayeux & Cillessen, 2003; Nelson & Crick, 1999), students who understood social skills well in *Second Step* program might be more likely to show increased prosocial behaviors and reduced antisocial behaviors. Parental monitoring was also found as an important factor in the decrease of antisocial school behaviors and in the increase of prosocial school behaviors. Therefore, *Second Step* might have had more influence in the decrease of antisocial school behaviors and the increase of prosocial school behaviors for students who are receiving high levels of parental monitoring. In other words, *Second Step* is more effective in improving students' school behaviors when students' parents are also involved through monitoring their children's activities.

Conclusion and Implications

In conclusion, the *Second Step* curriculum had impact on school outcomes as evidenced in the reduction of antisocial school behaviors and the improvement of academic achievement. That is, students in treatment schools displayed higher

achievement and fewer negative school behaviors than the students in control schools across 4 school semesters. Treatment and control schools were highly similar, except that students in treatment schools were also inclined to display more prosocial school behaviors. Considering the long-term positive influence of social-emotional learning (SEL) and character development (education) curriculum in students' achievement and school behaviors, schools that struggle with problematic school behaviors and focusing on providing proper academic instruction might try to integrate programs such as *Second Step* into their curricula (Brooks & Kann, 1993; Cassell, 1995; Hogan, 1996; Prince et al., 2010) so that teachers can attend to instruction instead of disciplinary and classroom management issues (Sherblom et al., 2006).

In addition to the positive impact of *Second Step* curriculum had impact on school outcomes, study results also show that parental monitoring had effects on school behaviors. Consistent with prior research showing a link between parental monitoring and academic achievement (Crouter et al., 1990; Kristjansson & Sigfusdottir, 2009; Shumow & Lomax, 2002), study results show that parental monitoring was a significant predictor of school behaviors as well as academic achievement. That is, the level of parental monitoring was significantly associated with the improvement of students' school grades and prosocial school behaviors, as well as the reduction of students' antisocial school behaviors. Also, study findings regarding school level relationships between parental monitoring and academic and behavioral schooling outcomes show that the higher the mean achievement in a school, the lower the effect of parental monitoring on academic achievement; the higher the mean prosocial school behaviors in

a school, the lower the effect of parental monitoring on prosocial school behaviors; and the higher the antisocial school behaviors in a school, the higher the effect of parental monitoring on prosocial school behaviors. In another words, when academic achievement increases, the effect of parental monitoring on academic achievement decreases. When prosocial school behaviors increase, the effect of parental monitoring on prosocial school behaviors decreases. When school antisocial school behavior increases, the effect of parental monitoring on antisocial school behavior also increases.

Study results also emphasize the complex and dynamic nature of the joint influences of the Family and the School on youths' behavioral and academic outcomes. These findings suggest that both the Family and the School environments could serve as protective or compensatory factors in youths' developmental outcomes (see Crosnoe, Erickson, & Dornbusch, 2002). Results suggest a need to educate parents about the importance of parental monitoring on their children's behavioral and academic adjustment. Recall that parental monitoring is important to the increase of school achievement in control schools, the decrease of antisocial school behavior in treatment schools, and the increase of prosocial school behavior in treatment schools. Also recall that study results an interaction effect between *Second Step* and parental monitoring on school outcomes. Because not all children are afforded with appropriate levels of parental monitoring, schools that provide social-emotional learning (SEL) and character development programs can ensure that all students (especially those without appropriate levels of parental monitoring) are afforded similar opportunities to develop in positive behavioral and academic trajectories. These findings emphasize the joint influences of

the Family and the School in shaping children's behavioral and academic trajectories, and the interconnections across children's developmental niches that impact their development outcomes (see Bronfenbrenner (1979; 1997).

Limitations

This study had multiple strengths including the longitudinal design and the use of an in-class behavior observation system by teachers to record school behaviors throughout the school semester. However, this study also had limitations that should be kept in mind when interpreting study results. A non-equivalent groups and quasi-experimental design was used to address study questions. Because this study was conducted in natural settings, schools were not randomly assigned but selected themselves into the treatment and control conditions. While the lack of randomized control is a limitation, the natural or authentic setting of schools is a strength that allows greater generalizability of study findings.

Another study limitation is that data was collected from parents only during one of four school semesters. Due to limitations within the study design, data on parental monitoring was not collected during the initial semester of data collection. However, the levels of parental monitoring are not expected to dramatically change within a 2-year period. Nonetheless, this is a study limitation and future studies should address this limitation and also explore whether parental monitoring differs significantly across 4 school semesters for middle school students. Regarding parental monitoring and potential changes across the school semesters, there is a possibility that parents may have received feedback from the schools on their children's school behaviors through

the reports sent home on students' antisocial school behaviors and prosocial school behaviors. For some parents, such school reports on their children's school behaviors may have motivated parents to intensify their levels of parental monitoring. These dynamic interconnections between the Family and the School are complex and warrant further research. Furthermore, data on parental monitoring was provided only by parents and the inclusion of multiple informants such as children's ratings would allow one way to validate parents' reports of their monitoring. For example, Kerr and Stattin (2000) found that youths' reports or disclosure was the strongest predictor of knowledge-based parental monitoring.

Future Research

This study focused primarily on the effects of *Second Step* and parental monitoring on middle school student's antisocial and prosocial behaviors as well as their academic achievement (school grades). While *Second Step* represented one element of the school environment, but teacher variables were not included in the current study. Teacher variables including years of teaching, certification status, gender, and quality of teacher-student relationships could shed more light on how the *Second Step* curriculum benefited students' behavioral and academic outcomes. For example, teacher-student relationships and students' social-emotional competence (e.g., self-regulation skills) have interactive effects on students' academic achievement (Liew, Chen, & Hughes, 2010; also see Ladd & Burgess, 2001). In addition, qualitative or mixed method studies that utilize interviews and focus groups could deepen our understanding of parents', teachers', and students' perspectives on the value or experiential impact of including

social-emotional learning (SEL) and character development (education) curricula in schools.

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APPENDIX

Parental Monitoring Scale (PMS)

Q1. I know what my child does during his or her free time.

Strongly Disagree (1)	Disagree (2)	Neither Agree nor Disagree (3)	Agree (4)	Strongly Agree (5)
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q2. I know whom my child has as friends during his or her free time.

Strongly Disagree (1)	Disagree (2)	Neither Agree nor Disagree (3)	Agree (4)	Strongly Agree (5)
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q3. I know what type of homework my children have.

Strongly Disagree (1)	Disagree (2)	Neither Agree nor Disagree (3)	Agree (4)	Strongly Agree (5)
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q4. I know what my children spend their money on.

Strongly Disagree (1)	Disagree (2)	Neither Agree nor Disagree (3)	Agree (4)	Strongly Agree (5)
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q5. I know when my children have an exam or paper due at school.

Strongly Disagree (1)	Disagree (2)	Neither Agree nor Disagree (3)	Agree (4)	Strongly Agree (5)
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q6. I know how my children do in different subjects at school.

Strongly Disagree (1)	Disagree (2)	Neither Agree nor Disagree (3)	Agree (4)	Strongly Agree (5)
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q7. I know where my children go when I am out of the home.

Strongly Disagree (1)	Disagree (2)	Neither Agree nor Disagree (3)	Agree (4)	Strongly Agree (5)
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q8. I know where my children go and what they do after school.

Strongly Disagree (1)	Disagree (2)	Neither Agree nor Disagree (3)	Agree (4)	Strongly Agree (5)
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q9. In the last month, I have had a time when I had no idea of where your children were at night.

Strongly Disagree (1)	Disagree (2)	Neither Agree nor Disagree (3)	Agree (4)	Strongly Agree (5)
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>