THE PENNSYLVANIA STATE UNIVERSITY

The Graduate School
Department of Counseling Education, Counseling Psychology, & Rehabilitation Services

THE INFLUENCE OF SCHOOL CONNECTEDNESS AND ACADEMIC SELF-EFFICACY ON SELF-REPORTED NORM RELATED PRO-SOCIAL BEHAVIOR

A Dissertation in
Counselor Education

by

Kaprea Faa’izah Johnson

© 2011 Kaprea Faa’izah Johnson

Submitted in Partial Fulfillment
of the Requirements
for the Degree of

Doctor of Philosophy

August 2011
The dissertation of Kaprea Faa’izah Johnson was reviewed and approved* by the following:

Richard Hazler
Professor of Counselor Education
Dissertation Advisor
Chair of Committee

Keith Wilson
Professor of Counselor Education

Ed Yoder
Professor of Extension Education

Jolynn Carney
Associate Professor of Counselor Education

Emilie Smith
Professor of Human Development and Family Studies

Spencer Niles
Head of the Department of Counselor Education, Counseling Psychology, and Rehabilitation Services

*Signatures are on file in the Graduate School
ABSTRACT

This study took a strength based approach in exploring school connectedness, academic self-efficacy, personal variables and how they influence a new concept called norm related pro-social behavior (NRPB). Grounded in theory and logic, norm related pro-social behavior is a concept proposing that social norms held by youths directly affects their behaviors. Correlation research was conducted to investigate the individual and combined influence of school connectedness, academic self-efficacy, and personal variables in elementary school age youths self reported norm related pro-social behaviors. There were 227 participants in second through fifth grades with approximately equal numbers of males and females. Results revealed that school connectedness was among the strongest predictors of norm related pro-social behavior. This study contributes to the knowledge of all practitioners invested in schools and youths by providing further understanding of interactions between norms and behaviors and the importance of school in the socialization of youths.
# TABLE OF CONTENTS

LIST OF TABLES ................................................................. vi

ACKNOWLEDGEMENTS ....................................................... vii

Chapter 1: Introduction ......................................................... 1

- Norm related pro-social behavior ........................................... 2
- School connectedness ......................................................... 3
- Academic self-efficacy ....................................................... 4
- Theoretical framework ....................................................... 5
- Statement of the problem .................................................... 6
- Research questions ............................................................ 6
- Hypothesis ............................................................................ 6
- Significance .......................................................................... 8
- Definition of key terms ....................................................... 9
- Limitations ........................................................................... 10

Chapter 2: Literature Review .................................................... 12

- Positive Youth Development .................................................. 12
- History and definition .......................................................... 12
- Norm Related Pro-social Behavior .......................................... 13
  - Social norms ...................................................................... 15
  - Pro-social behavior ............................................................ 17
- School Connectedness .......................................................... 19
  - History and definition ....................................................... 19
  - Behavior ............................................................................ 21
  - Academic outcomes ......................................................... 25
- Academic Self-Efficacy ......................................................... 27
  - History and definition ....................................................... 27
  - Behavior ............................................................................ 28
  - Academic outcomes ......................................................... 32
- Summary ................................................................................ 38

Chapter 3: Research Design and Methodology ............................. 40

- Population and Participants .................................................. 40
- Measures .............................................................................. 41
  - Dependent Variable .......................................................... 41
  - Norm Related Pro-social Behavior ...................................... 41
  - Independent Variable ........................................................ 43
  - School Connectedness ....................................................... 43
  - Academic Self-Efficacy ....................................................... 44
  - Demographics ................................................................... 45
- Procedures ............................................................................ 45
Chapter 4: Results ........................................................................... 49

Pre-analysis ................................................................................. 50
  Missing data ............................................................................. 50
Univariate Analysis ........................................................................ 51
  Summary statistics of scales ...................................................... 51
  Normality of scales .................................................................. 53
Bivariate Analysis ........................................................................... 53
  Personal variables .................................................................... 53
Results for Research Question One .............................................. 55
Results for Research Question Two .............................................. 57
Results for Research Question Three ........................................... 58
Results for Research Question Four ............................................. 60

Chapter 5: Discussion .................................................................... 61

Research Question One ............................................................... 61
  School connectedness ............................................................... 61
  Academic self-efficacy .............................................................. 62
  Research implications .............................................................. 63
  Prevention/intervention implications ......................................... 64
Research Question Two ............................................................... 64
  Norm related pro-social behavior ............................................ 65
  Research implications .............................................................. 66
  Prevention/intervention implications ......................................... 66
Research Question Three ............................................................ 66
  Grade Level ............................................................................. 68
  Sex ......................................................................................... 68
  Research implications .............................................................. 68
  Prevention/intervention implications ......................................... 69
Research Question Four ............................................................... 70
  Research implications .............................................................. 70
  Prevention/intervention implications ......................................... 71
Limitations ................................................................................ 71
Conclusions ............................................................................... 73

Appendix: Anova Table ............................................................... 75

References ............................................................................... 76
LIST OF TABLES

Table 1: Summary of Proposed Statistical Analyses ......................................................... 48

Table 2: Demographics for sample. .................................................................................. 51

Table 3: Summary statistics for scales of interest ............................................................. 52

Table 4: Correlations between norm related pro-social behaviors and variables of interest ................................................................. 54

Table 5: Summary of standard regression analysis for variables predicting pro-social behaviors ........................................................................................................... 56

Table 6: Summary of standard regression analysis for variables predicting social norms ........................................................................................................................................... 57

Table 7: Summary of standard regression analysis for variables predicting norm related pro-social behaviors ........................................................................................................... 58

Table 8: Summary of hierarchical regression analysis for variables predicting norm related pro-social behaviors ................................................................................................. 59
This section could be pages long because there are many who have helped me along in my journey. I have to start by thanking God, because through him all things are possible. God has given me the strength to set goals and achieve them. With that being said I will keep this very short.

*Family and Friends.* You have made the process of writing extremely easy. I want to thank you all for being so supportive, your kind words, and the emails/text messages of encouragement. I love you all dearly and I hope you know what an important role you have played in my life. In particular I have to thank my father Granville Johnson and my mother Jeannette Collins, for giving me the gift of life. Along with my father and mother, I must also thank my step-mother Shandel Johnson, grandmothers Mommy Ella and Motherdear, for instilling in me the importance of persistence, always telling me that I can do anything I put my mind to, being great role models, and providing me with mental/emotional support throughout my journey in academia. Thank you.

*Advisor and Committee Chair.* Dr. Hazler, thank you for being so instrumental in getting me to the finish line. Thank you for always answering the hundreds of emails that I send (at all hours of the day and night) and meeting so frequently. I appreciate all of the encouragement you provided, your kind words, and your dedication to the process. Thank you.

*Committee Members.* Thank you all for agreeing to be involved on this journey with me. Your feedback has helped me grow as a person, researcher, and counselor educator. I appreciate you all for making yourselves available, being so open, and so kind. Thank you Dr. Wilson, Dr. Carney, Dr. Smith, and Dr. Yoder for everything.

Final thank you is to The Center for Diverse Families & Communities for all of the support during the dissertation process.
Chapter 1
Introduction

The Positive Youth Development (PYD) movement sprang from the field of positive psychology which gained momentum in the late 1990’s and early 2000’s (Seligman, 2002). PYD, was based on prevention science, and gained notoriety because it was the complete opposite of the deficit models previous theorists had used to understand youth development. While PYD has not been clearly defined, it focuses on youths’ strengths and advancements in terms of personal, physical, social, emotional, intellectual, and spiritual development (Commission on Positive Youth Development, 2005).

Two keys to Positive Youth Development are the development of pro-social behaviors and pro-social norms. Pro-social behavior is identified as an intentional behavior that benefits another person (Eisenberg & Miller, 1987). These behaviors are usually identified as sharing, helping, comforting, or acting altruistically (Eisenberg & Fabes, 1998). Pro-social norms seek to develop a path of accepted behaviors and norms. These norms encourage youths to demand good behavior from their peers, make a stand against negative behaviors, and to be vocal (The Social Development Research Group, 1999). The combination of pro-social behaviors that emphasize support for others and pro-social norms that direct behaviors based on social norms might conceptually be considered norm-related pro-social behaviors (NRPB).

Pro-social norms along with pro-social behaviors are both defining aspects of human behavior. The theory of normative social behavior (TNSB; Rimal & Real, 2005) further explains the relationship between norms and behaviors. This theory posits that when the norms that govern people’s actions are strong, this influences what people believe is actually done and is
consequently reflected in behavior (Rimal & Real, 2003). This theory of normative social behavior provides support for the NRPB concept.

Students exhibiting pro-social behaviors that also reflect pro-social norms would be expected to fit in well in a school system that requires specific efforts and behaviors. One might expect NRPB students to feel more connected to school and better about their involvement in it. Research has shown that youths who display positive behaviors tend to also be closer to teachers (Blum, 2005), have more positive peers (Bonny et al., 2000), and are better connected to school (Resnick et al., 1997). Academic self-efficacy has a less distinct relationship to NRPB. However, research supports the idea that youths with high self-esteem behave in a more socially acceptable manner and have higher achievements (Covington, 1992; Mecca, Smelser, & Vasconcellos, 1989).

**Norm Related Pro-Social Behaviors**

Norm Related Pro-Social Behaviors (NRPB) are the integration of pro-social norms and pro-social behaviors. The theory of normative social behavior (TNSB; Rimal & Real, 2005) describes the relationship between norms and behavior. TNSB has a focus on factors that moderate the influence of descriptive norms on behavior. Known moderators include group identity (Tajfel, 1982) and outcome expectations (Bandura, 1986). Group identity refers to the strength of affiliation with a reference group and outcome expectation refers to the belief in positive outcomes based on engaging in an activity. The theory posits that when injunctive norms, an individual’s beliefs about what should be done, are strong the influence of descriptive norms, individual’s beliefs about what is actually done, on behavior is strengthened (Rimal & Real, 2003). For example, the theory would suggest that an injunctive belief that one should not hit others if aggression was not provoked, would be directly correlated to a behavior of someone
not hitting someone else if aggression was not provoked. Theory of normative social behavior helps make the connection between norms and behaviors.

Pro-social behaviors are often what are socially accepted in society at the time (Greener & Crick, 1999). Pro-social behavior can be broken into four categories: altruistic, compliant, emotional, and public pro-social behaviors. Each of the four categories represents a specific pro-social behavior.

Social norms directly guide actions (Asrts & Dijkstra, 2003) and are used as a standard to compare one’s own behavior with the behavior of others (Clap & McDowell, 2000). There are two levels of norms: collective and perceived. The collective level refers to norms that are at the level of the group, community, or culture and the perceived level is how individuals understand those norms (Arrow & Burns, 2004). At the collective level, norms are the behaviors that members of a group can enact that are socially acceptable. They may be injunctive and/or descriptive norms.

School Connectedness

School connectedness has been defined and described in many different ways, including school engagement (Newman, 1992), school attachment (Mouton, Hawkins, McPherson, & Copley, 1996), and school bonding (Hawkins, Guo, Hill, Battin-Pearson, & Abott, 2001). The definition used in the current study refers to the attachment and quality of the relationships the student has with the school and community, the student’s commitment to pro-social goals, and involvement in conventional social activities (Resnick et al., 1997). This definition encompasses the individual student’s perspective of the school and the degree to which the student is invested in the school. Investment in school is important and mirrored in studies that show the relationship between school connectedness and lower levels of deviant behavior (Jessor, Van
Den Bos, Vanderryn, Costa, & Turbin, 1995), substance use (Resnick et al., 1997), and delinquency (Crosnoe, Erickson, & Dornbusch, 2002).

**Academic Self-Efficacy**

Academic self-efficacy is related to general self-efficacy (Wood & Locke, 1987) and belief in the future (Bandura, 1986, 1977). Academic self-efficacy has been described in the literature as academic self-concept (Byrne, 1984) and academic self-confidence (Le, Casillas, Robbins, & Langley, 2005). The current study defines academic self-efficacy as the assurance of success when an academic task needs to be performed (Schunk, 1981). This definition was chosen because it provides a broader definition of the concepts being studied and focuses on the belief without prior proof.

The term academic self-efficacy is a branch of Bandura’s (1977) self-efficacy theory and is heavily noted in the literature. The theory posits that self-efficacy beliefs can determine performance accomplishments and persistence in pursuing a difficult goal (Bandura, 1977). Self-efficacy has been related to persistence, tenacity, and achievement in education (Bandura, 1986; Schunk, 1981). Most studies in the area of academic self-efficacy have focused on college (Chemers, Hu, & Garcia, 2001; Hackett, Betz, Casas, & Recha-Singh, 1992), high school (Pinquart, Juang, and Silbereisen, 2003; Bong, 2004), and middle school students (Pajares & Graham, 1999; Pajares, Britner, & Valiante, 2000). A neglected population of study in regard to this issue is elementary school students. The elementary school years represent a critical developmental period for youth as it is during this time that foundations are set for thoughts about school, academics, and behavior.
Theoretical Framework

Social control theory and social cognitive theory are used to conceptualize the model for the study. Social control theory suggests that the more connections a person has with conventional society, the more likely a person is to abide by societal norms and the less likely to engage in delinquent behaviors (Hirschi, 1969). Based on this theoretical framework, the more connection a child has with school the more likely they are to engage in norm related pro-social behavior. As the Social Control Theory states positive connections lead to obeying positive social norms and behaviors.

Social cognitive theory suggests that learning occurs because of the interrelationship between behavior, environmental factors, and personal factors (Bandura, 1986). Based on this theoretical framework, learning positive characteristics occurs, at least in part, because of the interrelationships of school connectedness and academic self-efficacy. Support is provided with studies showing positive characteristics being linked to school connectedness (Resnick et al., 1997; Jessor et al., 1995) and academic self-efficacy (Schunk, 1981).

Social cognitive theory posits that in early and middle childhood people gain social knowledge from, parents, siblings, media, and other proximal and distal factors. During this time of early to middle childhood, children begin to develop norms and expectations for gender linked behavior (Bussey & Bandura, 1992). This leads children to act in gender specific ways; therefore girls may tend to act in pro-social ways while boys may tend to act in aggressive ways.

Maturity will also influence findings, and in the current study grade level will be used as a proxy for maturity level. Harris (2006) found that at around three to five years of age children can rely on perceptual cues from others and theory of mind is involved in the development of
both pro-social and anti-social behavior. Theoretically if children can understand others then they can understand how to help or hurt others (Harris, 2006).

**Statement of the Problem**

The problem is that the line of research on norm related pro-social behavior lacks information on the construct and the relationship between school connectedness, academic self-efficacy, and personal characteristics like, grade level and gender in elementary school youth. This study will examine the relationship that school connectedness and academic self-efficacy have with the construct norm related pro-social behavior.

**Research Questions**

*Question 1.* Do school connectedness and academic self-efficacy variables individually contribute to predicting norms and pro-social behavior?

*Question 2.* Do school connectedness and academic self-efficacy variables predict norm related pro-social behavior?

*Question 3.* Do sex and grade level predict norm related pro-social behavior, above and beyond school connectedness and academic self-efficacy?

*Question 4.* Is there a positive relationship between school connectedness and academic self-efficacy?

**Hypotheses**

*Hypothesis 1.* School connectedness and academic self-efficacy variables both significantly contribute to predicting pro-social behavior but not social norms.

This hypothesis will be tested using correlation, with the purpose being to determine if there is a relationship. Multiple regression will be used to analyze the data. School connectedness will be measured using the six item *School Connectedness Scale* (SCS; Resnick, et al., 1997),
academic self efficacy will be measured using the nine item *Perceived Academic and Career Efficacy Measure* (PACE; Smith et al., 2003), pro-social behavior will be measured using the six item pro-social behavior subscale from the *Strength and Difficulties Questionnaire* (SDQ; Goodman, Meltzer, & Bailey, 1998) and pro-social norms will be measured using the eight item *Social Norm Scale* (SN; Henry, Cartland, Ruchross, & Monahan, 2004).

**Hypothesis 2.** School connectedness and academic self-efficacy predicts norm related pro-social behavior.

This hypothesis will be tested using correlation, with the purpose being to determine if school connectedness and academic self-efficacy predicts norm related pro-social behavior. Multiple regression will be used to analyze the data. School connectedness will be measured using the six item *School Connectedness Scale* (Resnick, et al., 1997), academic self efficacy will be measured using the nine item *Perceived Academic and Career Efficacy Measure* (PACE; Smith et al., 2003), and *Norm Related Pro-Social Behavior* will be measured using the fourteen item scale that combines the six item pro-social behavior subscale from the *Strengths and Difficulties Questionnaire* (SDQ; Goodman, Meltzer, & Bailey, 1998) and the eight item *Social Norm Scale* (SN; Henry, Cartland, Ruchross, & Monahan, 2004).

**Hypothesis 3.** Grade level will predict norm related pro-social behavior.

Multiple regression will be used to assess the relationships of grade level, sex, school connectedness, academic self efficacy, and norm related pro-social behavior. School connectedness will be measured using the six item *School Connectedness Scale* (Resnick, et al., 1997), academic self efficacy will be measured using the nine item *Perceived Academic and Career Efficacy Measure* (PACE; Smith et al., 2003), and *Norm Related Pro-social Behavior* will be measured using the fourteen item scale that combines the six item pro-social behavior
subscale from the *Strengths and Difficulties Questionnaire* (SDQ; Goodman, Meltzer, & Bailey, 1998) and the eight item *Social Norm Scale* (SN; Henry, Cartland, Ruchross, & Monahan, 2004).

Hypothesis 4. There is a positive relationship between school connectedness and academic self-efficacy.

Bivariate correlation will be used to assess the relationship between school connectedness and academic self-efficacy. The six item School Connectedness Scale (Resnick, et al., 1997) and nine item *Perceived Academic and Career Efficacy Measure* (PACE; Smith et al., 2003) will be used.

**Significance of the Study**

Norm related pro-social behavior is a new concept with research providing support for the relationship between norms and behaviors (Rima & Real, 2003). While research points in the direction of older youth showing more pro-social behavior (Eisenberg, 1986), there is still room for further exploration with younger children. Research shows a drop in both academic grades and motivation occurring between elementary school and middle school in (Eccles & Midgley, 1991; Simmons & Zhou, 1994). This is cause for concern because behavior in the early elementary years and poor achievement in the late elementary years are predictors of deleterious outcomes (Kellam, Brown, & Fleming, 1982). These studies support the importance of intervening with youths as early as elementary school (Eccles & Midgley, 1991; Simmons & Zhou, 1994).

An understanding of norm related pro-social behavior and how it relates to school connectedness and academic self-efficacy is imperative because this may provide insight into how children develop pro-social norms which influence behavior. This study is significant because it fills a gap in the literature. Findings from the study should influence understanding of
the issues and potentially influence prevention/intervention practices for youth. The current study uses a new instrument to measure norm related pro-social behavior, a fourteen item measure which combines the six item pro-social behavior subscale from the *Strengths and Difficulties Questionnaire* (SDQ; Goodman, Meltzer, & Bailey, 1998) and the eight item *Social Norms Scale* (SN; Henry, Cartland, Ruchross, & Monahan, 2004). This instrument will be used to assess the relationship of NRPB with academic self-efficacy and school connectedness. Finally, there are no studies that specifically investigate the relationship between school connectedness and academic self-efficacy; the current study seeks to fill this gap.

**Definitions of Key Terms**

*Race-Ethnicity*—Refers to groups in which individuals self-identify: (a) African American/Black, (b) Asian, (c) American Indian/Native American, (c) Latino/Hispanic, (d) White/Non-Latino, and (e) Other.

*Sex*- Biological category of either female or male.

*Gender*- Social construction, usually identified by either girl/boy or woman/man.

*Elementary youth* – Youth in grades second through fifth will be used in this study.

*School connectedness*- Attachment to the school community and quality of those relationships along with a students’ commitment to pro-social goals, and involvement in conventional social activities (Resnick et al., 1997). This concept will be measured using the School Connectedness Scale (SCS; Resnick et al., 1997).

*Academic self-efficacy*- The assurance of success when an academic task needs to be performed at a given skill level (Schunk, 1991). This concept will be measured using nine items from the Perceived Academic and Career Efficacy Measure (PACE; Smith et al., 2003).
Positive Youth Development - Refers to an ongoing growth process which all youths experience as they attempt to meet their basic needs for safety, caring relationships, and connections to the larger community, while also striving to build academic, vocational, personal, and social skills (Quinn, 1995).

Social Control Theory – Suggests that the more connections a person has with conventional society, the more likely that person is to abide by societal norms and the less likely he or she is to engage in delinquent behaviors (Hirschi, 1969).

Social Cognitive Theory- Describes learning in terms of the interrelationship between behavior, environmental factors, and personal factors (Bandura, 1986).

Pro-social behavior – Pro-social behavior is normally defined as voluntary intentional behaviors, such as, sharing, helping, or comforting, that result in benefits for another person (Eisenberg & Miller, 1987).

Pro-social norms – Seeks to develop a path of accepted behaviors and norms. Encourages youths to demand good behavior from their peers, make a stand against negative behaviors, and to be vocal (The Social Development Research Group, 1999).

Norm related pro-social behaviors – Social norms that create an environment where pro-social behaviors are the norm.

Limitations

The following are recognized as potential limitations of the study:

1. The use of behavioral self-report measures for elementary aged youths raises the issue of internal validity as participants are often prone to using socially desirable responses to questions (Sellitz, Jahoda, Deutsh, & Cook, 1961).
2. The use of a self-report measure for elementary aged youths brings up the issue of extraneous variables. Reading level and level of assistance from staff were not controlled in this study.

3. Norm related pro-social behavior is a new concept for which there is no pre-existing validity information.
Chapter 2

Literature Review

This chapter will include a brief history and definition of Positive Youth Development (PYD), norm related pro-social behavior, school connectedness and academic self-efficacy. The variables will be considered in terms of how they relate to behavior and achievement. Conceptually, Norm related pro-social behavior (NRPB) is the logical and theoretical explanation of how social norms affect behavior. Social control theory, focuses on positive connections, and explains the relationship between NRPB and school connectedness. Social cognitive theory focuses on how learning effects behaviors and explains the connection between academic self efficacy and NRPB.

Positive Youth Development

History and Definition

The field of psychology and preventive science has historically focused on the risk and problem behaviors of youth as part of an old mental health model that child psychoanalysts used (Redl & Wineman, 1951). Large scale prevention and intervention efforts have developed because of research implying that adolescence is a time of experimentation and involvement in risk behaviors (Biglan, Brennan, Foster, & Holder, 2004). One issue arising from these interventions is that they often focus on one problem behavior funded by independent agencies with the same focus (e.g. high-risk sexual behavior intervention funded by Planned Parenthood) (Guerra & Bradshaw, 2008). Problem behaviors do not occur in isolation and this approach did not identify the connections between multiple problem behaviors. The counseling profession, however, has historically followed the wellness model, which focuses on strengths and assets.
Another major issue with this focus on risk and problem behaviors was viewing adolescents as having deficiencies or as problems that needed to be fixed (Redl & Wineman, 1951). As the field of psychology developed, a shift occurred as psychologist began to view successful development as the presence of positive attributes. The term Positive Youth Development emerged as an ongoing growth process in which all youths experience as they attempt to meet their basic needs for safety, caring relationships, and connections to the larger community, while also striving to build academic, vocational, personal, and social skills (Quinn, 1995).

**Norm Related Pro-social Behaviors (NRPB)**

Norm related pro-social behaviors (NRPB) are acquired concepts which begin developing at birth and continues throughout youth development. General norms that most children acquire include the norm of reciprocity and the norm of social responsibility (Eisenberg & Mussen, 1989). The norm of reciprocity emphasizes people helping others that have helped them, while the norm of social responsibility states that people should help others that need help (Goranson & Berkowitz, 1966). Norms, such as those of reciprocity and social responsibility, can partially predict behavior.

Further explaining the relationship between norms and behaviors is the Theory of Normative Social Behavior (TNSB; Rimal & Real, 2005). Normative social behavior posits that when the norms that govern people’s actions are strong, this influences what people believe is actually done, and is then reflected in behavior (Rimal & Real, 2003). Therefore, if a youth has strong norms about pro-social behavior, this will influence the youth to behave pro-socially. While norms can dictate positive behavior, some norms in settings that children frequent the most (e.g. school or classroom norms) can also be predictors of aggressive behaviors. Due to the
limited amount of literature surrounding the impact of social norms on pro-social behavior, studies on social norms and aggression are reviewed to better understand the relationship between behavior and norms.

Henry et al. (2000) used two samples of students to examine normative influences and aggression. This study used Cialdini, Kallgren, and Reno’s (1990) definition of descriptive norms (what most people will do) and injunctive norms (what people are expected to do). The first sample included 614 students (315 females and 299 males) from urban public schools, while the cross validation sample included 427 students (50.3% female) from urban schools. The variables in the study were measured using the peer nomination inventory, Normative Beliefs Approving of Aggression (NOBAGS), Child Behavior Checklist (CBCL), and observations of student and teacher behavior. Path analysis was used and researchers found no direct or indirect effects of descriptive norms as significant predictors of change in aggression. There were indirect and direct effects of injunctive norms on the prediction of aggression ($\beta = .07$, $p < .01$). The results were the same for males and females and for all ethnicities but had slight differences based on children’s grade level. The overall findings stress the importance of beliefs about aggression that children do not simply imitate behaviors of their classmates, but instead make decisions on which behaviors to mirror based on norms.

Mercer, McMillen, and DeRosier (2009) used classroom level descriptive norms to predict change in aggression. Descriptive norms were operationalized using teacher reported aggression in the classroom. Participants included 948 children in the third through fifth grades at diverse elementary schools. Measures included a peer report of pro-social behavior, teacher report of direct aggression, and self report of aggression and victimization. Results found that classrooms with teacher reported mean levels that varied from low aggression to high aggression
had small to large amounts of change in student self reported aggression. Other results found that students enrolled in classes with higher initial levels of aggression had greater increases in aggression over the school year. Pro-social descriptive norms reported by peers were unrelated to change in aggression and victimization at the student and the class level.

Studies in this area of norms and behavior overwhelmingly show the relationship between social norms and aggressive behavior. However, the importance of norms in predicting behavior was shown in all studies. In particular, descriptive and injunctive norms seem to be equally important in predicting aggressive behavior in elementary school students over time. Studies in this area typically vary across time, with findings showing that among younger children behavior predicts normative beliefs and in older children normative beliefs predict change in behavior (Huesmann & Guerra, 1997). Henry et al. (2000) also found differences based on grade level. In sixth graders, injunctive norms had a direct effect on aggressive behavior, and in both third and sixth graders, injunctive norms predicted personal norms (Henry et al., 2000). Studies show that development of youth has a direct effect on norms predicting behavior.

**Social Norms**

Many terms are used to describe social norms, such as, subjective norms (Ajzen & Fishbein, 1980), social influence (Rice, 1993), or norms (Bendor & Swistak, 2001), so establishing the specific term and definition to be used is necessary. The term social norms will be used in this case, and it is defined as both injunctive and descriptive norms.

Descriptive norms are people’s perception about the occurrence of certain behaviors, and injunctive norms give information about what should be done and refers to what people are expected to do in a specific situation (Cialdini, Reno, & Kallgreen, 1990). These two types of
norms affect behavior in different ways. While descriptive norms provide information about what is considered normal, injunctive norms provide information about what is expected (Cialdini et al., 1990).

Cialdini et al. (2006) conducted a study on the impact of descriptive versus injunctive norms. Participants in the study included 2655 visitors to the Petrified Forest National Park. Researchers strategically placed signs throughout the park with normative information (injunctive vs. descriptive) about stealing wood from the park. The injunctive normative information sign was a plea to preserve the natural state of the park. The descriptive normative information sign was information about what many past visitors to the park had done. Results found that the injunctive normative information signs (theft of petrified wood was strongly disapproved) were the most effective in deterring the negative behavior of stealing wood from the park. These findings show how certain norms can affect behavior in pro-social ways.

Schultz, Nolan, Cialdini, Goldstein, and Griskevicius (2007) conducted a study on the power of social norms. Participants included 290 households in California who were recruited to participate in a study via mailed letter. Researchers were examining the effect of descriptive norms only versus descriptive plus injunctive norm information on the consumption of energy. Information was gathered during a two week period on energy usage and after the baseline period households received two messages left at their doors. For households in the descriptive norm only group, each message contained (a) information on how much energy they consumed in the previous week, (b) descriptive normative information about the average energy consumption of people in the neighborhood, and (c) suggestions for how to conserve energy. Households in the descriptive plus injunctive norm information group received the exact same information and a happy face if the household consumed less than the average for the
neighborhood and a sad face if the household had consumed more than the average for the neighborhood. The different faces served as an injunctive message of approval or disapproval.

Results were broken into short term and long term changes in energy consumption. In the short term, households that consumed more than the average amount of energy at baseline had a significant decrease in energy consumption after the descriptive norm only feedback was provided ($M = 20.25$, SE = 1.03 vs. baseline $M = 21.47$, SE = 0.89). Researchers concluded that the above findings showed the power of social norms. For households that were below average at baseline, providing the descriptive norm only feedback was deconstructive and these participants consumed more energy, but once provided the descriptive plus the injunctive norm feedback these participants also reduced energy consumption. Further results showed the impact of social norm messages four weeks after the initial feedback was provided. Overall, this study showed that for individuals engaged in negative activities a descriptive norm feedback approach is successful, but for individuals who are not engaging in the negative acts, a descriptive norm only feedback approach is counterproductive.

As an example, telling students that two out of three of their peers have received out of school suspensions for bullying behaviors sends a message to the students who are not bullying that “most (two out of three) of their peers are bullying”. It normalizes bullying behaviors thus creating an adverse effect. Social norms are powerful ways of communicating behaviors.

**Pro-social Behaviors**

Pro-social behaviors are voluntary actions that are done to help another person or group (Eisenberg & Mussen, 1989). There are four types of pro-social behaviors and each can be motivated by either intrinsic or extrinsic factors. Altruistic pro-social behaviors are those that stem from sympathy and internalized norms, defined as behaviors that are voluntarily done to
help others motivated by concern for the needs and welfare of another (Eisenberg & Fabes, 1998).

Compliant pro-social behaviors are behaviors that are done because of a verbal or nonverbal request (Eisenberg et al., 1981). For example, a verbal request, would be person A requesting that person B help with a situation. A non verbal request would be person A waving over person B and person B interpreting the wave as a request for help.

Emotional pro-social behaviors are conceptualized as helping others under circumstances that are emotionally evocative (Eisenberg & Fabes, 1998). For example, helping a child who has just fallen and is bleeding and crying is an emotionally evocative situation versus a child who has just fallen and gets right back up and starts playing.

Public pro-social behaviors are done in front of an audience and are sometimes motivated by a need for approval and to enhance one’s own self-worth (Eisenberg & Fabes, 1998). The focus in this research is on pro-social behavior in general and may specifically highlight many of the abovementioned forms of pro-social behaviors.

Pro-social behavior has an overall positive impact on youth development. Scholastically, pro-social behavior helps facilitate academic learning. A study of 423 sixth and seventh graders looking at the effect of pro-social behaviors on learning found intriguing evidence to support the impact of pro-social behavior on academic success (Wentzel, 1993). This study used students’ GPA’s to measure academic achievement and, student nominations to measure social behavior. Academically relevant behavior was measured by teacher report of student behavior, teacher preference was measured by a single question “How much would you like to have this child in your class again next year?” Ratings were on a five point scale ranging from (1) not at all to (5) very much. Results indicated that pro-social behavior was a significant, independent, positive
predictor of GPA, explaining 17% of the variance in GPA. Pro-social behavior was also found to be a significant predictor of standardized test scores above and beyond the effects of academic behavior, teacher preference, IQ, sex, ethnicity, and days absent from school.

A similar study with 294 third through eighth graders (166 boys and 128 girls) found that early pro-social behaviors predicted later levels of academic achievement (Caprara, Barbaranelli, Pastorelli, Bandura, & Zimbardo, 2000). Overall, results show that students who display pro-social behavior also display positive academic achievement.

**School Connectedness**

**History and Definition**

Historically there have been many terms used to describe student relationships with school in the literature. Some of these terms may have similar definitions and others are identified by different elements or theories. The helping profession uses terms like school engagement, school bonding, school attachment, and school connectedness (Libbey, 2004; Blum, 2005).

School engagement, like other concepts, has been defined differently by different investigators. Newmann (1992) described it as a student’s psychological investment in learning, understanding, or mastering the knowledge that is promoted by academic work. Students’ academic motivation (Simons-Morton & Crump, 2002), academic participation, and identification with school (Finn, 1993), and self-regulated learning (Ryan & Patrick, 2001) have all been descriptions used to classify school engagement.

School attachment is defined as the degree to which students report that people at school like them (Mouton, Hawkins, McPherson, & Copley, 1996). School bonding incorporates
attachment (an emotional link to school), commitment, and investment in the group (Hawkins, Guo, Hill, Battin-Pearson, & Abott, 2001).

There are so many terms used to describe children’s connection with school in the literature and therefore, it is important to establish the definition that will be associated with school connectedness in this study. Bonny et al. (2000) defined it as the degree to which a student experiences caring and closeness to teachers and the overall school environment. Resnick et al. (1997) described school connectedness as attachment to the school community and the quality of the relationships the student has as well as the student’s, commitment to pro-social goals, and involvement in conventional social activities. The definition that Resnick et al. (1997) provided encompasses the individual student’s perspective on the school and the degree to which the student is invested in the school. Blum (2005) expanded the definition and listed qualities key to school connectedness:

1. A sense of belonging and being a part of school
2. Liking school
3. Viewing teachers as caring and supportive
4. Within school having friends that are considered “good friends”
5. Engaged in academic progress currently and foreseeing progress in the future
6. Viewing discipline within the school as fair and effective
7. Being involved in extracurricular activities

The overall similarity between the various definitions is the connection a student has with school and this very general definition has very specific outcomes. Outcomes that have been associated with low school connectedness, referred to in some studies as school bonding or engagement, have been delinquency (Hawkins et al., 2001; Joseph, 2002), substance use (Hawkins et al., 2001), low school achievement (Anderman & Andermann, 1999; Hawkins et al., 2001), school dropout (Rumberger & Larson, 1998), and poor school motivation (Goodenow & Grady, 1993). These negative outcomes have lasting effects on potential and actual success.
The concept norm related pro-social behaviors, assumes positive norms will produce positive behavior. In the literature, school connectedness promotes positive behavior through bonding (Hawkins, Catalano, & Miller, 1992; Dolan et al., 1989) and helping students build social competence (Weissberg, Caplan, & Sivo, 1989). It would appear that school connectedness can contribute to norm related pro-social behavior by facilitating interpersonal skills and translating decisions into effective behaviors (Weissber et al., 1989).

**Behavior**

Social Control Theory explains the potential connection between school connectedness and behavior. The theory suggests that attachment to school and commitment to conventional methods of achievement will produce adolescents who want to meet society’s expectations and therefore will show few externalizing problems (Hirschi, 1969). Research shows that adolescents who meet society’s expectations, perhaps of good behavior, are likely to have supportive relationships with teachers (Whitlock, 2006), pro-social peers (Battistich, Schaps, & Wilson, 2004), and fewer emotional problems (Burton, Stice, & Seeley, 2004). These connections, and in particular connections with school, are important and contribute to norm related pro-social behavior.

Shin, Daly, and Vera (2007) conducted a study focused on norms and behavior in middle school students and focused on school engagement. Participants were 132 seventh and eighth grade students who identified as 51.5% girls and 48.5% boys. The students identified as 54.5% Latino, 11% African American, 8% Asian American, 0.8% Native American, 18% bi-racial, and 6.8% did not designate their race. Instruments included the eleven item General Attitude Toward School subscale of the School Sentiment Index (SSI; Frith & Narikawa, 1970), which had, internal consistency reliability of .72. The twenty item Multigroup Ethnic Identity Measure
(MEIM; Phinney, 1992) had internal consistency reliability for this study of .83. The nine item Vaux Social Support Record (VSSR; Vaux, 1988) which had internal consistency reliability of .84. The seven item Friend’s Delinquent Behavior Adolescent Attitude Survey (FDB-AAS; Center for Urban Affairs and Policy Research, 1995) had internal consistency reliability of .45.

Bivariate correlations were conducted and positive peer norms \( r = -0.23, p<0.01 \) were significantly correlated with school engagement. In this study, lower scores indicate more positive norms therefore a -0.23 means more positive peer norms were associated with higher school engagement. Hierarchical multiple regression was also conducted to test for moderator effects. There were no significant differences found in school engagement based on age, gender, or ethnic background \( R^2 = 0.009; F (3, 128) = 0.380, p<0.05 \). This study demonstrates the importance of positive peer norms on increased school engagement.

Rice, Kang, Weaver, and Howell (2008) studied school connectedness and behavior in terms of anger, stress, and coping. Students in the study were 166 fourth graders, comprised of 86 males and 80 females; 106 Whites, 54 Blacks, and five who reported other for their race. Participants had a mean age of 9.19 (SD = .47). Researchers found positive correlations between school connectedness and behavior control \( r = 0.28, p < 0.001 \) and social confidence \( r = 0.28, p = 0.003 \). Negative correlations were found between anger out \( r = -0.30, p < 0.001 \), and trait anger \( r = -0.21, p = 0.006 \). Additional results showed that gender did not moderate the effects of school connectedness within any of the regression models, however race moderated the relationship between school connectedness and stressful events \( F = 4.96, p = 0.027 \) and social confidence \( F = 9.51, p = 0.002 \) for White students.
Results from this study found that school connectedness was associated with higher levels of behavior control and social confidence. Additional results found that as school connectedness increased, stress and anger out decreased. These results appear particularly important because they show how school connectedness relates to behavioral competence and fostering pro-social norms, with results showing that school connectedness was related to higher levels of behavior control. Particularly important is the inclusion of gender and race in the regression models. While gender did not moderate any relationships, race did. Results in this area found that White students who had higher scores on the school connectedness assessment had lower stress and higher social confidence. These results are particularly interesting and raise the question of whether these findings can be duplicated in another diverse sample of elementary school youth.

Another study on school connectedness and behavior studied early to middle adolescent children longitudinally. Loukas, Suzuki, & Horton (2006) collected two waves of data on participants in the study which included 489 ten to fourteen year olds, 51% female, 77.2% White American, 16.2% Latino, and 2.5% African American with the remaining students reporting other. About 70% of participants from wave one participated in wave two completing a 160 item questionnaire, including items measuring perceived school climate, school connectedness, conduct problems, and depressive symptoms.

Four subscales, each with five items were used from My Class Inventory (MCI; Fraser, 1982) to measure perceived school climate. Internal consistency reliabilities for the subscales were all in a safe range: cohesion (.70), competition (.68), friction (.70), and satisfaction (.57). Five items were used from the National Longitudinal Study of Adolescent Health (Resnick et al., 1997) to assess student’s connectedness to school; internal consistency reliability of the five
items for this study was .75. The *Strengths and Difficulties Questionnaire* (SDQ; Goodman, Meltzer, & Bailey, 1998) was used to measure conduct problems and internal consistency reliability for wave one was .66 and wave two .59. The Children’s Depression Inventory (CDI; Kovacs, 1985) is a twenty-seven item measure used to assess adolescent depression symptoms and the internal consistency reliability for this study was .90 for wave one and .91 for wave two. Zero-order correlations were performed and results showed that school connectedness was related to depressive symptoms at wave one \( r = -.41, p < .05 \) and wave two \( r = -.32, p < .05 \) and also related to conduct problems at wave one \( r = -.36, p < .05 \) and wave two \( r = -.34, p < .05 \). Additional results showed that school connectedness predicted gradual change in conduct problems one year later. These systematically decreasing conduct problems show how school connectedness is related to behavior.

The previous study (Loukas et al., 2006) contributes to the existing research providing further evidence that increased school connectedness is related to fewer conduct problems (McNeely, Nonnemaker, & Blum, 2002). The researchers approached behavior from a problem centered approach, using the SDQ and assessing conduct problems, and the study yielded expected results. To yield broader results, it may have been useful to employ a measure of pro-social behavior.

The importance of school connectedness as it relates to behavior has been heavily noted in the literature with such studies showing that school connectedness is linked to lower levels of deviant behaviors (Jessor, Van Den Bos, Vanderryn, Costa, & Turbin, 1995), substance use (Resnick et al., 1997), and delinquency (Crosnoe, Erickson, & Dornbusch, 2002). Additional studies have found that students who report low school connectedness in early secondary school are also more likely than their peers to have mental health problems and use substances later in
life (Bond et al., 2007). The abovementioned studies collectively highlight the importance of engaging elementary school aged youth in school as soon as possible.

**Academic Outcomes**

School connectedness is important to a child’s future and current academic success as shown by a connection with school that predicts school achievement and adjustment (Osterman, 2000). A longitudinal study conducted by Battistich, Schaps, and Wilson (2004) used follow-up data from the Children’s Development Project (CDP), an intervention program focused on social, ethical, and intellectual development through making elementary schools caring communities. About 58% of the original participants were included in the follow-up study, approximately 2,747 students, but of those students, parents who consented for the follow-up study included 1,246 participants. Of these 1,246 participants whose parents consented for the follow-up study, 700 students were in the original experimental group and 546 were in the original control group. Demographically, participants in the follow-up study were 40% White, 32% Hispanic, 22% African American, 5% Asian, and 0.6% other. There were equally divided between male and female. Measures included a student measure, teacher reports, and student records to assess student outcomes in middle school.

Data were analyzed using analysis of covariance controlling for gender and ethnicity. Results showed that overall 40% of the outcome variables changed in favor of students who were in the experimental group in elementary school. Specifically, program students (experimental group) scored higher than comparison students in their sense of school community ($F[1,1877] = 3.55, p = .06$), positive teacher student relations ($F[1,1878] = 4.65, p = .04$), liking school ($F[1,1880] = 4.22, p = .04$), and task orientation toward learning ($F[1,1879] = 3.82, p = .06$). Other results showed that students in the program also scored higher in their sense of efficacy.
(F[1,1875] = 7.02, p<.01) and global self-esteem (F[1,1878] = 2.74, p<.10). Overall, CDP seemed to have a number of long lasting positive effects on elementary students who were later re-assessed in middle school. Results highlight the importance of early interventions and fostering school connectedness. This study illustrated that school connectedness and positive interventions in elementary school can have a positive effect on academic performance in middle school (Battistich, Schaps, & Wilson, 2004). This study is important to the line of research and the promotion of school connectedness, because studies show lasting positive effects on youth development.

Another study by Goodenow and Grady (1993) assessed the relationship between school bonding and academic outcomes. Included in the study were 301 diverse middle school students, with a large population of Hispanics and African Americans. Measures used included The Psychological Sense of School Membership Scale (PSSM; Goodenow, 1993) and the Cronbach’s alpha for this study was .80. Friends’ values were assessed by asking students to rate their agreement with the statement “My friends think that it is important to do well in school,” but no reliability information was provided. Motivation was assessed by two scales on expectancy-value theory of motivation (Atkinson, 1964; Eccles, 1983) and the Cronbach’s alpha for the expectancy scale was .72 and for the value scale .81.

Regression analysis was performed and results showed that even after controlling for friends’ values, school belonging was significantly associated with expectancy (r =.35, p <.001), values (r =.46, p <.001), general school motivation (r =.42, p <.001), and effort and persistence (r =.12, p <.05). This study found that students who had greater school bonds had greater expectations for their academic performance.
Similar results were found in a sample of over 4,000 ethnically diverse students (48% White, 19% African American, 6% Hispanic, 19% Asian, and 8% Native American/mixed race/or other) in grades seven through twelve. Findings showed that of the students who reported liking school (school connectedness) all or most of the time (nearly half), these students also reported receiving all A’s or A’s and B’s (nearly half) (Eisenberg, Neumark-Sztainer, & Perry, 2003). Results indicate that there is a positive relationship between academic achievement and school connectedness.

Research in this area would be stronger if the studies were longitudinal. This would allow researchers insight into whether or not school connectedness in elementary school really persisted or had an effect in middle school, high school, and perhaps even college. These studies are important to the current line of research because they provide support that school connectedness contributes to the promotion of norm related pro-social behavior. Behavior is a key characteristic of norm related pro-social behavior and school connectedness makes a significant contribution to maintaining and improving behavior outcomes (Loukas, Suzuki, & Horton, 2006). Limitations in this area of research lie in the existence of so many behaviors that can be assessed.

**Academic Self-Efficacy**

**History and Definition**

A child’s presumptions regarding potential academic success or failure will play a determining role in his/her life and in the development of positive characteristics and behaviors. Academic self-efficacy is directly related to a branch from Bandura’s (1977) self-efficacy theory. The theory posits that self-efficacy beliefs can determine performance accomplishments and persistence in pursuing a difficult goal (Bandura, 1977). Another component in the theory is that self-efficacy judgments could affect the amount of effort an individual will show and how long
that individual will persist in the face of a perceived obstacle (Bandura, 1986). Self-efficacy has been related to persistence, tenacity, and achievement in education (Bandura, 1986). Enhanced self-efficacy contributes to task perseverance and essentially leads to greater achievements while low self-efficacy is related to a lack of perseverance and fewer achievements (Schunk, 1983), thus giving merit to the importance of self-efficacy in academic achievement and youth development.

Academic self-efficacy (Schunk, 1991), academic self-concept (Byrne, 1984), and academic self-confidence (Le, Casillas, Robbins, & Langley, 2005) have been used interchangeably in the literature to represent the same construct. However, academic self-concept seems to be based more on some substantial amount of proof of ability and is defined as an individual’s knowledge about himself or herself in situations when s/he has to achieve academically (Byrne, 1984). Academic self-efficacy is defined as the assurance of success when an academic task needs to be performed (Schunk, 1991). The literature sometimes uses the term self-efficacy as well when referring to a student’s academic self-efficacy and perceived ability within academia (Wood & Locke, 1987). Academic self-efficacy is extremely important to positive youth development because children’s self beliefs lead to different social, emotional, and cognitive connections with school (Byrne, 1984).

**Behavior**

There were relatively few studies specifically concerning academic self-efficacy and behavior outcomes. The studies presented below weave together pieces of identifiers that contribute to academic self-efficacy, such as self-efficacy, self-concept, academic achievement, academic competence, and self-esteem. A study by Malecki and Elliot (2002) about children’s social behavior as it relates to academic achievement is important and one of the most relevant
studies to the above theme. The study involved 139 ethnically diverse students (69% minorities and 31% white) with about equal numbers of females (54%) and males (46%) in the third and fourth grades. Reports from teachers (N = 13; 97% female) and self reports from students were also used in the data analysis. The variables in the study were measured using the *Social Skills Rating Scale for teachers* (SSRS-T) problem behavior scale and academic competence scale, along with the *Iowa Test of Basic Skills* (ITBS) total math and reading scales. Data were collected in two waves, fall and spring, and results indicated that the problem behavior scale was negatively correlated with total math and reading scores from the ITBS for both fall ($r = -0.29$, $p < .01$) and spring ($r = -0.34$, $p < .01$) and academic competence score for both fall ($r = -0.33$, $p < .001$) and spring ($r = -0.38$, $p < .001$).

The overall study was important in building links between social skills, academic competence, and academic achievement. This is important to future research because it looks at behavior in reference to specific academic outcomes (scores on a test). There are positives and negatives associated with the approach of moving from reporting feelings about academics and moving on to testable measures such as standardized tests. One major limitation is that the standardized tests do not always accurately measure a child’s ability to achieve academically. This fact may curve the data and provide inaccurate results. As it relates to behavior, this study does show the importance of both behavior and academic self-efficacy. This study also relates directly to fostering self-efficacy beliefs, which is imperative for successful development into adulthood (Bandura, 1977).

A study by Caprara, Barbaranelli, Pastorelli, Bandura, and Zimbardo (2000) studied foundations of pro-social behavior and its relationship to academic achievement. A longitudinal research design was used to predict whether the student’s third grade social behavior influenced
eighth grade academic achievements. The students included boys (N = 166) and girls (N = 128) for a total of 294 children, and all the participants were from communities and schools in Rome, with 89% of the participants available for retest after five years. Data were obtained through different methods and sources including children’s self report of their behavior and the behavior of their peers (socio-metric ratings), teacher reports, and academic grade reports. Structural equation modeling was used in this study to determine the relationship between behavior and academic achievement. In the model, early academic achievement correlated strongly, $r = .75$, with pro-social behavior and negatively, $r = -.31$ with aggression. These results showed that pro-social behavior predicts later academic achievement. This study is strong because it utilizes longitudinal data to show changes over time. It is important to the current line of research because it provides support that pro-social behavior, which is a piece of norm related pro-social behavior, is positively correlated with academic achievement/academic self-efficacy. Future research is needed to further clarify the relationship between academic self-efficacy and norm related pro-social behavior.

Donnellan et al. (2005) research study focused on externalizing problems that can sometimes lead to poor academic achievement and self-efficacy. The participants included 292 eleven to fourteen year olds (mean age = 12.66 years, SD = 1.57; 55% female, 56.5% European American, 20.5% Hispanic American, 9.2% African American, 9.0% other, and 4.8% Asian American or Pacific Islander). The study sought to investigate the relationship between self-esteem and delinquent behaviors. To assess self-esteem, researchers used self-reporting children measures and a teacher report measure, including was the ten item Rosenberg Self-esteem Scale (RSE; Rosenberg, 1965; $\alpha = .81$), six item global subscale of the Harter Self Perception Profile for Children (SPPC; Harter, 1988; $\alpha = .75$), and a teacher version of the SPPC ($\alpha = .88$).
Additional variables and measures included in the study were delinquency using the, twelve item *Delinquent-Behaviors Scale* adapted from Elliott, Huizinga, and Ageton (1985; $\alpha = .85$), supportive parenting using a modified scale from the *Iowa Youth and Families Project* (Conger et al., 1992; $\alpha = .89$), and academic achievement using a composite score on the math and reading *Stanford Achievement Test Battery*.

Structural equation modeling was used to test whether supportive parenting and academic achievement could account for the relationship between low self-esteem and delinquency. Results showed that supportive parenting and academic achievement could not explain the relationship between self-esteem and delinquency. Other results showed that self-esteem was negatively correlated with delinquency when assessed by the RSE ($r = -.35, p < .05$), SPPC ($r = -.39, p < .05$), and the teacher version of the SPPC ($r = -.29, p < .05$). These findings are consistent with Fergusson and Horwood (2002), who found that individuals with low self-esteem are more likely to show delinquent behaviors. This study was influential in showing the link between self-esteem and delinquency, and, in the literature it is noted that both self-esteem and delinquency have links with academic outcomes (Resnick et al., 1997). The above study was influential in showing support for the connection between behavior and self-esteem, a smaller component of academic self-efficacy.

Studies in this area used statistics such as structural equation modeling to show the links between different types of behaviors and academic self-efficacy. The literature in this area is scattered because, of the many behaviors that can be assessed and how different researchers define and assess academic self-efficacy. Diverse samples and elementary school aged youth are partially missing from the research in this area and these are important pieces. The elementary
years constitute an important time because interventions and occurrences in elementary school can have direct implications for a child’s future (Hawkins et al., 2001).

**Academic Outcomes**

Literature in the area of academic self-efficacy and academic outcomes was extremely extensive and, as a result, the section has been broken down by education level. This will allow patterns to be traced through different levels of education. This line of research is concerned with assessing the relationships between academic self-efficacy and academic outcomes. The following studies show the importance of self-efficacy in academics. Studies on academic self-efficacy and academic outcomes are plentiful at the college, high school, and even middle school levels, but little research is available at the elementary school level.

**College.** There have been several empirical studies related to academic self-efficacy and academic outcomes at this level of education. Research conducted by Lent, Brown, and Larkin (1984) used forty-two undergraduate students (28 males and 14 females), pursuing a degree in the science or engineering fields determine the relationship between self-efficacy expectations and academic achievement and persistence. They employed procedures which yielded four aspects of self-efficacy concerning achievement in the science and engineering fields: (1-2) level and strength of self-efficacy for meeting educational requirements and (3-4) level and strength of self-efficacy for actual job duties. Along with the self-efficacy measures, additional data including Preliminary Scholastic Aptitude Test (PSAT) scores, high school ranks, college grades, and declared major choices for each quarter during the year following participation in the study, were used to assess the relationships between self-efficacy, academic aptitude, and actual scholastic performance.

To determine if self-efficacy mediates the relationship between academic performance and persistence, participants were divided into high-and low-self-efficacy groups based on
educational requirements length (ER-L) and educational requirements strength (ER-S) scores at the follow-up which was after eight weeks. Results indicated that low and high groups were significant for ER-L, $X^2 (1, N = 24) = 4.04, p < .05$ and ER-S, $X^2 (1, N = 25) = 6.03, p < .05$ indicating that high self-efficacy group achieved higher grades and persisted longer in technical majors than did the low self-efficacy group.

Hackett, Betz, Casas, & Recha-Singh (1992) also found that with engineering students academic self-efficacy was one of the strongest predictors of performance. These results are intriguing because they use a longitudinal framework and results show a direct link between high self-efficacy and better grades, but the results are also highly subjective and can only be generalized to a small population. The results do provide a loose relationship between academic self-efficacy and better performance academically.

Other studies show the relationship between academic self-efficacy and academic performance. A study conducted using 111 college students in an introduction to psychology course showed that academic performance and self-efficacy have a significant relationship, even after controlling for ability (Wood & Locke, 1987). These findings are consistent with Gore (2006) whose population included 629 first year college students and found that college self-efficacy was a predictor of GPA. The study by Gore (2006) also contributed to the literature with findings that illustrated the importance of sampling timing. The study showed that second year college students have stronger correlations between academic self-efficacy and college success versus first year college students. Findings in this area are robust, but the samples are convenience samples and there may be risk of students answering in socially desirable ways.

Chemers, Hu, and Garcia (2001) focused on first year college students. Researchers used structural equation modeling to assess the direct effect of self-efficacy on challenge-threat
evaluations, academic expectations, and academic performance. Results showed significant direct effects of self-efficacy on challenge-threat evaluations (standardized coefficient = .27, \( p < .001 \)), academic expectations (standardized coefficient = .28, \( p < .001 \)), and academic performance (standardized coefficient = .34, \( p < .001 \)). Students with high self-efficacy had higher challenge-threat evaluations (i.e., they perceived academic work demand to be more of a challenge than a threat), greater academic expectations, and better academic performance.

Researchers, who investigate college level trends, tend to use convenience samples rather than random sampling techniques, which would help minimize bias. Another limitation is the lack of diversity within the samples. However, the studies have been influential in building the link between academic self-efficacy and academic outcomes.

**High School.** Pinquart, Juang, and Silbereisen (2003) conducted a longitudinal study in Germany which began when students were twelve to fifteen years old and ended when these students were twenty-one. Investigators explored whether self-efficacy and academic grades were associated with career success at age twenty-one. Bivariate correlations found that adolescents with high academic self-efficacy were less likely to be unemployed (\( \beta = -.13, p < .05 \)), had higher levels of job satisfaction (\( \beta = .20, p < .001 \)) by age twenty-one, and worse grades in school were associated with higher levels of unemployment (\( \beta = .15, p < .01 \)). Findings from this study highlight the important link between academic self-efficacy and career, mediated by academic performance. Strength was also built into the design of the study a longitudinal design allowed for follow-up data to further support the thesis.

Bong (2004) conducted a research study with 389 high school girls in Seoul, Korea. The research focused on academic self-efficacy across different subjects and found that academic self-efficacy is moderately correlated across different subject domains. The results were
interpreted to mean that a child who has academic self-efficacy in math may also have academic self-efficacy in reading and writing. These results are in line with research stating general sources of self-efficacy can be applied across many domains (Bandura, 1986).

The body of literature relating to high school students is robust, however it also has many different focuses. A limitation of these studies is a lack of diversity and a lack of consideration for moderating effects of race, gender, ethnic identity, socio-economic status (SES), and other demographic variables that have been shown to affect academic outcomes.

**Middle School.** Pajares and Graham (1999) conducted a study with 273 sixth grade students on math self-efficacy. Participants in the study were in a suburban public middle school, and the sample was made up of 150 boys and 123 girls; 188 students were in regular education and 85 in gifted education. In terms of race 190 students reported White, 47 African American, 12 Hispanic American, and 24 Asian American. While there were several variables in the study, the ones most relevant were math self-efficacy (measured using a twenty question task specific assessment of mathematics self-efficacy), and mathematics self-concept (measured using the *Academic Self Description Questionnaire II* [ASDQ II] (Marsh, 1992). For this study, researchers obtained a Cronbach’s coefficients of .89 for the fall and .91 for the spring. Other measures used in the study were relevant for the larger study. Researchers used MANOVA to determine whether self-efficacy made an independent contribution to performance with other variables controlled. The correlations for self-efficacy and performance were .57 in the fall and .59 in the spring. Self-efficacy predicted performance in both the fall (β =.267) and the spring (β =.272). Results from this study provided support to the claim that self-efficacy beliefs play an important role in academic performance.
Pajares, Britner, and Valiante (2000) conducted and reported a study that looked at the relationship between achievement goals, motivation constructs, and gender in the areas of middle school writing and science. Participants were 497 middle school students: 250 girls, 247 boys, 169 sixth graders, 177 seventh graders, 151 eighth graders. Writing was assessed in comparison with the other constructs. Correlations were conducted and results showed a correlation between self-efficacy and language arts GPA ($r = .60, p < .0001$). Other results found that task goals (goal is to master the subject information) were positively related to academic self-efficacy, however performance-avoid goals (goal is to want to seem smarter than others) were negatively correlated with self-efficacy. Few studies have assessed goals in terms of academic self-efficacy, and this study provides support for the relationship between the two concepts.

Findings from the above studies support the importance of self-efficacy. Self-efficacy is particularly important in academic settings and in the prediction of academic outcomes (Bandura, 1986). Bandura’s studies on self-efficacy are historical and laid the foundation for this line of research. After twenty years, support is still being provided for his initial claims. It is also important to highlight that most studies in this area took into account race and gender variables.

**Elementary School.** Academic self-efficacy is important in younger children because it has been suggested that it is a more appropriate gauge of a child’s overall school experience (Baker, 1998). Classroom environment and sense of belonging also contribute to the overall experience of school for elementary age youth and have been found to be related to academic self-efficacy (McMahon, Wernsman, & Rose, 2009). Children who have an overall positive experience with school appear to be more likely to perform well academically. Studies on academic self-efficacy and academic outcomes in elementary school were few and typically used older elementary school students, such as fourth and fifth graders.
A study conducted by McMahon, Wernsman, and Rose (2009) looked at classroom environment and school belonging and their relationship with academic self-efficacy in fourth and fifth graders over two time periods. Participants in the first time period included 142 students (70 fourth graders and 72 fifth graders) and participants in the second time period included 149 students (75 fourth graders and 74 fifth graders). Students in both waves were reported to come from diverse schools that have high numbers of African American, Latino, and Asian students. Measures used in the study included the twenty-five item short My Classroom Inventory (MCI; Fraser, 1982) which had five subscales and was used to measure classroom environment. The subscales and the Cronbach’s alpha for each are as follows, satisfaction (α = .64), cohesiveness (α = .76), friction (α = .73), competitiveness (α = .63), and difficulty (α = .50). School belonging was assessed using an eight item adapted version of the Psychological Sense of School Membership Scale (PSSM; Dahlberg, Toal, & Behrens, 1998). Cronbach’s alpha for this study was α = .66. Academic self-efficacy was assessed with The Academic Self-Efficacy Scale (Rose, Harvey, & Parks, 2002). This assessment asks students how they feel about a variety of specific subjects. Researchers found preliminary results indicating that neither school nor the grade level had a direct effect on the impending results. Hierarchical Linear Modeling was conducted and results indicated that classroom environment and sense of school belonging are important factors in academic outcomes. Future research should examine the effects of gender and race, which were not part of this study (McMahon et al., 2009). Gender and race can play a significant role in research and should be considered.

A study conducted by Pajares and Valiante (1997) included gender within the design of the study on self-efficacy and language arts performance. Study participants were 218 fifth graders, and researchers found that self-efficacy predicted writing performance in language arts,
and achievements (Pajares & Valiante, 1997). Researchers also found gender differences with girls reporting higher self-efficacy and less apprehension in writing performance. Another study including gender as a construct found no gender differences between girls in boys in writing self-efficacy (Pajares & Johnson, 1996). Results in this area of gender differences are mixed.

The studies in the area of academic self-efficacy and academic outcomes are very robust. Many studies used regression models to predict outcomes and control for outside effects. One main concern is the scattered nature of the reports. Some studies examine subject specific outcomes and others general outcomes, so it is difficult to see the gaps in the literature or even the strong points.

**Summary**

A summary of the scholarly literature suggests that school connectedness and academic self-efficacy seem to be related to norm related pro-social behavior. School connectedness appears to be related to behavior control (Rice et al., 2008), conduct problems (Loukas et al., 2006), and academic performance (Goodenow & Grady, 1993). Study samples were typically over 300, with equal numbers of males and females, and included reasonably diverse samples. Most of the scales used in the studies had acceptable to good internal reliabilities.

Academic self efficacy was defined in multiple ways in the literature with findings that were positive overall in relation to academic achievement (Caprara et al., 2000), higher grades (Lent et al., 1984), and, in one study, performance (Hackett et al., 1992). Overall results were promising and provided support for connections between self-efficacy and pro-social behavior. Sample sizes were typically over 100 people, with equal numbers of males and females. Methodology was strong, with some researchers using standardized tests to assess academic
achievement, and scales were reported to have moderate to good internal reliabilities.

Researchers typically used SEM, ANOVA’s, or regression.

The overall quality of the research findings in the above areas are moderately to very strong. The sample sizes were medium to large and were typically very diverse. While promising, there is clearly room for further and stronger studies in these areas.
Chapter 3

Research Design and Methodology

This chapter focuses on the design of the research study and methodology. The first section discusses the population and participants, measures (dependent variable and independent variables), procedures, design, and hypothesis. Additionally, the data analysis plan is detailed.

Population and Participants

The sample for this study came from an established database within the Center for Diverse Families and Communities at The Pennsylvania State University. Permission was granted to use this database by the primary investigator on the project Dr. Emilie Smith, who is the center’s director and a faculty member in the Human Development and Family Studies Department. The sample included participants in a larger on-going study of youth in afterschool programs in southeastern Pennsylvania. Specifically, participants are from Harrisburg city, Lancaster city, and Dauphin County.

Harrisburg, the capital of Pennsylvania, has a population of approximately 48,950 with 34% White, 56% African American, and 13% Hispanic residents; the median household income is $31,520 (www.harrisburgpa.gov, 2009). Lancaster city has a population of 56,348 with 66% White, 15% African American, 33% Hispanic residents; the median household income is $32,854 (Bureau of Economic Analyses, 2008). Dauphin County has the largest population amongst the three with approximately 255,322 residents who identify as 75.9% White, 16.9 % African American, and 5.6 % Hispanic; the median household income is approximately $52,360 (Bureau of Economic Analyses, 2008)

In the larger study, recruitment for participants began by cold calling afterschool program site directors in the abovementioned areas. Follow-up emails and site visits occurred after a site
agreed to participate in the study. A total of three after school programs agreed to participate with a total of twenty-four individual afterschool sites. After verbal agreement, all directors, staff, and parents of the children participants were consented. Consent forms for parents were mailed out with an opt-out option in which the consent form was to be returned with a parent signature if they did not want their child to participate in the study.

The participants for the current study are all children who were consented and completed the pre survey in September 2009. The sample included 227 children (124 males and 103 females) between the ages of seven and eleven who were in second through fifth grade at the time of the pre survey. The diverse sample of participants included 30% African Americans, 35% White Americans, 12% Hispanics, 1% Asian Americans, 2% Native Americans, and 18% of students who chose the category other as their race.

**Measures**

**Dependent Variable**

**Norm Related Pro-Social Behavior.** Norm related pro-social behavior was measured by a combination of the Strengths and Difficulties Questionnaire (SDQ) subscale for pro-social behavior and The Social Norm Scale (SN) for norm related behaviors. The combination became a measure that included fourteen items with a Cronbach’s alpha of .82.

The pro-social measure used the Strengths and Difficulties Questionnaire (SDQ; Goodman, Meltzer, Bailey, 1998), which is a twenty-five item (five subscales) self report measure of pro-social behavior and psychopathology which may be answered by the youth, parent, or a teacher. Several studies have used the SDQ with moderate to good psychometric properties. A study by Goodman (2001) testing the psychometric properties of the SDQ found marginal to moderate internal consistency reliabilities respectively for each subscale for youth, total difficulties $\alpha = .80,$
emotional symptoms $\alpha = .66$, conduct problems $\alpha = .60$, hyperactivity-inattention $\alpha = .67$, peer problems $\alpha = .41$, and pro-social behavior $\alpha = .66$.

The current study used the pro-social behavior subscale, a six item measure with questions asking participants about their behavior within the past six months. Sample statements on the pro-social behavior subscale include, “I try to be nice to other people” and “I usually share with others” with responses being recorded on a four point Likert type scale (1-Certainly true, 2-Somewhat true, 3-Not true, 4-Refuse to answer). The Cronbach’s alpha for the pro-social behavior subscale in this current study is.72.

Social norms were measured by the Social Norms Scale (SNS; Henry, Cartland, Ruchross, & Monahan, 2004) which has two subscales: an eight item subscale that identifies provoked aggression and a three item subscale that measures unprovoked aggression. This study used the eight item provoked aggression subscale. Sample statements on the eight item provoked aggression subscale are, “Hit someone because that person hit first”, “Hit someone because that person said something mean”, and “Yelled at someone because that person hit first” with responses being recorded on a four point Likert type scale (1-Ok, 2-Not Ok, 3-Wouldn’t care, 4-Refuse to answer). The Cronbach’s alpha for the provoked aggression subscale in the current study is .85.

**Scaling and Scoring**

**Social Norms Initial Re-scaling.** As noted above, responses on the Social Norms Scale, are recorded on a four point Likert type scale (1-OK, 2-Not OK, 3-Wouldn't care, and 4-Refuse to answer). In the first step of re-scaling, 4 (Refuse to answer), was recoded as missing data. The second re-scaling step, included rearranging answers on the scale so that 1(now 3), 2 (now 1), and 3 (now 2). This rescaling was done, because the statements about social norms were
described as aggressive acts such as "Hit someone because they hit first". The positive social norm statement would be 1-Not Ok, a neutral answer would be 2-Wouldn't Care, and the negative answer would be 3-Ok. The final scale was then a three point Likert type scale: 1-Not Ok, 2-Wouldn't Care, and 3-Ok.

**SDQ Pro-Social Behavior Subscale Initial Re-Scaling.** Responses to the pro-social behavior six item subscale were originally recorded on a four point Likert type scale (1-Certainly True, 2-Somewhat True, 3-Not True, and 4-Refuse to answer). Scale item 4 (Refuse to Answer) was dropped from the scale and coded as missing data.

**Norm Related Pro-Social Behavior Scaling.** The scale is a combination of the SDQ pro-social behavior subscale and the Social norm scale. To create the scale for the norm related pro-social behavior measure, the mean score was used. The mean was used to keep the three-point scale of the pro-social behavior scale and the social norm scale. Refuse to answer, originally coded as 4, was dropped from the norm related pro-social behavior scale and coded as missing data. The final scale then used the total means for each individual based on a three point Likert type scale (1-Positive behaviors, 2-Neutral behaviors, and 3-Negative behaviors).

Positive, negative, and neutral NRPB scores were calculated. Positive scores on the NRPB are between 1.0 and 1.41, neutral scores are between 1.41 and 2, and negative scores are between 2.01 and 3. The mean of the measure was 1.41. A frequency was computed and results showed that 88.8% of the sample had a positive to neutral norm related pro-social behavior scores between one and two.

**Independent Variables**

**School Connectedness.** The *School Connectedness Scale* (SCS; Resnick et al., 1997) first appeared in the literature when Resnick and colleagues brought together six items that were
a part of the original Add Health study (Resnick et al., 1997), and called it school connectedness. Their original goal was to examine youth’s connection with school in relation to risky behaviors. The six item measure is composed of statements like, “I feel close to people at my school”, “I am happy to be at my school”, and “I feel safe at school” on a four point, Likert type response scale (1-Not true, 2-Sometimes true, 3-Very true, 4- Refuse to answer). Researchers found that the scale produced acceptable internal consistency (Hinkle, Wiersma, & Jurs, 1998) with a Cronbach’s alpha of .75. Follow-up studies using the Add Health database have used a varying number of items, but most have used five items for the SCS (Bonny, Britto, Klosterman, Hornung, & Slap, 2000; McNeely, Nonnemaker, & Blum, 2002; Loukas, Suzuki, & Horton, 2006). The current study used the same six items that were used by Resnick et al. (1997), and the Cronbach’s alpha is .86.

**Academic Self-Efficacy.** Nine items from the Perceived Academic and Career Efficacy Measure (PACE; Smith, Atkins, & Connell, 2003) was used to measure academic self-efficacy. The PACE is a self-report measure that was developed to assess youths perceptions of their academic ability and career efficacy. The measure includes two subscales for academic and career self-efficacy. The nine item academic self-efficacy subscale was utilized in the study. Sample questions from the measure included, “I expect to go to college”, “I expect to do well on my homework”, and “I think I will go as far as I like in school”, sought to measure youth’s perceived ability to perform well on academic tasks. Items for this measure are on a four point, Likert type response scale with 1-Not true, 2-Sometimes true, 3-Very true, and 4-Refuse to answer. The previous study that used this measure had good internal consistency reliability for the academic self-efficacy subscale $\alpha = .87$ (Smith et al., 2003). The current study used nine items and the measure showed good internal consistency $\alpha = .80$. 
**Demographics.** Information was gathered by asking children to report their sex (Males-1 and Females-2), grade, age, and race.

**Procedures**

The *Legacy Afterschool Project* (the larger study) contracted with the Survey Research Center (SRC) to initiate the data collection process. The SRC then hired data collectors who visit all twenty-four sites and assist with the student data collection process. Two data collectors visited every site during survey round period with Personal Digital Assistants (PDAs) that were pre-assigned with children’s ID numbers for confidentiality. Student participants then used the PDA’s to complete the untimed survey. Data collectors then uploaded the data via a web-based program to the SRC, which then cleaned the data and sent it to the data coordinator at the *Legacy Afterschool Project*. IRB approval has been granted to the larger project in which I am also listed as a researcher. The project coordinator and Dr. Emilie Smith, project director, have granted permission to use the data. Therefore, a separate IRB approval is not needed.

**Research Design**

The purpose of this study was to analyze how the construct norm related pro-social behavior relates to school connectedness and academic self-efficacy. This study represents correlational research. Correlational research seeks to determine if and to what extent a relationship exists between two or more quantifiable variables within a study. The relationship direction and strength is determined by a correlation coefficient between -1.00 and +1.00. When a relationship exists between two variables, it is assumed that the scores on one variable are associated with the scores on another variable within a certain range. The purpose of using this research approach in the current study is to determine the relationships and strengths of these relationships between variables, and to use some of these relationships to make preliminary
predictions. The proposed data analysis plan clarifies particular analyses that will be used (See Table 1).

**Hypotheses**

**Hypothesis 1.** School connectedness and academic self-efficacy variables both significantly contribute to predicting pro-social behavior.

This hypothesis will be tested using correlation, with the purpose being to determine if there is a relationship. Multiple regression will be used to analyze the data because it allows information on the individual contribution of the independent variables as well as the combined contribution in predicting the dependent variable. School connectedness will be measured using the six item *School Connectedness Scale* (Resnick, et al., 1997), academic self efficacy will be measured using the nine item *Perceived Academic and Career Efficacy Measure* (PACE; Smith et al., 2003), pro-social behavior will be measured using the six item pro-social behavior subscale from the *Strengths and Difficulties Questionnaire* (SDQ; Goodman, Meltzer, & Bailey, 1998) and pro-social norms will be measured using the eight item *Social Norm Scale* (SN; Henry, Cartland, Ruchross, & Monahan, 2004).

**Hypothesis 2.** School connectedness and academic self-efficacy both predict norm related pro-social behavior.

This hypothesis will be tested using correlation, with the purpose being to determine if school connectedness and academic self-efficacy predict norm related pro-social behavior. Multiple regression will be used to analyze the data because it allows information on the individual contribution of the independent variables as well as the combined contribution in predicting the dependent variable. School connectedness will be measured using the six item *School Connectedness Scale* (Resnick, et al., 1997), academic self efficacy will be measured
using the nine item *Perceived Academic and Career Efficacy Measure* (PACE; Smith et al., 2003), and *Norm Related Pro-social Behavior* will be measured using the fourteen item scale that combines the six item pro-social behavior subscale from the *Strengths and Difficulties Questionnaire* (SDQ; Goodman, Meltzer, & Bailey, 1998) and the eight item *Social Norm Scale* (SN; Henry, Cartland, Ruchross, & Monahan, 2004).

**Hypothesis 3.** Grade level will predict norm related pro-social behavior.

Multiple regression will be used to assess the relationships of grade level, sex, school connectedness, academic self efficacy, and norm related pro-social behavior. School connectedness will be measured using the six item *School Connectedness Scale* (Resnick, et al., 1997), academic self efficacy will be measured using the nine item *Perceived Academic and Career Efficacy Measure* (PACE; Smith et al., 2003), and *Norm Related Pro-social Behavior* will be measured using the fourteen item scale that combines the six item pro-social behavior subscale from the *Strengths and Difficulties Questionnaire* (SDQ; Goodman, Meltzer, & Bailey, 1998) and the eight item *Social Norm Scale* (SN; Henry, Cartland, Ruchross, & Monahan, 2004).

**Hypothesis 4.** There is a positive relationship between school connectedness and academic self-efficacy.

Bivariate correlation will be used to assess the relationship between school connectedness and academic self-efficacy. The six item School Connectedness Scale (Resnick, et al., 1997) and nine item *Perceived Academic and Career Efficacy Measure* (PACE; Smith et al., 2003) will be used.
# Data Analysis Plan

Table 1 *Summary of Proposed Statistical Analyses*

<table>
<thead>
<tr>
<th>Research Question</th>
<th>Key Variable</th>
<th>Type of Data</th>
<th>Data Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do school connectedness and academic self-efficacy variables individually significantly contribute to predicting social norms and pro-social behavior?</td>
<td>SCS, PACE, PSB, SN</td>
<td>Scale, Scale, Scale</td>
<td>Multiple Regression</td>
</tr>
<tr>
<td>Do school connectedness and academic self-efficacy variables predict norm related pro-social behavior?</td>
<td>SCS, PACE, NR PB</td>
<td>Scale, Scale, Scale</td>
<td>Multiple Regression</td>
</tr>
<tr>
<td>Do sex and grade level predict norm related pro-social behavior, when school connectedness and academic self-efficacy are in the model?</td>
<td>Grade level (4 levels), Sex (2 levels), SCS, PACE, NR PB</td>
<td>Nominal, Nominal, Scale, Scale, Scale</td>
<td>Multiple Regression</td>
</tr>
<tr>
<td>Is there a positive relationship between school connectedness and academic self-efficacy?</td>
<td>SCS, PACE</td>
<td>Scale, Scale</td>
<td>Bivariate Correlation</td>
</tr>
</tbody>
</table>

*Note.* SCS- School Connectedness Scale (Resnick et al., 1997; six items); PACE – Perceived Academic and Career Efficacy (Smith et al., 2003; nine item academic self-efficacy subscale); PSB- Pro-Social Behavior subscale (SDQ; Goodman, Meltzer, Bailey, 1998; six items); SN-Social Norms Scale (Henry, Cartland, Ruchross, & Monahan, 2004; eight items); NRPB- Norm related pro-social behavior (fourteen items).
Chapter 4

Results

The purpose of this study was to examine the relationships between Norm Related Pro-Social Behavior and school connectedness, academic self-efficacy, sex, and grade level. The findings presented in this chapter are the results based on the following four research questions:

1. Do school connectedness and academic self-efficacy variables individually contribute to predicting social norms and pro-social behavior?

   Hypothesis 1: School connectedness and academic self-efficacy variables both significantly contribute to predicting social norms and pro-social behavior.

2. Do school connectedness and academic self-efficacy predict norm related pro-social behavior?

   Hypothesis 2: School connectedness and academic self-efficacy predict norm related pro-social behavior.

3. Do sex and grade level predict norm related pro-social behavior, when school connectedness and academic self-efficacy are in the model?

   Hypothesis 3: Grade level will predict norm related pro-social behavior.

4. Is there a positive relationship between school connectedness and academic self-efficacy?

   Hypothesis 4: There is a positive relationship between school connectedness and academic self-efficacy.

Preliminary analyses were conducted prior to answering the research questions. Descriptive statistics on the sample and bivariate correlations on the scales were included in the preliminary analyses. The dependent variables and independent variables were all continuous
therefore standard regression analyses were used to answer research questions one and two, hierarchical regression was used to answer research question three, and bivariate correlation was used to answer research question four.

*Pre-Analysis*

A total of 227 children participated in the study and demographic information is shown in Table 2. All measures had some missing data: The Norm Related Pro-social Behavior Scale included 197 completed surveys, Social Norm Scale included 215 completed surveys, Pro-social Behavior Scale included 224 completed surveys, School Connectedness Scale included 197 completed surveys, and the Academic Self-efficacy Scale included 206 completed surveys. The valid N listwise was 197.

*Missing Data.* Substitution of missing data was not used because it was not found to be a major issue in the analysis. There were no missing data in the demographic variables (e.g., sex, grade level, and race), but the independent and dependent variables had missing cases. Missing data resulted in the valid N being 197 participants which are enough participants to do a multiple regression according to the Tabachnick and Fidell guidelines (2000). There were no patterns found in the missing data other than data appeared to be missing toward the end of the survey. The random nature of the missing data poses no serious problems in the data analysis (Tabachnick & Fidell, 2000).
Table 2  
*Demographics for Sample (N=227)*

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sex</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>124</td>
<td>54.6</td>
</tr>
<tr>
<td>Female</td>
<td>103</td>
<td>45.4</td>
</tr>
<tr>
<td><strong>Race</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AA</td>
<td>69</td>
<td>30.4</td>
</tr>
<tr>
<td>W</td>
<td>80</td>
<td>35.2</td>
</tr>
<tr>
<td>M/H/L</td>
<td>28</td>
<td>12.3</td>
</tr>
<tr>
<td>A/PI</td>
<td>3</td>
<td>1.3</td>
</tr>
<tr>
<td>NA/AI/A</td>
<td>6</td>
<td>2.6</td>
</tr>
<tr>
<td>Other</td>
<td>41</td>
<td>18.1</td>
</tr>
<tr>
<td><strong>Grade</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2&lt;sup&gt;nd&lt;/sup&gt;</td>
<td>66</td>
<td>29.1</td>
</tr>
<tr>
<td>3&lt;sup&gt;rd&lt;/sup&gt;</td>
<td>64</td>
<td>28.2</td>
</tr>
<tr>
<td>4&lt;sup&gt;th&lt;/sup&gt;</td>
<td>50</td>
<td>22.0</td>
</tr>
<tr>
<td>5&lt;sup&gt;th&lt;/sup&gt;</td>
<td>47</td>
<td>20.7</td>
</tr>
</tbody>
</table>

*Note.* Race categories: AA-African American/Black (not Hispanic), W-White, M/H/L-Mexican/Hispanic/Latino, A/PI-Asian/Pacific Islander, NA/AI/A-Native American/American Indian/Alaskan, Other-possible mixed race or persons who chose other.

**Univariate Analysis**

*Summary Statistics of Scales.* The means, standard deviations, and theoretical range (min and max) for all measures are presented in Table 3.
Table 3
*Summary Statistics for Scales of Interest*

<table>
<thead>
<tr>
<th>Number of Items</th>
<th>( \alpha )</th>
<th>( m )</th>
<th>( sd )</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>NRPB</td>
<td>14</td>
<td>.82</td>
<td>1.41</td>
<td>.42</td>
</tr>
<tr>
<td>Pro-social Behavior</td>
<td>6</td>
<td>.72</td>
<td>1.42</td>
<td>.45</td>
</tr>
<tr>
<td>Social Norms</td>
<td>8</td>
<td>.85</td>
<td>1.96</td>
<td>.36</td>
</tr>
<tr>
<td>School Connectedness</td>
<td>6</td>
<td>.86</td>
<td>2.74</td>
<td>.39</td>
</tr>
<tr>
<td>Academic Self-Efficacy</td>
<td>9</td>
<td>.80</td>
<td>2.82</td>
<td>.36</td>
</tr>
</tbody>
</table>

Note. \( \alpha \) = Cronbach’s Alpha, \( m \) = mean, \( sd \) = standard deviation, *Range* = theoretical range

Norm related pro-social behavior (NRPB) has a three point Likert type response scale (1-Positive behaviors, 2- Neutral behaviors, and 3- Negative behaviors). In the case of the mean for NRPB, the closer a participant is to a score of one, the more positive the overall result in terms of NRPB. Therefore, the overall mean of 1.41 can be interpreted as participants generally reported neutral to positive levels of NRPB.

Pro-social behavior has a three point Likert type response scale (1-Certainly true, 2-Somewhat true, and 3-Not true). The closer participants are to a score of one, the more pro-social behaviors the participant self-reported. The overall mean of 1.42 for the pro-social behavior variable suggests that participants generally reported medium to high levels of pro-social behavior.

Social norms has a three point Likert type response scale (1-Not ok, 2-Wouldn’t care, and 3-Ok). The closer participants’ scores are to one the more pro-social norms they report. The overall mean of 1.96 can be interpreted as participants generally reported neutral beliefs in adherence to social norms.

School connectedness has a three point Likert type scale (1-Not true, 2-Sometimes true, and 3-Very true). The closer participants scores are to three the more they report feeling
connected to school. The overall mean of 2.74 can be interpreted as most students reporting high levels of school connectedness.

Academic self-efficacy has a three point Likert type response scale (1-Not true, 2-Sometimes true, and 3-Very true). The closer participants’ scores are to three, the more self efficacy they report in academic situations. The overall mean of 2.82 suggests that participants report high academic self-efficacy.

Normality of Scales. The normality of the dependent variables and the independent variables were assessed by examining the skewness of distribution and histogram charts. Examination of skewness values for school connectedness (-2.14), academic self-efficacy (-1.93), social norms (-.18), pro-social behavior (1.02), and norm related pro-social behavior (.98) showed no major problems with normality. Preliminary analyses were also conducted to ensure no major violation of the assumptions of linearity, multicollinearity, and homoscedasticity.

Bivariate Analysis

Pearson correlations were conducted among the five variables as shown in Table 4. The correlation matrix demonstrated that norm related pro-social behaviors was significantly related to school connectedness ($r = -.50, p < .01$), academic self-efficacy ($r = -.33, p < .01$), and sex ($r = -.32, p < .01$). Social norms and pro-social behavior were independently significantly related to school connectedness and academic self-efficacy. Furthermore, school connectedness and academic self-efficacy were significantly related to each other ($r = .52, p < .01$).
Table 4
*Correlations between Norm Related Pro-social Behaviors and Variables of Interest (N=197)*

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. NRPB a</td>
<td>-</td>
<td>-.33**</td>
<td>- .50**</td>
<td>.73**</td>
<td>.66**</td>
<td>- .32**</td>
<td>.01</td>
<td>.00</td>
</tr>
<tr>
<td>2. Academic Self-Efficacy</td>
<td>-</td>
<td>-</td>
<td>.52**</td>
<td>.31**</td>
<td>-.27**</td>
<td>.15*</td>
<td>.20**</td>
<td>.05</td>
</tr>
<tr>
<td>3. School Connectedness</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>.16*</td>
<td>-.34**</td>
<td>.13</td>
<td>.14*</td>
<td>.01</td>
</tr>
<tr>
<td>4. Social Norms</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>.02</td>
<td>-.02</td>
<td>.14*</td>
<td>-.07</td>
</tr>
<tr>
<td>5. Pro-Social Behavior</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-.27**</td>
<td>.06</td>
<td>-.00</td>
</tr>
<tr>
<td>6. Sex (M=1, F=2)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>.04</td>
<td>.06</td>
</tr>
<tr>
<td>7. Grade</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>.07</td>
</tr>
<tr>
<td>8. Race</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

a Norm Related Pro-Social Behavior Scale. **p<.01. *p<.05.

*Personal Variables.* Bivariate correlation analyses revealed that sex was significantly correlated to pro-social behavior \( r = -.27, p < .01 \) indicating that females reported more pro-social behaviors. Sex was also significantly correlated to academic self-efficacy \( r = .15, p < .05 \) indicating that females reported more self-efficacy in academic situations.

Grade level \( (2^{\text{nd}}, 3^{\text{rd}}, 4^{\text{th}}, \text{& } 5^{\text{th}}) \) was significantly correlated with academic self-efficacy \( r = .20, p < .01 \) indicating that the higher the grade level the better students felt about their academic abilities. Higher grade level students also reported more attention to social norms \( r = .14, p < .05 \) and social connectedness \( r = .14, p < .05 \).

Race was categorized into six groups that included African American, White, Hispanic, Asian or Pacific Islander, Native American/American Indian/Alaskan, and Other. Race was not significantly related to any variables.
Results for Research Question One

Research question one sought to investigate whether school connectedness and academic self-efficacy predicted social norms and pro-social behavior. Specifically, the question was: Do school connectedness and academic self-efficacy values individually and significantly contribute to predicting social norms and pro-social behavior? Two standard ordinary least square (OLS) multiple regressions were conducted, to answer the research question because there were two dependent variables, to answer the research question. Standard OLS multiple regression allows the researcher to assess the amount of variance each variable predicts separately. A summary of the results of the standard OLS multiple regression predicting social norms is shown in Table 5 and results of the standard OLS multiple regression predicting pro-social behavior is seen in Table 6.

Table 5 shows that 13% of the variance in pro-social behavior (DV) is explained by the statistically significant model that includes school connectedness (IV) and academic self-efficacy (IV). School connectedness significantly predicted pro-social behavior ($\beta = -.278$, $p < .001$). Inverse relationship indicates a positive result meaning that increased reports of school connectedness is related to increased pro-social behavior.
Table 5
*Summary of Standard Regression Analysis for Variables Predicting Pro-social Behavior (N=197)*

<table>
<thead>
<tr>
<th>Variables</th>
<th>Model 1</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td></td>
<td>&lt;.001</td>
<td></td>
</tr>
<tr>
<td>School Connectedness</td>
<td>-.278</td>
<td>.001</td>
<td></td>
</tr>
<tr>
<td>Academic Self-efficacy</td>
<td>-.128</td>
<td>.104</td>
<td></td>
</tr>
<tr>
<td>Model F and (p)</td>
<td>14.612(&gt;.001)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total $R^2$</td>
<td>.131</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adjusted $R^2$</td>
<td>.122</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$R^2$ Change</td>
<td>.131</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 6 shows that 9.5% of the variance in social norms (DV) is explained by the statistically significant model that includes school connectedness (IV) and academic self-efficacy (IV). Academic self-efficacy significantly predicted social norms ($\beta = -.312, p < .001$). Inverse relationship indicates a positive result meaning that increased reports of academic self efficacy is related to positive social norms.
Table 6

Summary of Standard Regression Analysis for Variables Predicting Social Norms (N=196)

<table>
<thead>
<tr>
<th>Variables</th>
<th>β</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>-.006</td>
<td>.940</td>
</tr>
<tr>
<td>School Connectedness</td>
<td>-.006</td>
<td>.940</td>
</tr>
<tr>
<td>Academic Self-efficacy</td>
<td>-.312</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Model F and (p)</td>
<td>10.139( &lt;.001)</td>
<td></td>
</tr>
<tr>
<td>Total R²</td>
<td>.095</td>
<td></td>
</tr>
<tr>
<td>Adjusted R²</td>
<td>.086</td>
<td></td>
</tr>
<tr>
<td>R² Change</td>
<td>.095</td>
<td></td>
</tr>
</tbody>
</table>

Results for Research Question Two

Research question two sought to investigate whether school connectedness and academic self-efficacy predicted norm related pro-social behavior. Specifically, the question was: Do school connectedness and academic self-efficacy predict norm related pro-social behavior? A standard OLS multiple regression was conducted to answer the research question, because it allows the researcher to assess the amount of variance each independent variable predicts. A summary of the standard OLS multiple regression results predicting norm related pro-social behavior is shown in Table 7.
Table 7
Summary of Standard Regression Analysis for Variables Predicting Norm Related Pro-social Behaviors (N=197)

<table>
<thead>
<tr>
<th>Variables</th>
<th>Model 1</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td></td>
<td>&lt;.001</td>
<td></td>
</tr>
<tr>
<td>School Connectedness</td>
<td>-.454</td>
<td>&lt;.001</td>
<td></td>
</tr>
<tr>
<td>Academic Self-efficacy</td>
<td>-.097</td>
<td>.181</td>
<td></td>
</tr>
</tbody>
</table>

Model F and (p) 34.338(<.001)

Total R² .261
Adjusted R² .254
R² Change .261

Table 7 shows that 26% of the variance in norm related pro-social behavior (DV) is explained by the model that includes school connectedness (IV) and academic self-efficacy (IV). School connectedness significantly predicted norm related pro-social behavior (β = -.454, p<.001). Inverse relationship indicates a positive result meaning that increased reports of school connectedness is related to increased levels of norm related pro-social behavior.

Results for Research Question Three

Research question three sought to investigate if sex and grade level predicted norm related pro-social behavior. Specifically, the question was: Do sex and grade level predict norm related pro-social behavior, with school connectedness, and academic self-efficacy in the model? Hierarchical OLS regression was conducted to answer the research question because it allows the researcher to enter variables into the equation in a specific order to assess the amount of variance each variable predicts (Tabachnick & Fidell, 2000). Table 8 summarizes the results of the hierarchical regression equations predicting norm related pro-social behavior.
Table 8

**Summary of Hierarchical Regression Analysis for Variables Predicting Norm Related Pro-social Behaviors (N=197)**

<table>
<thead>
<tr>
<th>Variables</th>
<th>Model 1</th>
<th></th>
<th>p</th>
<th>Model 2</th>
<th></th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>SE b</td>
<td>β</td>
<td>B</td>
<td>SE b</td>
<td>β</td>
</tr>
<tr>
<td>Constant</td>
<td>1.833</td>
<td>.119</td>
<td>&lt;.001</td>
<td>3.186</td>
<td>.219</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Sex (M=1, F=2)</td>
<td>-.275</td>
<td>.058</td>
<td>-.323</td>
<td>&lt;.001</td>
<td>-.203</td>
<td>-.239</td>
</tr>
<tr>
<td>Grade</td>
<td>.013</td>
<td>.025</td>
<td>.035</td>
<td>.608</td>
<td>.045</td>
<td>.119</td>
</tr>
<tr>
<td>School Connectedness</td>
<td>-.460</td>
<td>.083</td>
<td>-.434</td>
<td>&lt;.001</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Academic Self-efficacy</td>
<td>-.111</td>
<td>.074</td>
<td>-.094</td>
<td>.182</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Model F and (p)</td>
<td>11.332</td>
<td>(&lt;.001)</td>
<td></td>
<td>32.153</td>
<td>(&lt;.001)</td>
<td></td>
</tr>
<tr>
<td>Total R²</td>
<td>.105</td>
<td></td>
<td></td>
<td>.329</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adjusted R²</td>
<td>.095</td>
<td></td>
<td></td>
<td>.315</td>
<td></td>
<td></td>
</tr>
<tr>
<td>R² Change</td>
<td>.105</td>
<td></td>
<td></td>
<td>.225</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

In the first step, sex and grade level, explained 10.5% of the variance of norm related pro-social behavior ($R^2$ = .105, Adjusted $R^2$ = .095, $p < .001$). This implies that sex contributed more to the prediction of norm related pro-social behaviors ($β = -.323, p < .001$). Inverse relationship indicates that females reported more norm related pro-social behavior.

In the second step, the addition of school connectedness and academic self-efficacy also accounted for an additional small amount of the variance in norm related pro-social behavior ($R^2 = .329$, Adjusted $R^2 = 315$, $Δ R^2 = .225, p < .001$). Specifically, school connectedness did significantly contribute to norm related pro-social behavior ($β = -.434, p < .001$) and academic
self-efficacy did not significantly contribute to norm related pro-social behavior ($\beta = -0.094, p = .182$).

Results for Research Question Four

Research question four sought to investigate whether school connectedness and academic self-efficacy were related. Specifically, the question was: Is there a significant positive relationship between school connectedness and academic self-efficacy? Pearson product moment correlation coefficient were conducted (Table 4) and results show that school connectedness and academic self-efficacy have a significant positive relationship ($r = .52, p < .01$). The positive relationship indicates that increased levels of school connectedness are related to increased levels of self reported academic self efficacy.
Chapter 5
Discussion

This chapter summarizes the results presented in chapter four. Research and prevention/intervention implications are presented. Lastly, chapter five ends with final conclusions.

Research Question One

Research question one sought to identify the contributions of school connectedness and academic self-efficacy variables in predicting social norms and pro-social behavior. It was hypothesized that both school connectedness and academic self-efficacy would contribute individually to pro-social behavior, but not to social norms. Two standard multiple regressions were used to investigate the individual contribution of the independent variables, school connectedness and academic self-efficacy, on the dependent variables social norms and pro-social behavior. The results revealed that school connectedness predicted pro-social behavior and academic self-efficacy predicted social norms.

School connectedness. School connectedness was an independent variable in the study and was assessed using the six item School Connectedness Scale (SCS; Resnick et al., 1997). The items on the scale appraised students’ perceptions of teachers, safety, and social bonding. The closer a student’s score was to a mean score of three, the higher the student’s level of school connectedness. The pro-social behavior and the social norms scales were also used, and the closer a student’s score was to a mean score of one, the more positive the results. Findings from the current study showed that school connectedness significantly predicted pro-social behavior ($\beta = .278, p < .01$), but not social norms. It was hypothesized that school connectedness and pro-social behavior would be related because of prior studies.
Social control theory supports the findings and the connection between school connectedness and pro-social behavior. The theory posits that the more connections an individual has with society, the better behavior they will display (Hirschi, 1969). School connectedness predicted pro-social behavior as expected. The theory suggests that positive bonds (school connectedness) are formed and exert informal control on behavior (create norms for behavior). The theory would suggest that positive social norms would be related to school connectedness, which is a positive bond. The Social Development Research Group (Catalano, Haggerty, Oesterle, Fleming, & Hawkins, 2004) hypothesized that the behavior of a child is dependent on the behaviors, norms, and values of the individuals or institutions to which the child is bonded to. The group furthered the discussion and mentions that one of the most important bonds to a child’s development is school bonding (Catalano et al., 2004).

The findings are also supported by past studies showing that school connectedness promotes positive behavior through bonding (Hawkins, Catalano, & Miller, 1992) and through building social competence (Weissberg, Caplan, & Sivo, 1989). While the majority of previous studies assessed how school connectedness minimized delinquent behaviors (Jessor, VanDen Bos, Vanderryn, Costa, & Turbin, 1995; Crosnoe, Erickson, & Dornbusch, 2002; Hawkins et al., 2001), the current study took a strengths-based approach and assessed the contribution of school connectedness to pro-social behaviors with results in line with previous studies.

**Academic Self-Efficacy.** Academic self-efficacy was an independent variable in the study and was assessed using the nine-item *Perceived Academic and Career Efficacy Measure* (PACE; Smith et al., 2003). The items on the measure assessed expectations to do well on homework, in school, and in the future. Findings from the current study revealed that academic self-efficacy significantly predicted social norms ($\beta = -.312, p < .01$), but not prosocial behavior. The results
from the correlation matrix showed that there was a positive weak relationship between academic self-efficacy and social norms ($r = .31, p < .01$). It was hypothesized that academic self-efficacy would be related to pro-social behavior; but because there were not previous studies that supported the connection between academic self-efficacy and social norms, it was hypothesized that there would not be a connection between academic self-efficacy and social norms.

The hypothesis that academic self-efficacy would be related to pro-social behavior was not supported by the findings of the current study. The study’s findings are surprising because previous studies (Caprara, Barbaranelli, Pastorelli, Bandura, & Zimbardo, 2000) found that pro-social behavior is related to academic self-efficacy in youth.

Research Implications. Future research should investigate the relationships in a larger more regionally diverse sample. School connectedness contributed to predicting pro-social behavior and it may be important for future research to specify what type of connection to school facilitates the most pro-social behavior. As an example, the current study used a school connectedness measure that specifically asks questions about perception of teachers, school bonding, and safety. Future research should take into account environmental indicators that relate to school connectedness including school and classroom climate (Loukas & Robinson, 2004).

Academic self-efficacy contributed to predicting social norms in the current study. It may be important for future research to be specific about which type of social norm (descriptive or injunctive) is being examined in the study, because the current study did not separate injunctive and descriptive norms. Cialdini, Kallgren, and Reno (1990) pointed out the importance of separating social norms into two categories, descriptive or injunctive, because the two types of norms represent separate concepts. The findings do, however, show that academic self-efficacy contributes to predicting collective social norms (i.e. norms at the level of the group).
Prevention/Intervention Implications. School connectedness was found to be an important predictor of pro-social behavior. For prevention and intervention efforts it may be useful to incorporate ways school staff can contribute to increasing a child’s sense of school connectedness. Specifically, the school counselor can be the buffer between student and teacher (Clark & Stone, 2000). School counselors have an increased leadership role within the school with a strong emphasis on building collaborative relationships with people who contribute to a student’s success (Cooper & Sheffield, 1994). If students are not as connected to school, the school counselor can discuss ways in which students can be provided with support from the teacher to enhance, one aspect of school connectedness, perception of teachers. School counselors can also do a needs based assessment to find out what students need for optimal success.

Efforts geared toward promoting positive youth development should definitely take into consideration school connectedness and academic self-efficacy. The positive youth development characteristics of social competence, bonding, and self efficacy relate directly to school connectedness and academic self-efficacy, perhaps furthering efforts in this area can be key to promoting positive youth development.

Research Question Two

Research question two sought to identify the contribution of school connectedness and academic self-efficacy variables to predicting the concept of norm related pro-social behavior (NRPB). It was hypothesized that school connectedness and academic self-efficacy would predict norm related pro-social behavior (NRPB). A standard multiple regression was used to investigate the individual and collective contribution of the independent variables, school connectedness and academic self-efficacy, on the dependent variable norm related pro-social
behavior. The Pearson product-moment correlation coefficient revealed a significant correlation between norm related pro-social behavior and school connectedness ($r = -.50$, $p < .01$) and academic self-efficacy ($r = -.33$, $p < .01$). The results from the regression revealed that school connectedness significantly contributed to predicting norm related pro-social behavior ($\beta = -.454$, $p < .01$) and academic self-efficacy did not significantly contribute to predicting norm related pro-social behavior ($\beta = -.097$, $p = .181$). Results also revealed that 26% of the variance in norm related pro-social behavior is explained by the model that includes school connectedness and academic self-efficacy $F(2, 194) = 34.33$, $p < .001$.

**Norm Related Pro-Social Behavior.** Norm related pro-social behavior is a new concept that considers the influence of social norms on behaviors. The measure is composed of fourteen items with mean scores closer to one indicating positive norm related pro-social behavior. Negative correlations are interpreted as positive findings. The support for results of the current study is from the social norms and behavior literature. Logically, it would make sense that school connectedness is related to norm related pro-social behavior (NRPB). School connectedness has been related to supportive relationships with teachers (Whitlock, 2006), which could be considered as the beginning stage of developing positive social norms within school settings. School connectedness has also been shown to be related to pro-social peers, who are essential (Battistich, Schaps, & Wilson, 2004) in establishing pro-social norms within children. Another study supporting the relationship between peers and norms found that positive peer norms significantly correlated with school engagement in a group of diverse middle school students (Shin, Daly, & Vera, 2007). Future research should investigate the influence of established norms on school connectedness and climate.
Research Implications. Norm related pro-social behavior (NRPB) is a new concept and it will be important for future research to investigate this concept in a larger, more diverse sample. It may also be useful to observe this concept over time. Huesmann and Guerra (1997) found that norms predict change in behaviors in older children; future research should look at school connectedness, academic self-efficacy, and NRPB in older versus younger children to understand the unique differences between groups. The current study found school connectedness and academic self-efficacy positively correlated with NRPB. Future research should look at other indicators that might moderate the relationship between NRPB, academic self-efficacy, and school connectedness. In other words, what could be moderating the relationship between NRPB and school connectedness that can influence the relationship? Race or social class, could be qualitative moderators and positive or negative behavior level could be a possible quantitative moderator (Baron & Kennedy, 1986).

Prevention/Intervention Implications. The current study found a positive relationship between school connectedness, academic self-efficacy, and NRPB. These findings are encouraging and provide support for interventions and prevention efforts focused on social norms. Prevention and intervention efforts should focus on specific interventions that can influence norm related pro-social behavior. While the current study found no differences by grade level prior studies (Harris, 2006) indicate that maturity level may also influence interventions, therefore it may be useful to split groups into younger versus older children for research and when implementing prevention or intervention efforts in schools.

Research Question Three

Research question three sought to investigate the relationship of school connectedness and academic self-efficacy variables to predicting norm related pro-social behavior (NRPB)
above and beyond personal variables. It was hypothesized that grade level would predict norm related pro-social behavior, above and beyond school connectedness, academic self-efficacy, and sex. A standard multiple regression was used to investigate the individual and collective contribution of the independent variables (school connectedness, academic self-efficacy, sex, and grade level) on the dependent variable norm related pro-social behavior. Pearson product-moment correlation coefficient revealed a significant correlation between norm related pro-social behavior and sex ($r = -.32, p < .01$), but not with grade level ($r = .01, p = .80$).

Step 1 from the regression revealed that the model is significant with sex and grade accounting for 10.5% of the variance in NRPB ($F(2, 194) = 11.33, p < .001$). Sex significantly contributed to predicting norm related pro-social behavior ($\beta = -.323, p < .001$) and the negative Beta is interpreted as meaning participants who are female reported more norm related pro-social behavior. Support was not provided for the hypothesis that grade level ($\beta = .03, p = .60$) would contribute to predicting NRPB above and beyond other variables.

Step 2 from the regression revealed that the model is significant with all independent variables accounting for 32.9% of the variance in norm related pro-social behavior $F(2,192) = 32.15, p < .001$). School connectedness significantly contributed the most to predicting NRPB ($\beta = -.434, p < .001$) and the Beta was moving in the conceptually positive direction and is interpreted as meaning the more NRPB students self-reported the more school connectedness was self-reported. Academic self-efficacy did not significantly contribute to predicting NRPB ($\beta = -.094, p = .182$). Sex was still significant in this model ($\beta = -.239, p < .001$) and grade level ($\beta = .119, p = .05$) became significant. Sex, because it was coded one for male and two for female, is interpreted to mean that more females reported NRPB and grade level is interpreted to mean that the older children are (based on the grade level) the more NRPB they self-reported.
Further findings from an ANOVA (Appendix) revealed that females (m=1.68) and males (m=1.80) had about equal levels of reported norm related pro-social behaviors. The overall ANOVA was significant $F(1, 222) = 8.74, p = .003$ demonstrating that females reported slightly more norm related pro-social behaviors.

*Grade level.* The hypothesis that grade level will be a significant predictor of NRPB above and beyond other independent variables was not supported by the results. Prior research (Cialdini, Kallgren, & Reno, 1990), however, has found grade level to be a significant predictor of social norms. Perhaps, the wide range of grade levels (2$^{nd}$ – 5$^{th}$) may have had an impact on the results. Huesmann and Guerra (1997) found that, among younger children, behavior predicts normative beliefs, and in older children normative beliefs predict changes in behavior. Henry et al. (2006) specifically found differences based on grade level of students in third and sixth grade. Results of the hypothesis, while not supported in findings, theoretically are supported in the research literature.

*Sex.* In the current study sex, was significant in both the model with only personal variables and the entire model with school connectedness and academic self-efficacy included. Current results contradict the findings by Cialdini, Kallgren, and Reno (1990), which found no differences on the effect of norms on aggression based on sex, interpreted as meaning sex was not a significant predictor of aggression based on norms. In the current study, sex contributed to predicting norm related pro-social behavior, which is interpreted as meaning sex is an important factor in behavior.

*Research Implications.* While grade level did not predict norm related pro-social behavior in the current study future research should investigate these findings in a larger sample of students. The current study contained approximately an even number of students in second
through fifth grades but it was a little slightly fewer than sixty-five students in each group. Future research may want to investigate this phenomenon in a larger sample with at least 100 students in each group (2nd – 5th grades). The larger sample might better demonstrate variation between the grade levels.

Other implications would suggest that there are other variables, for example sex, which may be more important than grade level when predicting norm related pro-social behavior. Future research should investigate this further.

Sex was a significant predictor in the current study. However, means for both males and females, according to the scores, were on the negative end. Future research can investigate which sex (male or female) reports the most norm related pro-social behavior (NRPB) and potential confounding variables that may contribute to a fairly negative average NRPB score for both males and females. The current study found that females reported slightly more norm related pro-social behaviors than males, but because both groups were so close to the average results imply that both groups may report the same amount of NRPB during elementary school. The finding that males reported less NRPB would appear normal since there is an overwhelming amount of literature that shows males display more conduct disorders than females (Cohen et al., 1993). The profile of children who report high and low NRPB would be an interesting investigation. For instance, does a male who reports high levels of NRPB look the same as a female who reports high levels of NRPB? Investigations in this area are limitless because NRPB is a new concept that needs further exploration.

Prevention/Intervention Implications. In the current study, there was a inverse relationship between NRPB and sex. This is interpreted as participants who are female reported more norm related pro-social behavior. However, both female and male scores were fairly
negative and the means for both groups were close. Research would indicate that there is a trajectory that can develop, in which, early onset of problem behavior can lead to more severe issues as children develop, and especially susceptible are boys (Loeber, 1991). Current results are for youth in elementary school. Therefore, if female/male students are showing low levels of NRPB it is important to nurture positive behaviors. The Commission on Positive Youth Development (2005) suggested that in order for children to develop as positive youth they must be nurtured and provided with opportunities to develop bonds with constructive peers, positive groups, and be provided with opportunities to contribute to their community.

*Research Question Four*

Research question four sought to investigate the relationship between school connectedness and academic self-efficacy in an elementary school aged population. It was hypothesized that there would be a significant positive relationship between school connectedness and academic self-efficacy. The pearson product-moment correlation coefficient was utilized along with preliminary analyses to ensure no violation of the assumptions of normality, linearity, and homoscedasticity. Results showed a significant strong, positive correlation between the two variables, \( r = .52, N = 197, p < .01 \) with high levels of school connectedness associated with high levels of academic self-efficacy. Results are supported by prior research that shows the connection between a sense of belonging to school in elementary school youths overall experience and sense of academic self-efficacy (McMahon, Wernsman, & Rose, 2009).

*Research Implications.* Future research should further explore the relationship between school connectedness and academic self-efficacy. The current study did preliminary analysis that showed a positive relationship between school connectedness and academic self-efficacy. The
positive relationship between school connectedness and academic self-efficacy is interpreted as meaning the more school connectedness a child self-reports the more academic self-efficacy s/he also reports. The next step in this line of research is to investigate the contribution of school connectedness in predicting academic self-efficacy. The current study also used a measure of school connectedness that specifically measures perception of teachers, safety, and bonding to school. It would be interesting to see if the above three areas related to academic self-efficacy in different ways. For instance, is a higher level of perception of teachers related to higher levels of academic self-efficacy?

**Prevention/Intervention Implications.** The current study found a positive relationship between school connectedness and academic self-efficacy implying that it is important to consider these concepts when creating prevention and intervention programs for elementary school students. Blum (2005) found that strong teacher support, positive school environment, and emotional and physical safety all contributed to school connectedness and achievement. Both school counselors and teachers can work collaboratively to support students through the three specific characteristics found to be important in school connectedness and achievement (Blum, 2005). The National Research Council and the Institute of Medicine (2004) identified additional factors that contribute to student connectedness and achievement: availability of mentorship programs, small classroom sizes, an advisor for every student, and the formation of multidisciplinary teams for students. These suggestions can be put into action by school counselors or teachers. However, working collaboratively is ideal.

**Limitations**

Participants using a behavioral self-report such as the ones in this study may provide a level of socially desirable responses to questions (Sellitz, Jahoda, Deutsh, & Cook, 1961).
Therefore, participants in this study may have answered questions, either consciously or unconsciously, in ways that portrayed them in a more positive light. An indication for this potential is suggested in the norm related pro-social behavior scale in which 88.8% of the participants responded positively to the questions. In the school connectedness scale 51.3% of the students responded all positively to the questions, in the academic self-efficacy scale 47.1% responded all favorable, and in the pro-social behavior subscale 26.3% responded all favorable. The issue with social desirability is that results may represent an exaggerated amount of norm related pro-social behaviors and school connectedness.

Another issue for self-report measures for elementary school aged youth is extraneous variables. Some extraneous variables that were not controlled for included reading level, level of assistance from staff, and exhaustion. Participants were in second through fifth grades. This developmental period is quite large and there may be a range of reading and comprehension differences between participants. Participants in the study also used personal digital assistances (PDAs) because of this ease with use of technology could potentially have impacted the study. Finally, the full questionnaire consisted of several scales totaling over one hundred questions, and that created the potential for exhaustion.

Norm related pro-social behavior (NRPB) is a new concept for which there is no direct validity information beyond the theoretical connection. The NRPB measure was developed by combining items from the Strengths and Difficulties Questionnaire pro-social behavior subscale (SDQ; Goodman, Meltzer, Bailey, 1998) and the Social Norms Scale (SN; Henry, Cartland, Ruchross, & Monahan, 2004). The current study was not able to report past reliability information, because this is the first time the SDQ and the SN was combined to create such a measure, but the current study did gather reliability information with a strong Cronbach’s alpha
of .82 for NRPB. The current state of this measure appears to be appropriate for children in the second through fifth grade, however more research is needed.

Finally, the dependent and independent variables were all recorded on a three point Likert type scale. Results may have been stronger if the recorded answers had a scale with a wider range. The three point Likert scale forces children to make strict decisions with little room for variability.

Conclusions

Overall, the current study made some significant findings. School connectedness predicted pro-social behavior, norm related pro-social behavior, and was significantly related to academic self-efficacy. It appears that school connectedness is an important predictor of behavior and is imperative for all school initiatives promoting positive youth development. School connectedness or bonding is important to positive socialization and a child’s development (Catalano et al., 2004).

Norm related pro-social behavior is a new concept that showed strong reliability information and appears to be important to overall positive development for youth. Sex was important in predicting NRPB with results showing that more females reported NRPB. These results were important and imply that perhaps females are more influenced by norms that predict pro-social behavior.

Future research should look at exploring these concepts in a larger more economically diverse sample of participants. A next step for researchers would be to explore school climate and how that mediates or moderates the relationship between school connectedness, academic self efficacy, personal variables, and norm related pro-social behavior. The current study used descriptive norms as a medium of exploring social norms and behaviors in elementary school
youth; future research should explore how the inclusion of injunctive norms support or change the results. Overall, results were favorable and provide an interesting concept for future researchers to explore.
Appendix

Norm Related Pro-Social Behavior for Males and Females (N=224)

<table>
<thead>
<tr>
<th>Gender</th>
<th>N</th>
<th>M</th>
<th>SD (se)</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>122</td>
<td>1.80</td>
<td>.34 (.03)</td>
<td>8.74**</td>
</tr>
<tr>
<td>Female</td>
<td>102</td>
<td>1.68</td>
<td>.24 (.02)</td>
<td></td>
</tr>
</tbody>
</table>

*Note.** = *p* < .01. No post hoc paired comparisons can be computed with fewer than three groups.*
References


VITA

Kaprea Faa’izah Johnson

Education and License

Ph.D., Counselor Education and Supervision, The Pennsylvania State University (PA), August 2011
M.Ed., School Counseling, Howard University (DC), May 2008
B.A., Psychology, Norfolk State University (VA), December 2005
Licensed School Counselor, Washington DC, 2008-2013

Professional Experience (2008-2011)

Research, The Center for Diverse Families and Communities (Research Assistant; May 2010-June 2011), DOING Office (Graduate Assistant; December 2008- Aug. 2009), and The Counseling Education, Counseling Psychology, & Rehabilitation Services Department (Graduate Assistant; Aug 2008-December 2008)

Teaching, AAAS103/WMNST103: Racism & Sexism (Lecturer; Spring 2011), AAAS101/WMNST 101: The African American Women (Lecturer; Spring 2010), CNED 100: Effective Career Decision Making (Lecturer; Spring 2010), and CNED 507: Multicultural Counseling (Co-instructor; Fall 2009)

Counseling, Career Services at The Pennsylvania State University (Career Counselor-GA; Aug.2009- May 2010), Cedar Clinic at The Pennsylvania State University (Counselor-Practicum; Spring 2009), Woodley House Inc. (Mental Health Counselor (DC); 2008), and Howard University Middle School for Mathematics and Science (School Counseling intern (DC); 2008)

Presentations (2011)

Hazler, R. & Johnson, K.F. (2011 October) Developing Collaborative Relationships for Mutual Support of Faculty/Student Scholarship and Programs for Urban Youth and Other Difficult to Reach Populations. Accepted at the 2011 ACES Conference, Nashville, TN.


Johnson, K.F. (2011 February) Qualitative study on Inner city male youth exposure to school and community violence. Presented at The 2011 Achievement Conference, University Park, PA.

Research in Progress

Rosen, H.S., Johnson, K. F., & Maroney, J.L. Replication of the peacemakers program: A community-based effort to decrease youth aggression at school (Under Revision)

Johnson, K.F. Urban male youth exposure to chronic community violence: Relations between belief systems and types of awareness (Under Revision)