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THE IMPACT OF A PEER LEADERSHIP PROGRAM ON HIGH SCHOOL STUDENTS' SOCIAL CAPITAL, AS MEASURED BY CO-COGNITIVE FACTORS OF THE RENZULLI HOUNDSTOOTH THEORY

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HOUNDSTOOTH THEORY

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Abstract

This study examined the impact of different volunteer experiences on the development of social capital. The study was grounded in Renzulli's Operation Houndstooth Intervention Theory, which hypothesizes that six co-cognitive factors are associated with the development of students' social capital, and that volunteer experiences in which students help others (Direct Involvement I) and take active leadership roles (Direct Involvement II) may be most effective at developing social capital.

A sample of convenience, juniors and seniors attending an urban high school in the northeastern U.S., was utilized. Students participated for 16 weeks in one of three programs: (a) a Peer Leadership Program in which they planned a Direct Involvement II project (treatment), (b) a volunteer organization in which they participated in Direct Involvement I activities (comparison), and (c) an Early College Entrance Class that participated in no direct volunteer activities (control). Pretest and posttest data were collected utilizing the Operation Houndstooth Intervention Survey which included

subscales to measure each of the co-cognitive factors. Posttest data were analyzed using a multivariate analysis of covariance (MANCOVA) to determine if there was a significant difference in mean scores between students who participated in the three groups. Multiple regression analysis was used to determine the extent to which the factor Romance with a Topic or Discipline predicted the remaining factors. Qualitative methods were used to analyze open-ended items related to students' perceptions of their Direct Involvement I or II experiences.

A significant effect for Program was found ($p = .004$). Students in the treatment group scored significantly higher on Physical/Mental Energy than students in the control group ($p = .015$). Students in the comparison group scored significantly higher on Sensitivity to Human Concerns than students in the control group ($p = .008$) and the treatment group ($p = .011$). Regression results suggested that pretest mean scores for Romance with a Topic or Discipline did not predict mean posttest scores for the six co-cognitive factors. Qualitative analyses indicated that students in the treatment group viewed their projects in terms of logistical steps to facilitate projects. In contrast, the students in the comparison group viewed their experience in terms of their associations with volunteer recipients.

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STUDENTS' SOCIAL CAPITAL, AS MEASURED BY CO-COGNITIVE FACTORS

OF THE RENZULLI HOUNDSTOOTH THEORY

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In addition, I would like to thank the many students who it was my privilege to meet. Your dedication and sincere interest in helping others in your community bodes well for the future and I appreciate your willingness to share your interests, triumphs, and setbacks with me.

Lastly, I would like to thank my very special daughter Emma, whose observation that we show respect by volunteering was my inspiration. She is a compassionate, thoughtful, and generous young lady who understands the importance of having a "good heart."

DEDICATION

"Piglet sidled up to Pooh from behind. "Pooh," he whispered.

"Yes, Piglet?"

"Nothing," said Piglet, taking Pooh's paw, "I just wanted to be sure of you."

This dissertation is dedicated to my husband Scott who always believed I could do anything I set my mind to. Thank you for your sacrifice, support, and unconditional love. You carried the load by yourself many times and always encouraged my ambition. Your willingness to make *my* dreams *our* dreams made all the difference. We did it!

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CHAPTER ONE: INTRODUCTION TO THE STUDY

The phrase *character education* often stirs debate regarding values, politics, and religion, as well as philosophical disagreements regarding learning. The breadth of character education programs reflects these differences in theory and philosophy. Character programs, designed to develop students' character, have increased in response to provisions of the No Child Left Behind Act (NCLB) that encouraged and funded research in the development and evaluation of successful character education initiatives (U.S. Department of Education, 2004). These character education programs have included approaches that focus on the development of specific traits such as responsibility through prescribed lessons, anti-bullying efforts through the creation of caring classroom communities, and the development of moral thinking through civic engagement and community service (Berkowitz & Bier, 2005; Narvaez, 2008).

An important component in the development of good character is the opportunity for children to apply the values of compassion, honesty, and empathy in a manner that is connected to an innate moral sense of right and wrong (Damon, 2009). Moral development is enhanced when the learning is active, genuine, and relevant (Narvaez, 2008). Renzulli (2002) theorized that when students initiate problem solving with a focus on community change, certain cognitive factors, which are related to socially constructed behaviors known as social capital, are enhanced. This study will explore the impact of different types of volunteer experiences on the growth of co-cognitive factors previously associated with the development of social capital (Sytsma, 2003).

Rationale for Selecting the Topic

In several languages the word *educate* refers not only to formal schooling, but also to a child's entire development, including moral education. Indeed, the development of children's character is not a new educational goal; 38 states currently either legally mandate or encourage some type of character education (Character Education Partnership, 2007). In addition to character education programs, many schools require students to document community service. For example, the state of Maryland mandates community service as a graduation requirement (Maryland State Department of Education, 2011). Guilford County schools in North Carolina has instituted a service-learning diploma in 2011 (Guilford County Schools, 2011) and beginning in 2012, North Carolina high school graduates who document 250 hours of community service will receive special recognition during graduation. According to the Center for Information and Research on Civic Learning and Engagement (CIRCLE), 28% of teenagers currently participate in some type of volunteer activity. However, the rate of student volunteerism varies by state: from 17% (Mississippi) to 51% (Utah), a fact that may be attributed to an increased emphasis on volunteerism in some states' schools (Kirby, Kawashima-Ginsberg, & Godsay, 2011).

In spite of an increasing focus on community service, recent studies of college students found that they were more narcissistic and less empathetic than college students of 30 years ago (Konrath, O'Brien, & Hsing, 2010; Twenge & Foster, 2008, 2010). Today's college students have come of age amidst expectations of community service and character education programs such as Drug Abuse Resistance Education (D.A.R.E.) and Character Counts. However, evidence suggests that these experiences may not have encouraged a student's ability to display concern for others, resulting in a loss of social capital in youth.

For example, Graham (2010) found that, despite a focus on character development, two-thirds of evaluated programs had no effect on behaviors such as bullying. The Social Capital Community Benchmark Survey (SCCBS; 2000) found that multiple variables associated with Social Capital (volunteering locally, engaging in a community project, working with neighbors, cooperating for conservation of resources, and attending meetings or events regarding local issues) were lowest among respondents under the age of 30 (Sander & Putnam, 2006).

The purpose of the current research was to determine whether volunteer opportunities in social action lead to the development of factors that promote social capital. The current research builds on the work of Renzulli (2002) and proposes that volunteerism (Direct Involvement I) and active participation (Direct Involvement II) are different experiences, and the greatest internalization of co-cognitive factors leading to social capital occurs when students *themselves initiate and implement social action projects* (Direct Involvement II). If social capital can be increased in young people, they theoretically would care more about each other and their communities, which may lead to a reversal of recent trends.

Statement of the Problem

Renzulli (1978) established the Three-Ring Conception of Giftedness as the interaction of above average ability, creativity, and task commitment. These attributes are embedded in a houndstooth pattern (Appendix A) that represents the contextual interaction between the individual and his or her environment (Renzulli, 1978). In recent research, Renzulli (2002) established the basis for Operation Houndstooth Intervention Theory (OHIT), arguing that the manifestation of gifted behavior is evident through and impacted by six co-cognitive factors (Optimism, Courage, Romance with a Topic or Discipline,

Sensitivity to Human Concerns, Physical/Mental Energy, and Vision/Sense of Destiny; Appendix B). Initial research related to OHIT has led to the development of an assessment of these factors among high school students (Sytsma, 2003).

Researchers (Renzulli, Koehler, & Fogarty, 2006) have investigated experiences that may promote the development of these co-cognitive factors. Renzulli et al. (2006) argued that these experiences require social action and that active participation differs from volunteerism. According to this view, volunteerism consists of a Direct Involvement I experience: students are engaged in service, but they may not have a "personalized commitment" (Renzulli et al., 2006, p. 21). Renzulli has contended that the internalization of the six co-cognitive factors occurs when students themselves initiate and implement social action projects: a Direct Involvement II activity. To date, no empirical studies exist that examine the impact of Direct Involvement I or Direct Involvement II experiences on the development of the co-cognitive factors. According to Sytsma (2003), the factor Romance with a Topic or Discipline may be an especially compelling component that spurs action. Therefore, the researcher investigated whether Romance with a Topic or Discipline would predict the remaining co-cognitive factors.

<div align="center">**Potential Benefits of the Research**</div>

The potential benefits of the current study are many. Results may assist researchers in identifying types of experiences leading to the development of social capital. Prior to the current research, others (Sytsma, 2003) had explored the presence or absence of co-cognitive factors in high school students, but no research had attempted to determine the types of experiences that may impact these factors. The current study examined whether participating in a Direct Involvement I or II experience would enhance the development of social capital

through the development of the co-cognitive factors. This research also attempted to measure the impact of the factor Romance with a Topic or Discipline on the development of the remaining co-cognitive factors.

This research has the potential to add to the literature focusing on effective character development in schools. Findings may lead districts to structure mandatory community service hours in a way that more effectively enhances students' co-cognitive factors, which in turn may nurture socially constructive students who become agents of social capital. Finally, it is hoped that, in a current culture focused on high-stakes testing, this research supports an emphasis on student's character development as a central part of our educational system.

Definition of Key Terms

1. *Co-cognitive Factors* are personal attributes working in conjunction with intelligence, creativity, and task commitment that give rise to socially constructive action. Co-cognitive factors include: Optimism, Courage, Romance with a Topic or Discipline, Sensitivity to Human Concerns, Physical/Mental Energy, and Vision/Sense of Destiny (Renzulli et al., 2006).

   a. *Optimism* "includes cognitive, emotional, and motivation components and reflects the belief that the future holds good outcomes" (Renzulli et al., 2006, pp. 17-18).

   b. *Courage* "is the ability to face difficulty or danger while overcoming physical, psychological, or moral fears" (Renzulli et al., 2006, p. 18).

   c. *Romance with a Topic or Discipline* is "when an individual is passionate about a topic or discipline, a true romance, characterized by powerful emotions and desires, evolves" (Renzulli et al., 2006, p. 18).

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d. *Sensitivity to Human Concerns* "encompasses the abilities to comprehend another's affective world and to accurately and sensitively communicate such understanding through action" (Renzulli et al., 2006, p. 18).

e. *Physical/Mental Energy* is "the amount of energy an individual is willing and able to invest in the achievement of a goal" (Renzulli et al., 2006, p. 18).

f. *Vision/Sense of Destiny* "may best be described by a variety of interrelated concepts, such as internal locus of control, motivation, volition, and self-efficacy" (Renzulli et al., 2006, p. 18).

2. *Operation Houndstooth Intervention Theory* (OHIT) was developed by Dr. Joseph Renzulli and fosters social awareness utilizing the talents of students with high potential to use their ability to help others (social capital). The six approaches of OHIT are: (a) The Rally-Round-the-Flag Approach, (b) The Gold Star Approach, (c) The Teaching-and-Preaching Approach, (d) The Vicarious Experience Approach, (e) Direct Involvement I, and (f) Direct Involvement II. The goal of Operation Houndstooth is to develop the six co-cognitive factors: Optimism, Courage, Romance with a Topic or Discipline, Sensitivity to Human Concerns, Physical/Mental Energy, and Vision/Sense of Destiny.

a. *Rally-Round-the-Flag* is an "OHIT approach using visual displays featuring certain values, slogans, or examples of virtuous behavior" (Renzulli et al., 2006, p. 19).

b. *The Gold Star Approach* is an Operation Houndstooth Intervention Theory "approach that makes use of providing positive reinforcement through tokens or public recognition" (Renzulli et al., 2006, p. 20).

c. *The Teaching-and-Preaching Approach* is an "OHIT approach ranging from recitation and drills about desirable beliefs and behaviors… to dialogue, discussions, and debate about value-laden issues" (Renzulli et al., 2006, p. 20).

d. *The Vicarious Experience Approach* is an OHIT approach that "places students in situations in which they are expected to experience a particular personal or emotional reaction to a situation" (Renzulli et al., 2006, p. 21).

e*. Direct Involvement I: Participatory Activities* is an "approach that provides young people with experiences in which they come into direct contact with situations and events where affective behaviors are taking place" (Renzulli et al., 2006, p. 21).

f*. Direct Involvement II: Creative/Productive Activities* is an "approach that consists of situations in which young people take on active leadership roles to bring about positive social, educational, environmental, or political change, especially change that promotes justice, peace, or more harmonious relations between individuals and groups" (Renzulli et al., 2006, p. 22).

3. *Peer Leadership Program* "is a non-traditional course that focuses on developing students strengths in leadership, community service, and community change" (Fay & Frese, 2010, p.1).

4. *Social Capital* "refers to the institutions, relationships, and norms that shape the quality and quantity of a society's social interactions" (The World Bank, 2010, para. 1).

Methodology

This research utilized a mixed method approach to address the following research questions:

Research Questions and Hypotheses

1. Are there significant differences in the mean posttest scores on the Operation Houndstooth Co-Cognitive Factor Scale (Optimism, Courage, Romance with a Topic or Discipline, Sensitivity to Human Concerns, Physical/Mental Energy, and Vision/Sense of Destiny) between 12th-grade students who participate in a Peer Leadership Program (Direct Involvement II), students who participate in Key Club (Direct Involvement I), and those who participate in neither?

2. Do mean pretest scores on the co-cognitive factor, Romance with a Topic or Discipline, predict mean posttest scores on the co-cognitive factors (Optimism, Courage, Romance with a Topic or Discipline, Sensitivity to Human Concerns, Physical/Mental Energy, and Vision/Sense of Destiny) for 12th-grade students who participate in a Peer Leadership Program?

3. How do participants in the Peer Leadership Program and Key Club view their experiences in these programs?

4. What type of impact do they believe these experiences had on their views of helping others?

5. What patterns emerge when interest and motivation of students who participated in the Peer Leadership Program and Key Club are taken into consideration?

The researcher tested the non-directional hypothesis, namely that there would be a significant difference between the posttest Operation Houndstooth Co-cognitive Factor Scale

mean scores for 12th-grade students participating in the three groups. The researcher also tested the non-directional hypothesis that the variable Romance with a Topic or Discipline would predict 12th-grade students' scores on one or more of the co-cognitive factors.

Description of the Setting and the Subjects

The research was conducted in an urban school district of 10,186 students. The target sample consisted of 11th–grade and 12th- grade students (17-18 years old) who attended the one district high school (grades 9-12; 2,839 students). Twenty-two percent of students were eligible for free or reduced-price meals. The ethnically diverse population included 52.3% White, 29.2% Hispanic, 10.5% Black, and 8% Asian-American students. The district did not meet Annual Yearly Progress (AYP) for whole and sub-group math and reading in 2009 and 2010 and was consequently designated *in need of improvement*. The current study utilized a sample of convenience consisting of: (a) 45 students from a treatment group who participated in a Peer Leadership Program; (b) 33 students from a comparison group enrolled in Key Club, a volunteer organization that met at the school, and (c) 48 students from a control group obtained from three 12th-grade Early College Entrance English classes.

Students in the treatment group participated in the Peer Leadership Program for 16 weeks prior to the research study. During the first semester, these students received classroom instruction in leadership skills and peer tutoring. During the second semester, when the study occurred, students in the treatment group worked to identify a problem in the community and propose a solution. Students presented their project proposals in the fall and worked the entire academic year to implement their projects. Because students selected and implemented their community change projects, the activities occurring in the Peer Leadership Program qualified as Direct Involvement II interventions.

Key Club is an international student-led organization that affords members opportunities to provide service, build character, and develop leadership skills (Key Club International, n.d.). Key Club takes place after school and is open to students in grades 9-12. Key Club members maintained their memberships by documenting a minimum of 4 mandatory community service hours each month and by attending weekly meetings for an average of 20 to 30 minutes. During the meetings, students were informed of volunteering opportunities such as bake sales to raise funds for Key Club, teachers who requested help with tasks, or organizations such as the Red Cross who were seeking assistance with a blood drive. Students who failed to document their service hours received warnings, and students who accrued three warnings forfeited their Key Club membership.

The control group consisted of seniors from three different class periods of an Early College Experience (ECE) Seminar in Writing through Literature. This ECE class was combined with the Advanced Placement (AP) English Language and Composition Course and met Monday through Thursday for a 45-minute period. This year-long secondary course was comparable to an English freshman course offered at the University of Connecticut. Students who were enrolled in ECE classes earned high school credit and college credit that could be transferred to many universities. To enroll, students were required to have successfully completed the English II course offered at the high school. The ECE curriculum was based on the themes of critical literacy, logic, and the use of academic writing conventions. Content areas, exams, and grading strategies were overseen and approved by faculty at the University of Connecticut.

Instrumentation

Data were collected using four sets of items: (a) Operation Houndstooth Co-Cognitive Factor Scale, Form F (Co-CFS; Sytsma, Renzulli, Berman; 2002; Appendix C), (b) open-ended items for the treatment group asking why students enrolled in the Peer Leadership Program (Appendix E), (c) demographic questions for all three groups (Appendix F), and (d) open-ended reflection items for the treatment and comparison groups (Appendix G).

Co-cognitive Factor Scale, Form F. Pre- and posttest data were collected from the treatment, comparison, and control groups using the Co-CFS, Form F (Appendix C). The Co-CFS contains six subscales and 26 questions with a 5-point Likert-scale response: *Strongly Agree (5), Agree (4), Neutral/Undecided (3), Disagree (2), and Strongly Disagree (1).* This instrument was piloted on a sample of convenience consisting of high school juniors and seniors ($N = 533$). Students resided in rural (48%), suburban (42%), and urban (10%) districts totaling 13 schools from 11 states. Students reported their ethnicity as Caucasian (83%), African-American (7%), Asian (2%), and Hispanic (3%). The mean scores for the co-cognitive factors were: Optimism (1.78), Courage (1.72), Romance with a Topic or Discipline (1.75), Sensitivity to Human Concerns (2.01), Physical/Mental Energy (2.11), and Vision/Sense of Destiny (1.49). Validation was based on multiple rounds of expert rating and semantic differential research-iterative rounds of feedback, field-testing, and refinement. Cronbach Alpha reliabilities for the sub-scales range from .73 to .88. The researcher used data from the Co-CFS to address research questions one and two. Permission to use and publish instrumentation was obtained (Appendix D).

Teacher administered open-ended items. Open-ended items (Appendix E) were administered by a teacher of the Peer Leadership Program. These items enabled the researcher to better understand student motivation for participation in the Peer Leadership Program, as well as aspirations for student outcomes; these items also assisted in addressing research question four.

Demographic information. Demographic items (Appendix F) for all students enabled the researcher to determine how alike these groups were. The researcher was particularly interested in assessing two areas of concern: grade point average and the amount that students had volunteered in the past year.

Researcher-generated, open-ended, reflection items. Additional researcher-developed items (Appendix G) were administered to the treatment and comparison groups at the study's conclusion.   These questions allowed the researcher to examine the scope of the Direct Involvement I and II experiences and to identify factors that may have motivated students to choose their specific volunteer projects. These items also enabled the researcher to understand students' perceptions regarding how they had benefited from the experience. These items were used to address research questions three and four.

Description of Research Design

The researcher used a quasi-experimental pretest, posttest mixed method design. A mixed methods design is desired when "directly comparing and contrasting quantitative statistical results with qualitative findings" (Creswell & Plano-Clark, 2007, p. 62), and can be utilized to best understand the proposed research question. This study utilized a convergent parallel design procedure in that open-ended items were included with the posttest survey for the comparison and treatment groups for the purpose of elaborating on quantitative results.

Research questions one and two utilized a quantitative design, and research questions three, four, and five utilized a general qualitative design.

Description and Justification of the Analyses

For research question one, pretest data were analyzed using a multivariate analysis of variance (MANOVA) to determine whether a difference existed between the mean scores of the three groups on the subscales measuring the co-cognitive factors. The independent variable was Program: treatment (Peer Leadership Program), comparison (Key Club), or control (ECE). The six dependent variables comprising the variate Social Capital were measured using the *pretest* subscale means of the co-cognitive factors. Because groups differed on the variable Physical/Mental Energy prior to the intervention, this variable was used as a covariate in the final analysis.

Following the initial analysis, a MANCOVA was run using posttest data as the dependent variable. For the final analysis, the independent variable was Program: treatment (Peer Leadership Program), comparison (Key Club), and control (ECE). The six dependent variables comprising the variate Social Capital were measured using the *posttest* subscale means of the co-cognitive factors. The covariate was the pretest subscale mean for the subscale Physical/Mental Energy.

For research question two, posttest data were analyzed using six simple linear regressions to determine if the pretest factor Romance with a Topic or Discipline predicted the posttest factors Optimism, Courage, Romance with a Topic or Discipline, Sensitivity to Human Concerns, Physical/Mental Energy, and Vision/Sense of Destiny for students who participated in the treatment condition (Peer Leadership Program). Alpha level for research

questions one and two was set at .007 (.05/7) to minimize the possibility of making a Type I error.

Research questions three, four, and five, were qualitative in nature and were analyzed by a procedure recommended by Strauss and Corbin (1999). First, the researcher developed open codes. The researcher then commenced with axial and selective coding related to treatment and control participants perceptions of their program experiences. A second researcher verified these codes, and an auditor reviewed the audit trail for the study.

Data Collection Procedures and Timeline

The following procedures were followed according to the timeline.

1. Approval from the assistant superintendent of schools (Appendix H) and building principal (Appendix I) was granted to conduct experimental research in the study's selected high school (fall, 2010).

2. Approval was granted by Western Connecticut's Institutional Review Board to conduct the study (fall, 2010).

3. Students were identified based upon program (Peer Leadership Program, Key Club, and ECE) and teacher consent forms were signed (fall 2010; Appendix J).

4. Parent passive consent forms (Appendix K) and student assent forms (Appendix L) for all research participants were distributed and collected (January, 2011).

5. The Peer Leadership Program teacher administered open-ended items (January, 2011).

6. The researcher administered the pretest Co-CFS and demographic items to all student participants in the study (January, 2011).

7. Teachers of the control and treatment classrooms implemented their programs for 45 minutes a day, 5 times a week from January, 2011 to June, 2011. The advisors of the Key Club implemented their program once a week for 20-30 minutes with additional volunteer hours (minimum of 4 hours per month) during the same time period.

8. The researcher administered the posttest Co-CFS for each group in the study. The researcher also administered open-ended reflection items to participants in the comparison and treatment groups (spring, 2011).

9. Data input and analysis occurred (summer and fall, 2011).

10. Dissertation finalized (winter, 2011 and spring, 2012)

Summary

Despite the debate surrounding character education programming and methods, the development of students' social capital remains an important component of character education. OHIT has the potential to support the growth of social capital, but investigation into the effectiveness of the impact of the types of different volunteer activities (Direct Involvement I or II) on social capital has been lacking. If structured properly, these activities have the potential to allow students to make sustained and meaningful contributions to their community.

CHAPTER TWO: REVIEW OF RELATED LITERATURE

This chapter reviews the relevant literature in four areas: theories of moral development, social capital in education, approaches to character education, and the development of co-cognitive factors as a result of Houndstooth Intervention Theory.

Moral Development

Morality is defined as judgments about what is right and wrong in people's relationships with one another, including judgments regarding how to treat each other, justice, fairness, and rights (Turiel, 2002). Researchers (Killen & Smetana, 2006; Turiel, 2002) have observed that universal applications of moral thinking exist and have divided them into three categories: personal, conventional, and moral judgments. Turiel (2002) noted that personal and conventional moralities are affected by cultural differences, religion, and context. However, the ideas of justice, fairness, well-being, and the worth of individual lives are not culture-specific; rather, they are universal moral judgments. Moral development is a complex field that has been impacted by current developments in cognitive psychology, biology, the neurosciences, anthropology, sociology, political science, ethics, and philosophy (Killen & Smetana, 2006). Research on moral development influences the application of moral and character development in education and will be summarized by focusing on cognitive and affective processes associated with the development of a moral identity.

Cognitive-Developmental Theories Related to Moral Development

Research on morality from a developmental approach has focused mostly on sequential cognitive stages introduced by Piaget (1960) and extended by Kohlberg (1981). Piaget (1960) believed that there were two major phases in the moral development of children: heteronymous reasoning and autonomous reasoning. In the heteronymous stage of

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moral reasoning, children construct morality from what has been taught or experienced as a result of relationships with authoritative adults (Piaget, 1960). Morality at this stage is the result of obedience and following the rules. As children widen their circle of influence and interact with other children, they begin to develop moral understandings from their peers. This is referred to as the *morality of cooperation* and results in the ability to consider the perspective of others rather than an egocentric view (Piaget, 1960).

At this point, children are in the autonomous reasoning stage and are concerned with cooperation and what is considered fair. Piaget believed that this transition to mutual respect allows children to develop feelings of empathy, compassion, and obligation that enable them to contribute to societal norms; this stage represents a shift away from trusting in the norms established by adults (Piaget, 1960). "The shift to autonomy, with a transformation of emotions of unilateral respect into mutual respect, brings new conceptualizations of reciprocity, justice, and cooperation" (Turiel, 2006, p. 23); these new conceptualization are necessary for moral growth. Piaget's Theory of Moral Development (1960) supports the notion that effective character education focuses on cooperative decision-making and problem solving with others rather than indoctrination of norms.

Kohlberg (1981) expanded on Piaget's work by extending research to older children and adults, resulting in an expanded understanding of moral development. By analyzing responses to hypothetical dilemmas that involved issues of trust, personal obligation, law, and human life, Kohlberg's research resulted in his Theory of Moral Stages, which delineated six stages of moral reasoning grouped into three levels: Pre-conventional, Conventional, and Post-conventional (Kohlberg, 1981). At the Pre-conventional Level, children make decisions about what is good or bad based on egocentrism (stage one) and

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later, interests (stage two). Good deeds are motivated by what the child can receive in return rather than loyalty, gratitude, or justice. At the Conventional Level, individuals act in accordance with what is expected of them (stage four). In stage four, individuals begin to comply with norms and rules, because they see themselves as a part of the larger community and as one who respects rules and authority. At the Post-conventional Level, individuals base their reasoning and actions on principles of justice and individual worth that are evident in all cultures. Stage five in the Post-conventional Level focuses on participation in democratic processes to obtain justice, and stage six focuses on being able to consider the viewpoint of everyone concerned in matters of universal moral judgments. In stage six, the individual may feel compelled to operate outside democratic processes if they are considered to be hindering the execution of justice. Based on Kohlberg's work, moral development is facilitated through experiences that conflict with the child's current stage of development (Blatt & Kohlberg, 1975). Kohlberg's ideas support the notion that, for moral development to occur, students must be exposed to situations or moral dilemmas in which they must determine and justify their moral opinions.

Over time, researchers have challenged Kohlberg's Theory of Moral Stages in ways that have added to our understanding of moral development. Turiel's (2002) work revealed that individuals make different choices based on the situational context at different stages of moral development. According to Turiel's (2002) Social Domain Theory, there is a difference between violating social conventions and universal moral judgments. Breaching social conventions is not a moral issue, whereas impacting another person's welfare is a moral issue based on universal moral judgments.

Gilligan (1982) also challenged Kohlberg's (1981) Theory of Moral Development due to its reliance on male participants in Western civilizations, arguing that female and multi-cultural perspectives were not represented. Gilligan (1982) conducted research in the area of moral development, arguing that women approach moral judgment from an ethic of care, whereas men focus on justice. Subsequent studies found that men and women of all cultures exhibit elements in both the morality of care and the morality of justice (Jaffee & Hyde, 2000; Turiel, 2002; Walker, Pitts, Hennig, & Matsuba, 1991). Gilligan's work has resulted in an emphasis in character development that fosters empathy through the active care of each other and by focusing students on the interconnectedness of groups.

Moral Development and Young Children

Hoffman (1982, 2000) proposed that infants are predisposed to empathy, a trait that contributes significantly to moral development. Moral motivation is part of empathic thinking, and as children cognitively develop they are better able to understand other's feelings and viewpoints (Hoffman, 1982). Hoffman (2000) also proposed that the internalization of empathy was the impetus for an internal moral orientation.

Empirical data support the idea that the ability to feel empathy and sympathy increases from young children to adolescents. In his work with infants, Bloom (as cited in Fitzgerald, 2011, para. 8) found that moral intuition is inherent: "A normally developing child has empathy, a desire for compassion and altruism, and can recognize a good person, but those traits are improved by his culture, imagination, and reason" Hamlin, Wynn, and Bloom (2007) conducted experiments with 84 infants ranging from 6-months to 12-months of age; they found that these infants overwhelmingly preferred those who helped, as opposed to those who hindered others. Infants were exposed to scenarios in which they watched a

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researcher push a two-dimensional object as if it was attempting to climb a hill. During each

trial, the object attempted to climb the hill and fell back twice. On the third attempt, the

object was either helped up the hill or pushed down the hill by another object. Using

evidence presented in prior experiments with 9- and 12-month-old children suggesting that

babies stare longer at what they prefer, Hamlin et al. (2007) found that 6- and 10-month old

infants significantly preferred the helper in the experiment as opposed to the hinderer ($p <$

.05). Hamlin et al. (2007) also conducted helper/hinderer experiments with toddlers (ages

18-months to 21-months). The children labeled the helpers as *nice* and the hinderers as

mean. In a later publication, Bloom (2010) discovered when given the opportunity to reward

or punish an object by giving or taking away a treat that, "when asked to *give* the children

tended to choose the positive character; when asked to *take* they tended to choose the

negative one" (p. 65).

Biological Components Related to Moral Development

Scientists have utilized functional magnetic neuro-imaging (fMRI) technology to

examine the interactions between moral reasoning and affective processes in the brain. Moll,

Olivera-Souza, Bramati, and Grafman (2002) examined moral cognition using fMRI

technology and found that the brain has specific neural networks that have a distinct function

related to processing various types of social-emotional information related to moral

judgment, including empathy, guilt, gratitude, and disgust. Based on data obtained from

fMRI scans performed while participants ($n = 14$) were asked to view images that evoked

emotional responses (with and without moral content), researchers concluded that there is an

instinctive biologically-based sense of right and wrong, and that emotions and reasoning are

integral in moral judgment (Moll et al., 2002). The researchers found that "distinct neural

networks are activated by different kinds of social judgment" (p. 700) and those unpleasant emotions were processed in different parts of the brain depending on whether or not they were considered moral or non-moral.

Greene and Haidt (2002) found a separation between moral emotions and moral reasoning when they used fMRI technology to gather neural data for participants who were asked to respond to a dilemma regarding a runaway trolley. The researchers presented 91 participants with a dilemma: five people are standing on a track with a runaway trolley. Would they rather throw a switch that would divert the trolley so that it would head down a track with only one person? In either case, people would definitely be killed, but the numbers would vary. A large majority of people responded in the affirmative, agreeing that they would make the decision to switch the trolley onto the track with the single individual. Participants were then asked if they would *push* an individual in front of the runaway trolley onto the tracks to save five people. They were told that if they pushed the individual, they would save the five people. Significantly more participants responded negatively than positively, indicating that they would not do so because of the use of personal force ($p < .006$).

Greene and Haidt (2002) determined that the different choices participants made for these situations had to do with *personal and impersonal* moral violations and judgments. Greene and Haidt (2002) concluded that moral judgments are shaped by emotions and reasoning. Brain scans revealed that, in both situations, cognitive processes were similar, but in the second scenario where participants were asked to take a direct role and push the individual into the path of the oncoming trolley, there was much more of an emotional response. The researchers (Greene & Haidt, 2002) posited that moral judgments concerned

with the greater good are controlled by cognitive processes (impersonal) and moral judgments concerned with rights and duties to others are more controlled by emotion (personal).

Recent research points to genetic factors that may impact altruistic behavior. To determine the altruistic tendencies of 3- and 4-year olds, a researcher gave 136 children packs of stickers and asked them if they would like to give some of their stickers to another child who had none (Helliker, 2011). Approximately two-thirds of the children chose to give one or more sets of the stickers to an unknown recipient (Helliker, 2011). Interestingly, researchers found that many of the children who declined to share exhibited a variation in a gene known as AVPR1A, a gene neurotransmitter associated with social behaviors such as generosity (Helliker, 2011). "Brain imaging using fMRIs have shown that being generous and being described as generous can engage the so-called reward circuitry in the brain, prompting the release of dopamine-like neurotransmitters that are associated with positive feelings" (Helliker, 2011, p. 2).

Research has been conducted on the development of moral reasoning and moral emotion and their impact on human development (Bloom, 2010; Hamlin et al., 2007; Hoffman, 1982, 2000). Scientists (Greene & Haidt, 2002; Moll et al., 2002) have found evidence of biological and neurological components to moral reasoning and moral emotion. However, these factors alone do not explain moral action and a consistent commitment to moral behavior.

Moral Identity and Moral Development

Recent research has explored the importance of a moral identity or "having an explicit theory of yourself as a moral agent—as one who acts on the basis of respect and /or

concern for the rights and /or welfare of others" (Moshman, 2005, p. 121).   Colby and

Damon (1992) conducted a study to explore the relationship between moral judgment and

enduring moral commitment. They identified 86 Americans who may be considered moral

exemplars. One-half were male and one-half were female, and they represented diverse

racial, ethnic, educational, and socioeconomic groups. These individuals were identified

based on their sustained commitment to moral ideals and action, their willingness to risk self-

interest for the sake of their principles, their ability to inspire others to moral action, and their

realistic humility regarding their abilities and accomplishments (Colby & Damon, 1992).

Researchers conducted in-depth interviews ($n = 23$) related to participants' personal

experiences and beliefs. In addition, each participant responded to two questions based upon

Kohlberg's moral dilemmas (1981). Colby and Damon (1992) found that these individuals

possessed a highly developed sense of unity between their personal and moral goals, and

these goals and principles were central to their sense of self. They interpreted the events in

their lives as moral problems, which may have increased their sense of obligation to live

consistently within their moral beliefs. The dominant theme that emerged from the

interviews included a highly developed moral affect, meaning that the participants exhibited

certainty in their beliefs. They also conveyed a lack of concern for negative consequences to

themselves as a result of taking action. In addition, participants exhibited positive attitudes

towards life and believed that they themselves were fortunate although they may have faced

adversity in their own lives. The researchers also noted a pervasive enjoyment of their work,

and they found that almost all of the moral exemplars identified an early experience that

exposed them to the ideas of charity, justice, peace, human rights, and global protection as

the inspiration for their ongoing moral commitments (Colby & Damon, 1992).

Others (Hart & Fegley, 1995; Reimer & Wade-Stein, 2004) have used similar methodologies to study adolescent moral exemplars. Data from semi-structured interviews of self-concept found that adolescent moral exemplars used moral personality traits and moral goals to describe themselves more frequently than comparison teens. Similar to adults, moral exemplars defined themselves in moral terms and felt that they must act according to moral principles in their everyday lives.

Pratt, Hunsberger, Pancer, and Alisat (2003) used survey methodology to examine the correlation of behaviors and views of moral self among 896 Canadian high-school students (543 girls, 353 boys) with a mean age of 17.5 years. Participants were also asked to complete a follow-up questionnaire 2 years after the initial survey ($n = 336$, mean age 19.5 years). Participants rated 12 values (6 moral and 6 non-moral) from 0 (*unimportant*) to 6 (*important*) to create a moral self-scale. Pratt et al. (2003) then administered a separate 30-item community involvement scale divided into four clusters: community activities (volunteering in a community service organization), political activities (petition drive), responding activities (fundraising), and helping activities (assisted someone). The researchers found that, during the first administration of the survey, moral self was positively correlated with all four subscales of community involvement ($p < .001$). Researchers found similar patterns on the follow-up survey: moral self was correlated with all community activities ($p < .02$) except for political involvement. Pratt et al. (2003) found that the results of the moral value index and community involvement were stable over time, and that overall community involvement was a predictor of community service ($p < .05$).

Adolescence may be a particularly important period for the development of a moral identity. Erikson's (1968) seminal Theory of Socioemotional Development states that the

social environment, combined with biological maturation from infancy to older adulthood, provides each individual with a set of crises that must be resolved. In Erikson's (1968) *Eight Stages of Man*, adolescence is marked by the stage of Identity versus Role Confusion. The expected resolution for this stage is that adolescents will develop a self-concept through relationships with others and through their own internal desires and thoughts. Erikson (1968) hypothesized that when adolescents were unable to find a dedicated cause, they experienced difficulty internalizing a sense of self as adults.

Research in the area of moral identity development is consistent with the idea that the development of purpose in youth leads to pro-social behavior and moral commitment and the "desire to make a difference in the world, to contribute to matters larger than the self" (Damon, Menon, & Bronk, 2003, p. 121). Lawford, Pratt, Hunsberger, and Pancer (2005) conducted a longitudinal study of 198 adolescents and discovered that pro-social community involvement at the age of 17 was a predictor of a concern about making a contribution to society, a concern that remains with adolescents into adulthood. Findings from these and other researchers (Colby & Damon, 1992; Ianni, 1989; Lapsley & Narvaez, 2006; Yates & Youniss, 1996) suggest that the formation of a moral identity is based on authentic service activities within the community under the guidance of experts who will expose adolescents to the inspirational possibilities of moral commitment and opportunities to practice and reflect on moral habits.

Social Capital

The concept of social capital emerged from the fields of economics and sociology. According to Mandarano, Meener, and Steins (2010), social capital consists of three elements: relationships, trust, and norms. These elements address the collective needs and

problems of individuals and communities at large, enhancing community life and civic engagement through the establishment of values, norms, networks, and trust (Coleman, 1988; Putnam, 2001). The establishment of social norms promotes feelings of gratitude, reciprocity, cooperation, and a sense of obligation that individuals and groups can access for benefits and resources (Bourdieu, 1986; Coleman, 1988; Putnam, 2001). Recent definitions of social capital have stressed the willingness of individuals to improve the welfare of others as an outcome of the development of social capital (Putnam, 2001; Renzulli et al., 2006).

Decline in Social Capital

Researchers have noted a decline in social capital that is typically measured by examining volunteering rates, civic participation, and forms of trust (Brooks, 2005). In his book, *Bowling Alone: The Collapse and Revival of American Community,* Putnam (2001) cited examples of decreasing rates of voter turnout and membership in service organizations and charitable institutions such as the League of Women Voters, Red Cross, Boy Scouts, and the Jaycees. Utilizing data from the 2000 Social Capital Community Benchmark Survey, Sander and Putnam found that American levels of civic engagement have fallen 25% to 30% over the past generation (2006). Patterns of formal voluntary participation and civic behaviors indicate that this trend is generational and not related to age or stage of life (Sander & Putnam, 2006). However, other researchers (Costa & Kahn, 2003) have suggested that the decline in volunteerism that Putnam noted reflects a decline in organizations that are no longer relevant to younger Americans living in a digital age (e.g., the League of Women Voters), as opposed to a true decline in Social Capital.

Although Putnam (2001) pointed to the rise in media consumption as the downfall of civic engagement, others (Stern, Gudes, & Svoray, 2009) have examined its potential for

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increasing participation and the creation of social capital, particularly among young people. Stern et al. (2009) compared social interactions classified as traditional public participation (TPP), web-based public participation (WPP), and a combination of the two (TWPP) to determine the impact of technology on social capital. Researchers utilized survey methodology to repeatedly assess participants' perceptions related to ongoing local neighborhood revitalization efforts over a period of a year. Participants were active in the planning stages of the project and were asked to collaborate on goal setting, design and evaluation of plans, and the formation of policies and means for implementation. TPP participants attended 10 face-to-face meetings and workshops to receive materials and participate in the process of planning and implementation. TWPP participants utilized a combination of face-to-face meetings and a website to participate in the planning process and the WPP group only participated in the process through the planning website. The study explored social capital through participants' levels of involvement, trust, and empowerment as a result of participation through TPP ($n = 108$), WPP ($n = 29$), and TWPP ($n = 60$). Results indicated that young people (ages 20-30) chose to participate solely through WPP; however, subjects who participated through the combined approach (TWPP) experienced the most significant gains ($p < .05$) in trust and empowerment. Researchers concluded that the effects of digital networks on social capital complemented the formation of relationships and forms of trust created in social networks, but it could not replace traditional face-to-face interactions in the creation of social capital (Stern et al., 2009). Although technology may increase access to information and participation in broad social networks, it may not build the capacity necessary for lasting and transferable social capital, which could help to explain observed generational differences (Putnam, 2001).

Konrath et al. (2010) also found other ways that previous generations differed from current generations, specifically in the area of empathic thinking. These researchers found that college students today are less likely to agree with statements such as *I often have tender, concerned feelings for people less fortunate than me* (Empathic Concern) and *I sometimes try to understand my friends better by imagining how things look from their perspective* (Perspective Taking). These researchers found significant negative correlations between year of data collection (1979-2009) and Empathic Concern ($p < .002$) and Perspective Taking ($p < .03$), with the largest effect size occurring after 2000 (Konrath et al., 2010). These decreases are of particular concern because the ability to take another's perspective and to feel concern for someone else's misfortunes is positively correlated with a willingness to assist others in need (Wilhelm & Bekkers, 2010).

Individual needs continue to be paramount in American society (Van Elteren, 1998). In the 1990 European Values Study, the United States ranked highest among other countries in preferring personal freedom to equality, blaming individuals for being poor, and in favoring individual initiatives over cooperative ones (Van Elteren, 1998). Weissbourd (2009) suggested that this focus on individualism and pressure for personal achievement is leading to an achievement identity (in contrast to a moral identity), resulting in less empathy in our youth.

Weissbourd (2009) proposed that one consequence of parents' emphasis on their children's individual achievements and happiness is the undermining of children's natural sense of responsibility to others. Weissbourd (2009, 2011) surveyed 200 students (11th grade) from five high schools located in the northeastern and southern regions of the United States. Survey results indicated that 40% of students believed that it is more important to be

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accepted by a prestigious college than it is to be a good person, and 50% of the students believed that their parents would agree (Weissbourd, 2009, 2011). Through in-depth interviews and focus groups, the researchers found themes related to students struggling to be "honest, generous, and caring, and to see others as more than mere impediments to their goals" (Weissbourd, 2009, p. 25).

In a study of 83 high school students, Seider (2008) found significant differences ($p < .03$) between students who acknowledged an obligation to help others and students who did not. Using logistic regression, Seider found that empathic and obligatory attitudes towards homelessness ($p < .02$), poverty ($p < .005$), and humanitarian aid ($p < .03$) predicted a sense of obligation to help others. Unfortunately, 66% of high school seniors who were surveyed or participated in individual interviews expressed no such obligation to others (Seider, 2008).

Damon (2009) noted that a focus on material gain and rise in narcissism in young people may be due to a popular culture that celebrates quick results and showy achievements and results in a loss of community engagement and sense of purpose in young people. In his study of youth development, Damon (2009) surveyed 1,200 students for his Youth Purpose Study (2003-2006). Students lived in five communities across the United States representing urban, suburban, and rural areas. The researchers also interviewed 25% percent of the surveyed participants. Results indicated that only 20% of participants felt a sense of purpose; 30% of participants between the ages of 15 to 25 indicated that they felt completely adrift and disconnected from their communities.

These studies support the notion that generational differences may be a factor in a decline in social capital and is of "particular concern because of the wide ranging benefits associated with high levels of social capital, including improved children's welfare,

education, safety, economic prosperity, public health, individual well-being, charitable giving and democracy" (Stickel, Mayer, & Sitkin, 2009, p. 304). One of the proposed solutions for this decline is the promotion of social capital in educational and community settings.

Social Capital in Education

The examination of social capital in the context of education initially focused on the benefits received from relationships within family or institutions and their effects on student achievement; identified benefits include the emotional support, material resources, or information that result from societal connections and interactions (Coleman, 1988). For children, social capital is predicated on interactions within the family, as well as between the family and community—these interactions impact a child's future (Teachman, Paasch, & Carver, 1997). Research in social capital (Dika & Singh, 2002; Hao & Bonstead-Bruns, 1998) suggests that more positive social capital interactions are associated with higher academic achievement and educational attainment. If positive social capital interactions predict higher academic achievement and educational attainment, lack of positive social capital interactions may be linked to lower academic achievement and attainment.

In one study (National Education Longitudinal Study [NELS], 1988), data related to school attendance, academic achievement, educational role of parents, neighborhood traits, and educational aspirations were collected from 25,000 eighth graders attending 1,050 schools. Participants also completed achievement tests in reading, social studies, and mathematics. Using a hierarchical linear model, researchers demonstrated that social capital was a significant predictor ($p < .05$) of student achievement. Lack of parent-child connectivity, lower levels of parental income and education, and frequent changes in schools ($p < .05$) were positively correlated with dropout rates (Teachman et al., 1997).

Utilizing the High School and Beyond Database, researchers (Coleman, 1988) also found that lower social capital was inversely correlated with high-school graduation rates. Data related to socioeconomic status, ethnicity, family structure, family communication, and parental expectations were collected from a random sample of 4,000 public high school students; results indicated that students with more family social capital reported an 8.1% dropout rate when compared to students with less social capital (30.6%) (Coleman, 1988).

Other research (Portes, 1998) has extended the concept of social capital from benefits received by individuals to communities as a whole. Consequently, a "core belief guiding current social capital research is that the 'goodwill' that others have toward us is a valuable resource" (Adler & Kwon, 2002, p. 17), with potential to promote common good over self-interest. Adler and Kwon (2002) noted that this definition of social capital indicates that the goodwill which comes from social relationships can be used to bring about action that has mutual benefits for everyone. Although Portes and Mooney (2002) cautioned that there is limited empirical proof to support that "national participatory behavior" (p. 313) leads to improved prosperity and equality on a national scale, they suggested that it is worthwhile to examine the impact of social capital on local communities.

In the field of education, research on social capital has begun to focus on students as agents of social capital rather than beneficiaries of social capital (D'Agostino, 2010; Renzulli et al., 2006). Debate has surrounded the issue of which type of character education programs are effective in creating students who will internalize a moral identity committed to the service of others. Student-initiated and led community service (Direct Involvement II) focused on positive social change has been promoted as a method of escalating social capital (Renzulli et al., 2006). Research on service-learning and community service has "examined

intellectual and student outcomes, the development of citizen characteristics and, community building. However, this research has only minimally addressed the impact on social capital" (D'Agostino, 2010, p. 313).

<center>**Operation Houndstooth Intervention Theory (OHIT)**</center>

Co-Cognitive Factors

OHIT (Renzulli et al., 2006) states that creative productivity in the social capital realm is based upon the development of six co-cognitive factors: Optimism, Courage, Romance with a Topic or Discipline, Sensitivity to Human Concerns, Physical/Mental Energy, and Vision/Sense of Destiny (Appendix B). "Integral to the theoretical foundation of Operation Houndstooth is the inter-relationships among the six-co-cognitive factors and the belief that the factors are malleable to a certain degree" (Sytsma, 2003, p. 4). Sytsma (2003) hypothesized that there was a relationship between performance and the six co-cognitive factors.

Optimism. Optimism is the expectation that positive outcomes will occur in the future (Tiger, 1979). Research supports that optimism is malleable (Seligman, 1991); allows people to behave in healthy constructive ways (Aspinwall & Brunhart, 2000; Carver & Scheier, 2003) and is associated with intrinsic motivation, feelings of resilience, strength, and energy (Brown & Marshall, 2001; Dember, 2001; Gilham, Shatte, Reivisch, & Seligman, 2001).

Hope is a sub-component of optimism and is also positively correlated with perceived problem-solving capabilities, optimism, perception of control, and positive outcome expectancies (Kahle & Snyder, 2001; Snyder et al., 1991). Conti (2000) found that hope enabled students to approach problems with a focus on success, thereby increasing the

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probability that they would attain their goals. Snyder et al. (1991) found that hope was a necessary component of optimism and provided individuals with the agency and pathways to pursue and achieve their goals. "Hopeful people make optimistic attributions, expect good things to happen, and believe they will be able to control events in their lives. Hopeful people also have goals and the motivation and plans to meet goals" (Gillham & Reivich, 2004, p. 148).

Snyder, Sympson, Michael, and Cheavens (2001) noted that working toward collective goals such as a cleaner environment, a more peaceful world, and community issues increases hope by allowing us to strive for goals that are larger than ourselves and cannot be accomplished as individuals. These findings suggest that if we are to build optimism and hope in youth, "we must also help young people to focus on the ways in which they are connected to others and larger group and community goals" (Gillham & Reivich, 2004, p. 162), suggesting a need for students to participate in opportunities that nurture relationships through teamwork and community involvement.

Courage. "The co-cognitive factor, Courage, comprises three subsets: moral, psychological, and physical" (Sytsma, 2003, p. 25). Kidder (2005) described moral courage as the pinnacle of ethical action "that lifts values from the theoretical to the practical and carries us beyond ethical reasoning into principled action" (p. 4). According to Kidder (2005) there are three common threads of courage that define morally courageous action:

(a) a commitment to moral principles, (b) an awareness of danger involved in supporting these principles, and (c) a willing endurance of danger. In addition, Kidder (2005) identified five attributes of morally courageous leaders: (a) independence of thought, (b) high tolerance of ambiguity, exposure, and personal loss, (c) greater

confidence in principles than in personalities, (d) acceptance of deferred gratification and simple rewards, and (e) formidable persistence and determination. (p. 5)

Psychological courage is required for independence of thought, resilience, and the risk-taking behaviors necessary to tolerate ambiguity, endure hardship, and persist in the face of difficulties, as well as the ability to stand alone in controversial situations (Kidder, 2005; Locke & Latham, 2002). Lovecky (1992) also described insight as an element of psychological courage that promotes sensitivity and compassion to others and is manifested through altruism.

Romance with a Topic or Discipline. The factor Romance with a Topic or Discipline refers to high levels of focus illustrated by intellectual or physical consumption in the pursuit of a task or discipline of great interest (Sytsma, 2003). Csikszentmihalyi (1990) noted that this intellectual and physical immersion or *flow* occurs when both challenge and skill are high. Csikszentmihalyi (1990) stated that, as individuals become more skilled in a domain, they will actively search for more challenging situations in which to experience flow. Research (Albert, 1990) has suggested that creative people are energized by challenging tasks and that the experience of *flow* or absorption with a topic or discipline is associated with increased levels of intrinsic motivation and commitment to goals (Csikszentmihalyi, 1990; Gardner, 1993, Locke & Latham, 2002). Sternberg & Lubart (1996) found that task-focused motivation was critical for creativity and intrinsic motivation. Carver and Scheier (2003) noted that effort and engagement occur when individuals value their goals and when they possess the confidence that goals can be attained. Therefore, a passion or intense interest in a topic or discipline seems to be necessary to expend the amount of energy necessary to commit oneself in the active pursuit of a goal.

Sensitivity to Human Concerns. The factor Sensitivity to Human Concerns includes pro-social traits such as empathy and may be the driving force behind altruism (Sytsma, 2003). McCullough, Emmons, & Tsang (2002) found that empathic concern was positively correlated with hope ($p < .01$), optimism ($p < .01$), and gratitude ($p < .01$) and were more likely to be associated with pro-social traits such as being helpful and unselfish with others ($p < .05$), volunteering to help others ($p < .05$), and being generous with time and resources ($p < .05$). Froh, Sefick, and Emmons (2008) suggested that gratitude may be closely linked to pro-social behavior, due to the fact that gratitude brings an awareness of dependence on others and the need to reciprocate. Dunn and Schweitzer (2005) found that gratitude builds trust in social relationships and may be a factor in maintaining and building resources of social support; an important element of social capital. McCullough and Tsang (2004) noted that the "pro-social nature of gratitude suggests the possibility that the grateful disposition is rooted in basic traits that orient people toward sensitivity and concern for others" (p. 114). Sytsma (2003) also identified insight as a subset of the factor Sensitivity to Human Concerns. Insight may be particularly important in the recognition of others suffering and needs. Eisenberg (2011) suggested that empathy may be enhanced in children by discussing with them how others must feel in difficult situations or by elaborating on the impact that the behaviors have on others.

Physical/Mental Energy. Sytsma (2003) defines the factor Physical/Mental Energy as an eagerness to learn and identifies charisma and curiosity as subsets of this factor. Mental and physical energy are associated with individuals who are enthusiastic, absorbed in their work, and energetic (Csikszentmihalyi, 1990; Reis, 1998). Csikszentmihalyi (1990) described the state of total absorption in one's work as being in a state of flow. He also noted

that one is most likely to experience flow when they are involved in a task of their own choosing and is therefore influenced by intrinsic motivation. Sytsma (2003) stated, "Physical/Mental energy is likely to be commensurate with the individual's perception of how the task is related to movement toward manifestation" of their goal (p. 30).

    Pink (2010) concluded that the three elements of motivation are autonomy, mastery, and purpose. In the pursuit of creative tasks, Pink (2010) noted that our basic nature is to be self-directed in a task that improves our skills in something that is larger than ourselves. Larson (2000) found that allowing youth to participate in structured, goal-oriented voluntary activities where they could experience intrinsic motivation combined with deep attention to the task at hand offered the best context for the developing initiative. This type of experience, Larson (2000) argued, allowed students to experience "setbacks, re-evaluations, and adjustment of strategies" (p. 172).

    Vision/Sense of Destiny. "Vision/Sense of Destiny pertains to one's feelings or perceptions that there is a plan for one's life, regardless of whether that plan is dictated by fate, self, or a super-natural being" (Sytsma, 2003, p. 31). In a study by Reis (1998), Vision/Sense of Destiny was found to be a factor that motivated eminent women who realized high levels of productivity prior to the age of 55. Reis (1998) also noted the importance of creating a sense of self and an understanding of one's identity in order to achieve one's potential throughout life. Lovecky (1992) has stated that children with a sense of purpose are highly motivated and work actively towards self-actualization. Lovecky (1992) refers to this type of motivation and sense of destiny as *entelechy*, derived from the Greek word meaning to have a goal. Lovecky (1992) noted that this is an attribute that results in highly motivated, single-mindedness and strong-willed behaviors in the pursuit of

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one's goals. VanTassel-Baska (1989) found that, from a young age, many eminent individuals had this sense of purpose about what they wanted to do or become; this sense of purpose drove them to realize their goals. Sytsma (2003) stated that this co-cognitive factor was related to locus of control, competence motivation, intrinsic motivation, and Self-Determination Theory by allowing "human beings to transcend environment to live according to one's desire, vision, and purpose" (p. 33).

Relationships between the Co-Cognitive Factors and Indicators of Achievement, Affective Traits, and Social Capital

Utilizing a series of multiple linear regressions, Systma (2003) examined relationships between: (a) the co-cognitive factors themselves, (b) the co-cognitive factors and indicators of achievement such as secondary students' grade point average (GPA), (c) the co-cognitive factors and affective traits, such as levels of happiness and motivation, and (d) the co-cognitive factors and indicators of social capital, such as community extracurricular involvement and total extracurricular involvement. Each co-cognitive factor was a significant predictor of the remaining co-cognitive factors ($p < .001$). In addition, Optimism was a significant predictor for Motivation ($p < .001$), Happiness ($p < .001$), GPA ($p < .001$), and Extracurricular Involvement ($p < .01$). Sensitivity to Human Concerns was a significant predictor of Community-oriented Involvement ($p < .001$) and Vision/Sense of Destiny was a significant predictor of lower GPAs ($p < .001$) and Extracurricular Activities ($p < .01$). The entire set of co-cognitive predictors accounted for variability in Happiness (28%), Motivation (22%), GPA (8%), and Extracurricular Activities (11%; Sytsma, 2003).

Although Co-CFS scores have been used to predict some of these variables, there has been no empirical attempt to examine the growth of the co-cognitive factors as a result of

students' involvement in different types of volunteer experience. In addition, no research has attempted to establish the relationship between the Romance with a Topic or Discipline Factor and the other co-cognitive factors. Because "high levels of human performance are almost exclusively attained in areas in which individuals express profound, if not passionate, interest" (Sytsma, 2003, p. 13), it is hypothesized in the current study that the development of the co-cognitive factors will be similarly enhanced if Romance with a Discipline (i.e., interest in a topic) is present.

OHIT and Character Education Programs

Narvaez (2008) found that perspectives on character education may be categorized as: (a) those who view morality as the outgrowth of the direct teaching of virtues, (b) those who believe morality is a function of moral judgments made in context, and (c) those who focus on emotions and the building of caring relationships as the basis of character education. Berkowitz and Bier (2005) reviewed 69 empirical studies representing 33 character education programs with statistically significant outcomes ($p < .05$) and found that the majority of programs in schools today reflect these broad categories (virtue-based education, instruction in moral reasoning, and social-emotional curriculum focusing on caring communities and the fostering of explicit social skills). Berkowitz, Battistich, and Bier (2008) found that the most effective programs for promoting student character development utilized multiple strategies rather than a single approach, including: "adult modeling, promotion of character, opportunities for student service, the promotion of a caring community and positive relationships, and a safe and clean environment" (p. 429).

OHIT and Six Approaches to the Development of Social Capital

      Renzulli et al. (2006) have noted that this cumulative approach promotes positive growth, but they suggested that the most powerful strategies for cultivating productive social capital include student-initiated and executed service. Renzulli et al. (2006) divided these strategies into six approaches (See Figure 1), deriving from the literature a rank ordering of the least powerful (Rally-Round-the-Flag) to the most powerful approaches for cultivating strong attitudinal and behavioral changes in students (Direct Involvement I and II) (Renzulli et al., 2006).
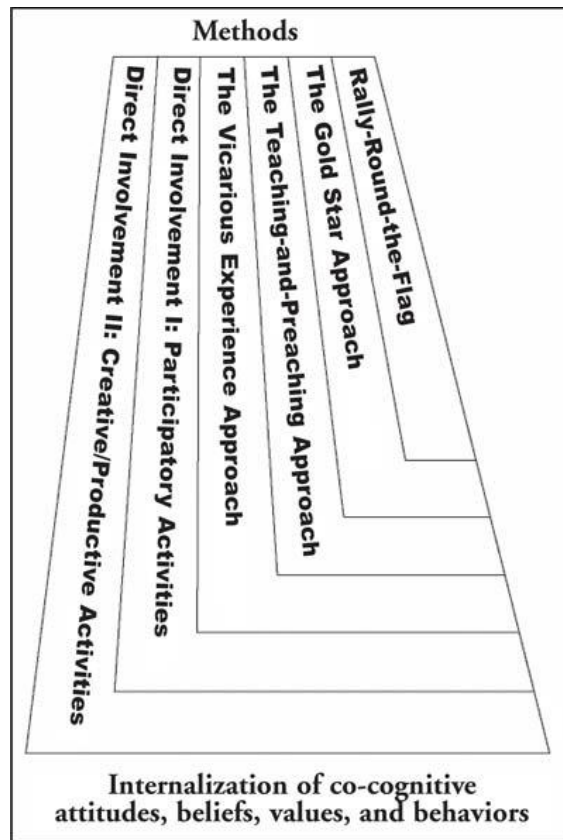
Figure 1. Operation Houndstooth Intervention
Theory (Renzulli, Koehler, & Fogarty, 2006)

The six approaches in the OHIT include: Rally-Round-the-Flag, The Gold Star

Approach, the Teaching-and Preaching Approach, The Vicarious Experience Approach,

Direct Involvement I: participatory Activities, and Direct Involvement II Creative/Productive

Activities (Renzulli et al., 2006).

Rally-Round-the-Flag-Approach. Some virtue-based programs take a vicarious

approach to character development. Typical activities include lists of expectations, verbal

slogans, and assemblies that promote the program and its objectives. Renzulli et al. (2006)

have referred to this type of approach as the *Rally-Round-the-Flag-Approach.* One example

of this type of program is the Heartwood Ethics Curriculum.

The Heartwood Institute provides schools with character education kits that focus on

seven character traits: courage, loyalty, justice, respect, hope, honesty, and love. The kits

include flash cards called T.R.U.E. (Teaching Resources for Understanding Ethics) cards that

contain inspirational messages, quotes, and proverbs related to the desirable character traits

(Heartwood Institute, 2011). Renzulli et al. (2006) have contended that this type of approach

to character development represents the "least powerful approaches for making strong

attitudinal and behavioral changes" (p. 19). Supporting the claim that character education

must go deeper to develop behaviors that promote social capital, the What Works in

Character Education (WWCE) and What Works Clearinghouse: Character Education

(WWC) found this program to be less effective in promoting student character (Berkowitz et

al., 2008).

Two recent meta-analyses (Merrell, Gueldner, Ross, & Isava, 2008; Smith,

Schneider, Smith, & Ananiadou, 2004) found that two-thirds of character education programs

which utilized the Rally-Round-the-Flag-Approach and targeted the prevention of anti-social behaviors such as bullying showed no positive effects on such behaviors; some even increased bullying behaviors. The main criticism of these types of programs is that learning specific virtues is less about moral character than being given the opportunity to enact goodness (Gilligan, 1982; Kohlberg, 1981; Piaget, 1960; Turiel, 2006).

Damon (1999) found that, although many children could express the importance of virtues such as honesty and fairness in the *hypothetical*, children who had integrated these virtues into their moral identity were committed to these character traits and acted upon them. Damon and his colleagues interviewed children from the ages of 4 to 10 regarding the concept of fairness. During the interviews, children either said it was important to be fair or described themselves as a "fair person." The children were then placed into groups and asked to make bracelets and necklaces out of string and beads. Each group was praised and rewarded for a job well done: one group received 10 chocolate bars and the other group received cardboard replicas of chocolate bars. The children were directed to decide the best way to share the reward among the group members. The researchers found that the children with the cardboard replicas were three times as generous as the children who received actual chocolate bars. Although most children verbalized that it was important to share not all of the children shared when given the opportunity. Damon (1999) found that the children who expressed ideals of fairness and equality as part of a moral identity ("I am a person who is fair") were more likely to share actual chocolate bars fairly (Damon, 1999).

The Gold Star Approach. Another approach to character development is to reinforce positive behaviors by rewarding students when they are *caught* being good. Renzulli et al. (2006) refer to this as *The Gold Star Approach*. Research on children as

young as 20 months of age (Warneken & Tomasello, 2008) suggests that the more individuals are rewarded, the more likely they are to lose interest in performing the behaviors which earned the reward. Utilizing a sample of 36 German children (16 girls and 20 boys), Warneken and Tomasello (2008) randomly assigned children to one of three conditions (material reward, praise, and neutral or no reward) during the treatment phase of their experiment. Each child was exposed to six helping tasks in which an adult in the room dropped an object and then acted as if it was difficult to retrieve the object. Children who assisted the adult by picking up the object were then exposed to one of three responses: material reward, praise, and neutral or no reward (Warneken & Tomasello, 2008). A univariate analysis of variance (ANOVA) with condition (material reward, praise, and neutral) as the independent variable and number helping outcomes as the dependent variable revealed a significant effect of condition ($p < .01$) (Warneken & Tomasello, 2008). The researchers found that, by undermining altruism, extrinsic rewards decreased intrinsic motivation to help others, a finding that support previous research (Fabes, 1989) that children who are frequently rewarded are less likely than others to continue the rewarded activity. If the goal of a character education program is the internalization of behaviors that reflect a particular value system, the physical rewarding of the behavior is counter-productive; the concrete reward becomes paramount, and the behavior, secondary.

Other researchers have found that praising specific behaviors rather than giving concrete awards is more effective for increasing the desired behavior. Eisenberg (2011) has suggested that praising acts of generosity rather than giving material rewards such as candy or money fosters empathy. In addition, asking children to focus on the act of someone giving them a gift or performing a service for them that was not necessary promotes gratitude, as

opposed to focusing on saying thank you for the material object that was received (McCullough et al., 2002).

One prevalent program that utilizes the Gold Star Approach is the Girl Scouts of America. The program goals of the Girl Scouts are to develop self-potential, to relate to others, to develop values, and to contribute to society (Girl Scouts of USA, 2008). Scouts are rewarded with pins, badges, patches, and awards in return for demonstrating desirable behaviors. Research has suggested that girls who participate in girl scouts report stronger bonds within the community and between their peers (Dubas & Snider, 1993) and experience empowerment from sharing in the planning and responsibilities of running the group (Schoenber et al., 2002). In 2008, Girl Scouts of America launched a new initiative, the New Girl Scout Leadership Experience. The curriculum of the new initiative delineates 15 outcomes divided into three categories: discovering yourself, connecting with others, and taking action to make the world a better place (Girl Scouts of USA, 2008). This new approach to leadership development recognizes the limitations of earning badges when the end goal is to create leaders who are "defined not by the qualities and skills one has, but also by how those qualities and skills are used to make a difference in the world" (Girl Scouts of the USA, 2008).

The Teaching-and-Preaching Approach. Damon (2009) demonstrated that children develop character by reflecting on observed morality and using these reflections to guide their own actions. He encouraged schools to teach character education through vivid examples of moral behavior, thereby enabling children to develop a self-concept based on a shared belief system. Damon (2010) argued that this is more effective than a "litany of do nots, and parrot-like recitation of virtuous words" (p. 39). Renzulli et al. (2006) have

referred to this litany as The Teaching-and-Preaching Approach. Berkowitz and Bier (2005b) found that the direct teaching method was one of the most common strategies in the character education programs they reviewed.

Drug Abuse Resistance Education (D.A.R.E.) is one program that utilizes this approach, striving to prevent drug and alcohol use by focusing on character building, citizenship, resistance to peer pressure, and problem solving skills (D.A.R.E., 2010). However, several longitudinal studies (Clayton, Cattarello, & Johnstone, 1996; Dukes, Ullman, & Stein, 1996; West & O'Neal, 2004) found no significant differences in outcomes in these areas for students who participated in D.A.R.E. and students who did not.

Researchers (Perry et al., 2003) conducted a randomized controlled study of 6,728 seventh grade students in 24 elementary schools utilizing three different programs: D.A.R.E. only ($n = 8$), D.A.R.E. Plus ($n = 8$), and a delayed program control ($n = 8$). Students were pretested at the start of their fifth grade academic year and posttested at the conclusion of that academic year; students also completed a follow-up survey in the spring of their eighth grade year. Students in the D.A.R.E. Plus program received additional program components such as peer-led classroom activities with parent components focusing on social groups, media, and positive role models. In addition, in the D.A.R.E. Plus Program parents formed neighborhood action teams that worked with the schools to address issues related to drug abuse and violence in the community. Students in the D.A.R.E. Plus group also participated in youth action teams in which students determined extracurricular activities that would be offered; they were also active participants in the planning and implementation of the program. Perry et al. (2003) found that there were no significant differences between D.A.R.E. only and controls on incidents of reported abuse and psychosocial factors related to

attitudes and expectations. However, boys in the D.A.R.E. Plus program reported a significant decrease in the use of tobacco ($p < .01$) and drugs ($p < .01$). These researchers concluded that the additional components to the D.A.R.E. program enhanced the results for boys, which supports the idea that programs utilizing multiple components over multiple years may be more effective for changes in attitude and behavior.

Some researchers (e.g., Berkowitz & Bier, 2005; Damon, 2009) have explored whether the inconsistency of moral messages is impeding the development of a moral identity in our youth. Damon (2009) emphasized the importance of allowing young people to examine individuals who have lived noteworthy moral lives, and Berkowitz and Bier (2005) stressed that, without the modeling and fostering of corresponding behaviors, direct teaching alone is "insufficient to produce character development but may indeed breed cynicism in the students" (p. 22). Ianni (1989) noted the results of the incongruity of professed beliefs and actions observed by students. For a period of 10 years, Ianni and a team of assistants observed adolescents in 10 demographically diverse communities across the United States. From observations of more than 3,500 teenagers, 311 were selected and interviewed for five sessions lasting approximately an hour each. Ianni (1989) documented high degrees of altruistic behavior and low degrees of antisocial behavior among teenagers from communities where there was consistency in expectations for young people and the values that were lived out in the lives of community members. Conversely, they discovered that students who lived in communities where there was no clear example of moral reasoning were less likely to take moral action. For example, students who observed that their "coaches focused on winning at all costs or parents [who] protested when their children were

reprimanded for cheating or shoddy schoolwork" did not internalize the professed moral

messages (Damon, 1999, p. 78).

The Vicarious Experience Approach. The Vicarious Experience Approach

includes role-playing, dramatization, and simulations meant to encourage moral reasoning

and the development of social emotional skills and attitudes through active involvement.

Kohlberg (1989) argued that, for children to reorganize their moral thinking, they needed to

be actively involved in the process. Blatt & Kohlberg (1975) conducted a study focusing on

open moral dilemma discussions (MDD) in four public schools. The students varied in

socioeconomic status and in age, from sixth grade to tenth grade ($n = 132$). The treatment

group received 18 sessions of MDD with active leader participation twice a week for 45

minutes each. Two comparison groups for each experimental group were utilized. One

comparison group received no MDD, while the second control group received the same

MDD sessions that were presented to the treatment group for the same length of time, but

without the active participation of the leader. The purpose of the active participation of the

leader was to expose children to reasoning at the next stage of moral development. Students

also took a pretest and posttest of moral judgment. Using an ANOVA, the researchers found

that the effect of condition (treatment group) was significant ($p < .001$). Post-hoc analyses

indicated that children who had been exposed to higher levels of moral thought made greater

gains in their own moral reasoning.

Turiel (1966) randomly assigned 44 seventh-grade boys from a public school to one

of four groups: (a) a control group, in which students received no MDD; (b) a comparison

group, in which students received exposure to MDD through role playing one stage above

their dominant moral stage; (c) a second comparison group in which students received

exposure to MDD at one stage below their dominant moral stage; and (d) a final comparison group in which students received exposure to MDD at two stages above their dominant moral stage. Students who participated in MDD discussions one level above their current stage scored significantly higher ($p < .005$) on their moral reasoning than students in the other groups. When students were engaged in facilitated discussions that expose them to moral reasoning one stage above their current level, they were able to incorporate this thinking and show accelerated moral reasoning capacities (Berkowitz & Bier, 2005; Blatt & Kohlberg, 1975; Turiel, 1966).

Direct Involvement I Participatory Activities and Direct Involvement II: Creative/Productive Activities. Social networks may be important for creating relationships that have the potential to provide access to resources and the establishment of reciprocal social relationships and norms (Coleman, 1988; Putnam, 2001). Putnam (2001) enhanced our understanding of the construct of social capital by suggesting that there are two types: Bonding Social Capital and Bridging Social Capital. Bonding Social Capital refers to building relationships between people in similar situations, for example, family, neighbors and friends, whereas Bridging Social Capital builds relationships outside similar to heterogeneous groups of people in dissimilar situations (Putnam, 2001). Putnam (2001) also noted that Bridging Social Capital has the ability to bring together people across religious, ethnic, cultural, and socioeconomic divisions for the common good. If the purpose of character education programs is to develop student attributes that will contribute to the social capital of others, schools will benefit from a model stressing the importance of interactions within the community (Portes, 1998). Other researchers have noted the importance of bringing students into contact with dissimilar populations and those in an obvious state of

need as an important element in the development of civic engagement (Beamer, 1998, Boyte, 1991; Youniss & Yates, 1997). McLellan and Youniss (2001) found that students who participated in this type of service as opposed to functionary tasks (setting up for events, filing, sweeping, phoning for donations) were more likely to continue community service after graduation.

Two approaches related to direct involvement are community service and service learning; conceptual differences distinguish community service from service learning. Learn and Serve America defines community service as, "volunteerism that occurs in the community—action taken to meet the needs of others and better the community as a whole" (Learn and Serve, 2008, p. 2). According to the RMC Research Corporation (2008), service learning must meet community needs, but it should also incorporate academic content for the student. In this definition, service learning includes five core components: investigation, planning, action, reflection, and demonstration/celebration. Larson (1991) noted that an important consideration in the categorization of voluntary youth activities is the type of processes that students must undertake, such as" setting their own goals, developing plans, or empathizing with people from dissimilar backgrounds" (Larson, 1991, p. 179).

McLellan and Youniss (2003) examined differences in types of volunteer experiences that were connected to the academic curriculum versus community service that was not integrated into an academic curriculum. These researchers conducted a longitudinal comparative study for 8 years by collecting data ($n = 783$) from two Catholic private high schools. They administered questionnaires twice a year (fall and spring) and found that the way that schools structured the volunteer service (e.g., mandatory for a class or not) determined the type of service that students chose. The researchers found that five types of

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service emerged: Social Service (e.g., serving food at a soup kitchen, visiting elderly), Working for a Cause (e.g., working for political party, environmental organization, medical research), Teaching/Coaching with the Needy (working at a summer camp for children with poor families, coaching an inner-city baseball team), Teaching/Coaching with the Non-needy (working as an assistant in an affluent elementary school, coaching a suburban soccer team) , and Functionary work (e.g., sweeping, filing, setting up for events). Findings suggested that the way the schools organized and supported the service significantly predicted ($p < .001$) the type of service the students conducted. Students who participated in academic curriculum that required service as a component of classwork overwhelmingly chose Social Service. In contrast, students who were required to complete volunteer hours but not within a structured environment chose Functionary Service. The researchers also noted that students who were required to perform service as a function of a class were more likely to come in contact with individuals who were unfamiliar to them or in an obvious state of need (McLellan & Youniss, 2003). The researchers noted that these findings support the idea that, in addition to requiring service, schools should consider how they structure service opportunities for young people. McLellan and Youniss (2003) stated that the result of students choosing Functionary Service was an experience that was devoid of "physical, cognitive, or emotional investment compared to social service" (p. 56).

Renzulli et al. (2006) have suggested that volunteerism and active participation are different constructs and refer to these experiences as Direct Involvement I and Direct Involvement II experiences, respectively. In this definition, volunteering (Direct Involvement I) provides youth with an opportunity to connect societal issues to individuals, promoting feelings of empathy and sensitivity to others. However, Renzulli et al. (2006) also

argued that the greatest internalization of moral attitudes, beliefs, and behaviors occurs when students *themselves* initiate and implement social action projects similar to the service-learning paradigm (Direct Involvement II). Although the service-learning paradigm emphasizes the application of academic skills learned in the classroom, Operation Houndstooth Intervention Theory emphasizes student choice and interest.

Other researchers have explored the role of student choice and interest in service learning and volunteerism. Billig, Root, and Jesse (2005) stressed the importance of student voice in the selection and ownership of service-learning projects. Utilizing a mixed methods pretest posttest repeated measures design, Billig et al. (2005) surveyed 1,000 high school students and found that allowing students to select their own service activities significantly predicted outcomes related to community attachment ($p < .001$) and civic engagement ($p < .02$). Conducting correlational research, Morgan and Streb (2001) utilized a pre- and post-survey to measure the perceptions of 200 high school students using a 5-point likert scale to determine the impact of student voice on student-initiated service-learning projects. They found that when students were encouraged to take on real responsibilities and challenging tasks, when they helped to plan service projects, and when they made important decisions (student voice), involvement in service-learning projects significantly ($p < .01$) positively correlated with students' increases in self-concept, political engagement, and attitudes towards dissimilar groups, critical for the building of bridging social capital.

One important consideration of the impact of service learning on the creation of social capital is whether or not the effects are sustained over time. To determine the impact of service learning on undergraduates' social capital post-graduation, D'Agostino (2010) surveyed 898 students who had participated in service learning during college and 870

students who had never taken a service-learning course. Utilizing a causal comparative

posttest only survey design, the researcher measured levels of trust and networks as the

dependent variable social capital (D'Agostino, 2010). After controlling for variables related

to the issue of self-selection of students who may be predisposed to participate in service

learning, D'Agostino (2010) found that participation in service-learning was a significant

predictor ($p < .001$) of the posttest scores of social capital, trust, and the network factor

(social relationships).

Summary

As a vehicle for character education, OHIT integrates the majority of approaches

implemented in schools today (virtue-based education, instruction in moral reasoning, and

social-emotional curriculum) in a way that enables students to initiate social action and the

creation of social capital. The development of Direct Involvement I and II projects allows

students to apply constructs such as justice and responsibility, utilizing the moral reasoning

necessary to evaluate a community need, and the application of social emotional skills such

as empathy that will benefit the wider community.

The ideals of justice, fairness, well-being, and the worth of individual lives are

universal moral judgments that transcend gender and culture. Recent research has shown that

infants are pre-disposed to empathy and sympathy. While biology may play a part in

people's goodwill towards each other, environmental influences from family, school, and the

wider world may play a larger part in the development of a child's moral identity.

Social capital is the belief that the goodwill we have for each other is a valuable

community resource in the same way that we benefit from financial and human capital.

Social capital consists of relationships, trust, and norms, which promote feelings of gratitude,

reciprocity, cooperation, and a sense of obligation to others that has the potential to address the collective needs of a community. There is concern that social capital is being eroded by the internalization of an achievement identity as opposed to a moral identity, a decline in empathic thinking among our youth, and the ever-increasing focus on technology at the expense of face to face contact with other individuals.

Researchers have focused on the types of character education that may promote students as agents of social capital within their community. Renzulli et al. (2003) have proposed that the development of the co-cognitive factors in our youth will lead to students who will develop the capacity to be agents of social capital within their communities. The current research explored the nature and impact of different types of volunteer experiences on the development of these co-cognitive factors.

CHAPTER THREE: METHODOLOGY

This chapter presents a discussion of the research procedures used for investigating the impact of three types of programs (Peer Leadership, Key Club, and ECE) on students' social capital, as measured by the six co-cognitive factors in OHIT. The description of the setting and the subjects, research questions and hypotheses, research design, description of the treatment, comparison, and control groups, instrumentation, and a timeline for the study are presented.

Description of the Setting and the Subjects

Setting

The study took place in a city with a population of almost 80,000 in the northeastern region of the U.S. This ethnically diverse community consisted of 58.4 % White, 24.2% Hispanic, 8% Black, and 5.9 % Asian-American members. The median income was $64, 534, compared to a state median of $67,034 (Strategic School Profile, 2010). The school district consisted of 12 elementary schools, 2 middle schools, 1 high school, and 2 alternative schools (1 middle school and 1 high school). The district also hosted one elementary magnet school with a world languages theme and one middle school (grades 6-8) with a focus on science, technology, engineering, and mathematics (STEM). The percentage of students living in poverty was 23.4%, compared to 12.1% statewide (Strategic School Profile, 2010).

The research was conducted in an urban school district of 10,186 students located within this city. The target sample consisted of 11th - and 12th-grade students (17-18 years old) who attended the district's high school (2,839 students in grades 9-12). This target

sample was selected due to the fact that previous research (Sytsma, 2003) had developed instrumentation using this age group and the school hosted a Peer Leadership Program necessary for the study. Data from the 2009-2010 Strategic School Profile indicated that 39.5% of the total school population was eligible for free or reduced-priced meals, compared to 36.7% statewide. The ethnically diverse population of students included 47.1% White, 35 % Hispanic, 9.7% Black, and 8.1% Asian-American students. The number of home languages spoken was 48, and 24.6% of students came from homes where English was not the primary language, compared to 7.4% statewide (Strategic Schools Profile, 2010). Based on 10th-grade achievement scores, the district did not meet Annual Yearly Progress (AYP) for whole and sub-group math and reading in 2009 and 2010 and was a district designated in need of improvement (Connecticut Adequate Yearly Progress [AYP], 2010).

Sample

  Student participants. The sample for this study was one of convenience and consisted of students who participated in school-based Direct Involvement I (Key Club) and Direct Involvement II (Peer Leadership Program) activities, as well as students of the same age who participated in a university-based English class (ECE) who were not participants in the Key Club or the Peer Leadership Program. This student sample of convenience consisted of 126 eleventh and twelfth grade students from three groups: (a) 45 12th grade students who participated in a Peer Leadership Program in which they completed Direct Involvement II activities; (b) 33 11th and 12th grade students from a comparison group who were not enrolled in the Peer Leadership Program, but who were involved in the national service organization Key Club (Direct Involvement I); and (c) 48 12th grade students enrolled in a 12th-grade Early College Experience course (ECE; English). Students in the Peer Leadership

Program will hereafter be referred to as the treatment group, and students in the Key Club will hereafter be referred to as the comparison group. Students in the ECE course will be referred to as the control group.

The Western Connecticut State University (WCSU) Institutional Review Board (IRB) granted passive consent. The assistant superintendent, principal, teachers and advisors granted permission for the study to take place at the school (see Appendices G, H, and J). The researcher visited each classroom to describe the research study and to disseminate parent passive consent forms that were to be returned to the classroom by a specified date if parents did not wish for their children to participate (Appendix K). Student assent forms (Appendix L) were also distributed and collected. A total of 126 students participated in the pretest, administered before the intervention, and a total of 107 students participated in the posttest administered after the intervention. Participation rates are described in Table 1. Some students ($n = 19$) who took the pretest were not present to take the posttest, and the numbers for each group are also presented in Table 1.

Table 1

Control, Comparison, and Treatment Participation

Group	Accessible	Participants
Control	48	45
Comparison	33	21
Treatment	45	41
Total	126	107

Note. All students who participated in the study signed assent forms.

Participants were screened to determine whether anyone was enrolled in more than one group. One student was eliminated due to participation in both the Peer Leadership Program (treatment) and the service organization Key Club (comparison), and therefore was not counted in the total number of potential participants. The comparison group experienced the most attrition, as 12 students dropped out of the Key Club after not submitting mandatory volunteer hours or failing to take the posttest. Several students in the control and treatment groups were absent when the posttest was given, due to illness, mandatory college orientations, or Advanced Placement exams. Multiple attempts were made to secure their participation. The researcher visited the control classroom on two separate occasions to administer posttests. Key Club posttests were administered at the weekly Wednesday meetings for 5 consecutive weeks during the spring of 2011. Peer Leadership Program posttests were administered on two separate occasions as well. The researcher also asked the ECE English, Key Club, and Peer Leadership Program instructors to administer surveys for students who were absent on both occasions, resulting in the collection of two additional posttests in the control group and three additional posttests in the treatment group. The researcher retrieved the remaining surveys at the conclusion of the school year.

Adult participants. A total of four teachers and one community volunteer also participated in the study (see Table 2). Two teachers co-taught the Peer Leadership Program as a 45-minute scheduled class five times a week for 16 weeks. One teacher and community volunteer advised the Key Club, an after-school volunteer organization that met once a week for 20-30 weekly for 16 weeks. One teacher taught three sections of ECE each week for five 45-minute periods for 16 weeks.

Teacher participants had an average of 11.5 years of experience in the classroom. They had all spent their entire teaching careers in the participating school district. The Peer Leadership Program (treatment condition) was co-taught by two teachers; the senior teacher had taught the class since it was established in 1995. Peer Leadership Program teachers taught an established curriculum and supervised students' community change projects. Key Club advisors (comparison condition) were active as well. The male Key Club advisor had been an active Kiwanis member for 15 years and had also been a Key Club advisor at the participating school for the same number of years. He attended weekly club meetings, the annual Key Club conference, regional monthly Key Club meetings, and a variety of events hosted by Key Club members. In addition to her classroom duties, the female Key Club advisor attended weekly officer meetings and the national Key Club Conference. The instructor of the ECE class (control condition) was an adjunct faculty member at the University of Connecticut. As an ECE instructor, he was required to submit a syllabus to the University of Connecticut department chair, as well as example assignments, and samples of student writing with instructor comments to ensure fidelity to standards of quality. He was also required to attend an annual University of Connecticut ECE English Conference once every 2 years to maintain his status as an adjunct faculty member. Table 2 illustrates the characteristics of adult participants. (Student demographic characteristics and a discussion of group equivalency will be described in Chapter Four).

Table 2

Demographics—Adult Participants

Group	Gender	Years Teaching/ Advising Experience	Years in Current Educational Setting	Area(s) of Responsibility
Control	Male	11	11	Grade 12 ECE English Teacher
Comparison	Female	12	12	Key Club Advisor and Grade 9-12 English Teacher
Comparison	Male	15	15	Key Club Advisor and Liaison for local Kiwanis organization
Treatment	Female	15	15	Grade 12 Peer Leadership Teacher and Grade 9 Health Teacher
Treatment	Male	8	8	Grade 12 Peer Leadership Teacher and Grade 12 Multi-Cultural Issues Teacher

Research Questions and Hypotheses

This study examined the impact of the independent variable, Program (treatment—

Peer Leadership Program, comparison—Key Club, and control—no program), on the variate

Social Capital, as measured by the six dependent variables, the co-cognitive factors

(Optimism, Courage, Romance with a Topic or Discipline, Sensitivity to Human Concerns,

Physical/Mental Energy, and Vision/Sense of Destiny). Data were analyzed using a

MANCOVA to determine if differences existed between the mean posttest scores of these

variables from students in the three different types of programs. The study also explored the

relationship between the co-cognitive factor, Romance with a Topic or Discipline, with the

other factors. Qualitative questions were also included to explore underlying issues related to these concerns. Using a systematic approach, this research addressed the following questions.

1. Are there significant differences in the mean posttest scores on the Operation Houndstooth Co-Cognitive Factor Scale (Optimism, Courage, Romance with a Topic or Discipline, Sensitivity to Human Concerns, Physical/Mental Energy, and Vision/Sense of Destiny) between 12th grade students who participate in a Peer Leadership Program (Direct Involvement II), students who participate in Key Club (Direct Involvement I), and those who participate in neither?

2. Do mean pretest scores on the co-cognitive Factor, Romance with a Topic/Discipline, predict mean posttest scores on the co-cognitive factors (Optimism, Courage, Romance with a Topic or Discipline, Sensitivity to Human Concerns, Physical/Mental Energy, and Vision/Sense of Destiny) for 12th-grade students who participate in a Peer Leadership Program?

3. How do participants in the Peer Leadership and Key Club programs view their experiences in these programs?

4. What type of impact do they believe these experiences had on their view of helping others?

5. What patterns emerge when interest and motivation of students who participated in the Peer Leadership Program and Key Club are taken into consideration?

The researcher tested the non-directional hypotheses, namely that there would be a significant difference between the posttest OHIT Co-cognitive factor scale mean scores for 12th-grade students participating in the different programs. The researcher also tested the

non-directional hypothesis that the variable Romance with a Topic/Discipline would predict 12th-grade students' scores on one of more of the co-cognitive factors.

Research Design

The current study used a quasi-experimental nonrandomized pretest posttest design. Gall, Gall, & Borg (2007) identified true experimental design as the most rigorous type of design because it "greatly strengthens the internal validity of experiments" (p. 416). However, random assignment to group is not always possible due to the fact that students operate within intact groups (classrooms); when random assignment is not possible, a quasi-experimental design may be utilized. The overall design of the current study was quasi-experimental due to the fact that the unit of assignment was classes or groups and not individuals. A nonrandomized control-group, pretest posttest design was used to compare three programs; (a) treatment (Peer Leadership Program/Direct Involvement II), (b) comparison (Key Club/Direct Involvement I), and (c) control (ECE classes/no Direct Involvement I or II).

"The main threat to the internal validity of a nonequivalent control group experiment is the possibility that group differences on the posttest are due to pre-existing differences rather than to a treatment effect" (Gall et al., 2007, p. 417). Therefore, a multivariate analysis of variance (MANOVA) was used to determine whether groups differed significantly on the means of the six factors on the subscale of the pretest. Because group differences were found on the variable Physical/Mental energy pretest scores, the researcher used a MANCOVA for the final analysis, covarying on the pretest Physical/Mental variable. The use of a MANCOVA "statistically reduces the effects of initial group differences by making compensating adjustments to the posttest means of the groups" (Gall et al., 2007,

p. 417). Table 3 illustrates the non-randomized quasi-experimental design for the independent variable Program.

Table 3

Description of Quasi-Experimental Design for Co-CFS

Group	Pretest	Treatment	Posttest
Treatment	O	X_1	O
Comparison	O	X_2	O
Control	O		O

(Adapted from Gall et al., 2007, p. 417)

The current study also incorporated mixed methods. A mixed methods design is useful when "directly comparing and contrasting quantitative statistical results with qualitative findings" (Creswell & Plano-Clark, 2007, p. 62); that is, quantitative and qualitative data may be combined to better understand the construct or phenomenon. This study utilized a Convergent Parallel Mixed Method Design, which is one of the most common types of mixed methods designs (Creswell & Plano-Clark, 2007). In this design, quantitative and qualitative data are collected at the same time and used for triangulation purposes. Open-ended items were included with the posttest survey for the comparison and treatment groups for the purpose of elaborating on the quantitative results. The researcher then interpreted the combined results to address the research questions.

Description of the Treatment, Comparison, and Control Groups

Treatment

The Peer Leadership Program has been an established program at the participating school for 15 years. The Peer Leadership Program is an elective year-long course that

requires students to apply in February of their junior year. The stated objectives of the Peer

Leadership Program are team building, leadership techniques, and school/community service

(Fay & Frese, 2010). To apply, students complete an application process that includes teacher

recommendations, a written essay, a personal interview, and an agreement to adhere to a

code of conduct. Applications and essays are read with no identifying student information

attached. Each application and essay is read and evaluated by teachers in the program and

then assigned a rating of 1-5. Essays and applications are rated based on evidence of

creativity, leadership skills, and students' ability to communicate clearly. Typically, 150

students apply for the program and one-third of the applicants are selected for an interview.

Usually, 50 students are chosen for maximum enrollment.

Students in the Peer Leadership Program meet for one 45-minute period during the

school day from September through June and are taught by two co-teachers through a

seminar approach. Students in the treatment group for the study had participated in the Peer

Leadership Program for 4 months prior to the treatment; however, at this time students were

instructed using curricular leadership materials. During the fall semester, students received

direct instruction in time management, leadership skills, and the process for mentoring

freshman students. Units of study included topics related to personal and social

responsibility, networking, peer mentoring, and conflict resolution. During the winter

semester, students selected and began working on their Direct Involvement II projects.

To prepare for their Direct Involvement II projects, students brainstormed a list of

organizations, events, and topics about which they were interested in learning more during

the beginning of the school year. Guest speakers from the community presented on a regular

basis regarding their organizations and the roles these organizations played in the

community. For example, representatives from the Red Cross, Habitat for Humanity, the volunteer fire department, the mayor's office, and the school district spoke about their missions and the challenges that they faced in accomplishing these missions. Students then identified a problem in the community and either proposed a solution to this problem, or they selected a program that was already in place and developed a component to improve the program. This process was known as a community change project (Direct Involvement II).

Students presented their project proposals during the winter semester. In these proposals, each student identified a problem within the school or community and proposed a solution. Students were encouraged to choose projects that represented personal interests and could be focused on worldwide, national, state, or local issues. Students described the nature of the problem and its impact on the community and were then required to propose a plan for resolving the problem. Students were expected to communicate their overall vision, possible community resources, estimates of costs and possible funding sources to their classmates, and teachers. They were also required to anticipate opposition or hurdles that they might need to overcome in order to execute their community change projects. An example of a student proposal is provided in Appendix M.

After feedback and revisions, students worked from January through June to implement their projects. Pretest data for the current study were collected at the point when students had submitted their proposals. Students were given time to work on their community change projects during class for 4 to 6 periods per month, however, the majority of the work for the project was completed outside of scheduled class time. Students presented the results of their work and a reflection regarding the outcomes of the project to the class in June as a part of their final exam. A list of community change projects completed by the Peer

Leadership Program participants is provided in Appendix N and described in more detail in chapter four.

The researcher visited the classroom on three separate occasions. During one session, students were involved in an unstructured work period related to their community change projects. Students worked based on agendas related to their specific project and timeline. A second observation entailed students participating in activities and direct instruction regarding stereotypes and first impressions. During the third visit, the researcher observed students presenting prepared media presentations regarding the outcomes of their community change projects. In addition to classroom visits, the researcher received student work related to their community change projects and final presentations.

Comparison

Key Club is an international student-led organization that affords members opportunities to provide service, build character, and develop leadership skills (Key Club International, n.d.). Key Club takes place after school and is open to students in grades 9-12. In the current research, Key Club members maintained their memberships by documenting a minimum of 4 mandatory community service hours each month and by attending weekly meetings for an average of 20-30 minutes. During the meetings, students were informed of volunteer opportunities such as: bake sales to raise funds for Key Club, teachers who requested help with tasks, or organizations such as the Red Cross that were seeking assistance with a blood drive. Students were asked to report volunteer hours, and those who failed to document 4 hours per month received warnings. Students who accrued three warnings forfeited their Key Club membership. The researcher observed three after-school

Key Club meetings and the regional event for Special Olympics. A list of Key Club projects is provided in Appendix O and described in more detail in chapter four.

Although participants in both the treatment and comparison groups were able to choose the activities in which they participated, there were important differences between the activities. A Direct Involvement I experience provides students with an opportunity to "come into direct contact with situations and events where affective behaviors are taking place" (Renzulli et al., 2006, p. 21). This type of experience is more closely aligned with the objectives and activities of the Key Club, in which students volunteered to assist in events where social action was taking place. An adult (the Key Club advisor) had pre-selected the activities with the Key Club president, and students signed up to attend ones in which they were interested—no active participation in planning occurred. However, a Direct Involvement II experience requires that students take an active leadership role in the initiation and facilitation of a real world solution to an identified problem (Renzulli et al., 2006). This type of endeavor is more closely aligned to the objectives of the community change project in the Peer Leadership Program, in which students selected and initiated the projects themselves.

Control

The control group was derived from three different class periods of an ECE Seminar in Writing through Literature. This ECE class was combined with the Advanced Placement (AP) English Language and Composition Course and met Monday through Thursday for a 45-minute period. Although there was no grade requirement for participation in the Peer Leadership Program or Key Club, students in the treatment (73.5%) and comparison (63.6%) reported earning mostly A's and B's. For this reason, a high achieving group was sought for

the control (68.8% Mostly A's and B's). Students participated in a year-long course

comparable to a freshman level course offered at the University of Connecticut in the English

department. Students enrolled in ECE classes earned high school and college credit that

could be transferred to many universities. To enroll, students were required to have

successfully completed the English II course offered at the high school. The ECE curriculum

was based on the themes of critical literacy, logic, and the use of academic writing

conventions. Course curriculum was required to cover mandatory content areas, exams, and

grading strategies and was approved by the University of Connecticut. No volunteer

experiences occurred as a direct result of this class.

Instrumentation

Data were collected using four sets of items: (a) Operation Houndstooth Co-

Cognitive Factor Scale, Form F (Co-CFS) (Appendix C and Table 4), (b) open-ended items

asking why students had enrolled in the Peer Leadership Program (Appendix E and Table 5),

(c) demographic questions for all groups (Appendix F and Table 6), and (d) open-ended

reflection items for the treatment and comparison groups (Appendix G and Tables 7 and 8).

Co-Cognitive Factor Scale, Form F

Pretest and posttest data were collected for the treatment, comparison, and control

groups using the Co-cognitive Factor Scale, form F (Co-CFS; Appendix C and Table 4). The

Co-CFS contains 26 questions with a 5-point Likert-type response: *5-Strongly Agree,*

4-Agree, 3-Neutral/Undecided, 2-Disagree, and 1-Strongly Disagree. Validation was based

on multiple rounds of expert rating and semantic differential research-iterative rounds of

feedback, field-testing, and refinement (Sytsma, 2003)**.** Cronbach Alpha reliabilities for the

sub-scales range from .73 to .88: Optimism (.85), Sensitivity to Human Concerns (.88),

Courage (.85), Mental/Physical Energy (.85), Romance with a Topic/Discipline, (.73), Vision/Sense of Destiny (.80). This instrument was piloted (Sytsma, 2003) on a sample of convenience consisting of high school juniors and seniors ($n = 533$). Students in the pilot study resided in rural (48%), suburban (42%), and urban (10%) districts totaling 13 schools from 11 states. Students reported their ethnicity as: Caucasian (83%), African-American (7%), Asian (2%), and Hispanic (3%), and Other (5%). Mean scores for the co-cognitive factors in the pilot sample were: Optimism (1.78), Courage (1.72), Romance with a Topic/Discipline (1.75), Sensitivity to Human Concerns (2.01), Mental/Physical Energy (2.11), and Vision/Sense of Destiny (1.49).

For the current study, the researcher utilized the Co-CFS Form F to address research questions one and two. Form F of the Co-CFS may be found in the Appendix C. Table 4 (adapted from Sytsma, 2003) presents each factor and the stems related to each of the factors. The original research (Sytsma, 2003) piloted two forms of the Co-CFS, Form F and Form G. All stems were identical for Form F and Form G. However, on Form F students were asked to identify a favorite topic or area of interest, providing a contextual focus for their thinking as they responded to the stems; on Form G, students were not asked to do so. Sytsma (2003) recommended that future studies should focus on the use of Form F because "it was more reliable and accounted for more variance in total" (p. 142). In addition, Sytsma (2003) noted that Form F would most likely become the primary Co-CFS instrument, because the higher reliabilities demonstrated by the subscales in the context of an interest area may support that the "co-cognitive factors, as a set and individually, are integrally related to task commitment, task engagement, and student interest" (p. 140). Based on recommendations made at the dissertation proposal presentation, the original phrase used on the instrument was modified

from asking students to think about a topic or area of interest to *As I respond to each of the following stems, I will be thinking about a time that I was interested in helping others, which is: (write on blank below).* This modification was made to better orient students' thoughts toward the construct of interest in the study, the development of students' social capital.

Table 4

Co-cognitive Factors and Their Associated Stems

Co-cognitive Factor	Stem Item Letter	Stem
Optimism	f	I expect good things to happen for me in the future.
	h	I am hopeful about my future.
	l	At this point in time, I see myself as successful.
	r	I am optimistic about my future.
	t	Even when I face setbacks, I am able to remain positive about my future.
Courage	g	I support unpopular viewpoints when I believe they are correct.
	j	I am willing to take risks to support something I believe in.
	y	I have the courage to maintain my beliefs in the face of opposition.
	z	I stand up for what is right.

(Sytsma, 2003)

Table 4 (continued)

Co-cognitive Factors and Their Associated Stems

Co-cognitive Factor	Stem Item Letter	Stem
Romance with a Topic or Discipline	n	I would miss working on my area favorite area of interest if I were no longer able to do it.
	o	I am intrigued by unanswered questions in my area of strongest interest.
	p	I want to keep learning about my favorite area of interest.
	q	I cannot imagine my life without working in my strongest area of interest.
Sensitivity to Human Concerns	a	I am motivated to improve the quality of life for other people.
	d	I would volunteer to help those in need.
	e	I consider myself sensitive to the well-being of people I don't personally know.

(Sytsma, 2003)

Table 4 (continued)

Co-cognitive Factors and Their Associated Stems

Co-cognitive Factor	Stem Item Letter	Stem
	k	I have a strong need to help others.
	m	I go out of my way to help people I see who are struggling.
Physical/Mental Energy	u	I have more energy than most people.
	v	When others tire of working on something, I continue working.
	w	I stay physically or mentally focused longer than others.
	x	I consider myself energetic.
Vision/Sense of Destiny	b	I have a strong sense of about what I am meant to do in my life.
	c	I have always had a vision of what kind of person I want to be.
	i	I have known from a very young age what my career path would be.
	s	I know that in the future I will be doing what I was born to do.

(Sytsma, 2003)

Open-Ended Items Asking Why Students Had Enrolled in the Peer Leadership Program

Three open-ended items (Table 5) were administered prior to the intervention by the teachers of the Peer Leadership Program. These items enabled the researcher to better understand a student's motivation for participation in the Peer Leadership Program, aspirations for student outcomes, and they assisted in addressing research question four.

Table 5

Open-ended Items Administered to the Treatment Group at Beginning of Research

1. Why did you want to be a part of the Peer Leadership Program?

2. What do you hope to learn/accomplish as a result of the Peer Leadership Program?

3. Do you have a specific are in which you would like to focus your project?

Demographic Items

Demographic items (Table 6) for all student participants enabled the researcher to better evaluate overall group equivalence, particularly in two areas of concern: self-reported grade point average and volunteer hours. The items were administered to treatment, comparison, and control groups prior to the intervention.

Table 6

Demographic Information Items

Item Number	Item Wording	Response Choices
1	Please estimate your overall grade point average (GPA) by checking the appropriate range:	All As Mostly As and Bs Mostly Bs Mostly Bs and Cs Mostly Cs Mostly below C
2	Please estimate the number of Honors courses that you have taken while in High School:	0 1-2 3-4 5-6 More than 6
3	Please indicate the number of Advanced Placement (AP) courses that you have taken while in High School	0 1-2 3-4 5-6 More than 6
4	Did you participate in any extracurricular activities (school related or outside school) involving community service last year (For example, Volunteer Fire Department, church youth group, or soup kitchen etc.)?	Yes No
5	If yes, please estimate how many <u>hours per week</u> were spent participating in community service or volunteering activities	0-1 2-3 4-5 6-7 More than 7

Open-ended Reflection Items

Additional researcher-developed items were administered to the treatment (Table 7)

and comparison (Table 8) groups at the study's conclusion. These items asked students to

reflect on their volunteer opportunities, and the researcher used the items to explore the

nature and impact of the Direct Involvement I and Direct Involvement II experiences on

students.   Because the two groups participated in different types of volunteer activities, the

items were worded differently for each group, although the nature of the questions remained

the same. Final questions were reviewed by two experts in the field prior to inclusion in the

pretest. These items were coded qualitatively and used to address research questions three,

four, and five.

Table 7

Open-ended Reflection Items Administered to the Treatment Group

Item
2a. Describe your community change project. What steps did you take to complete it?
2b. What were the outcomes?
2c. Were you able to focus on a specific area of interest? Why or why not?
3.   What was your motivation for choosing this project?
4.   Did your experience in this program affect how you think about helping others? If so, how? If not, why not?
5. Within your community change project, which activities or experiences were most important to your learning? Why?

Table 8

Open-ended Reflection Items Administered to the Comparison Group

Item
2a. Describe any service projects you completed in Key Club this year. What steps did you take to complete it?
b. What were the outcomes?
c. Were you able to focus on a specific area of interest? Why or why not?
3. What was your motivation for choosing this project?
4. Did your experience in this program affect how you think about helping others? If so, how? If not, why not?
5. Within your service project, which activities or experiences were most important to your learning? Why?

Description and Justification of the Analyses

Research Question One

The software package SPSS v.15 (IBM, 2006) was used for the statistical analyses of research questions one and two. Research question one was analyzed using posttest mean scores from each of the six subscales of the Co-CFS. For research question one, pretest data were first analyzed using a MANOVA to determine whether a difference existed (prior to the intervention) between the three groups on the mean pretest scores of the co-cognitive factors. The independent categorical variable was Program with three levels: treatment (Peer Leadership Program), comparison (Key Club), or control (ECE). The independent variable was coded 0 for control, 1 for comparison, or 2 for treatment. Because groups differed on the variable Physical/Mental Energy prior to the intervention, this variable was used as a covariate in the final analysis.

A MANCOVA was utilized for the final analysis of this question; again, the independent categorical variable, Program, consisted of three levels (treatment, comparison, and control), coded 0 for control, 1 for comparison, and 2 for treatment. The dependent variables were participants' posttest subscale mean scores on the six variables forming the variate Social Capital. The covariate consisted of the pretest scores for the variable Physical/Mental Energy.

Meyers, Gamst, and Guarino (2006) recommend that, to perform a MANCOVA, minimum sample size per cell should exceed the number of dependent variables. Because total sample size exceeded 100 participants and no cell in the 3 (levels of the independent variable) x 6 (dependent variables) matrix contained fewer than 7 (number of variables) participants, power was determined to be adequate. The alpha level was tested at .007 (.05/7) because there were a total of seven quantitative analyses performed on research questions one and two.

Research Question Two

Research question two was analyzed using six separate multiple linear regressions (Gall,et al., 2007) to determine if a significant relationship existed between the predictor variable, pretest scores of the co-cognitive factor Romance with a Topic or Discipline, and the separate criterion variables, posttest scores for each of the co-cognitive factors (Romance with a Topic or Discipline, Optimism, Courage, Sensitivity to Human Concerns, Physical/Mental Energy, and Vision/Sense of Destiny). Each criterion variable was run using a separate simple linear regression, for a total of six regressions. That is, first the variable Romance with a Topic or Discipline pretest scores were run as a predictor in a model using Romance with a Topic or Discipline posttest scores as the criterion variable.

Next, the predictor Romance with a Topic or Discipline pretest scores were run in a model using Optimism posttest scores as the criterion variable. This process was repeated for all six criterion variables. Again, the alpha level was tested at .007 (.05/7), because there were a total of seven quantitative analyses performed on research questions one and two.

Research Questions Three, Four, and Five

A mixed methods design is desired when "the combination of quantitative and qualitative data provides a more complete picture by noting trends, and generalizations, as well as, in-depth knowledge of participant's perspectives" (Creswell & Plano-Clark, 2007, p. 33). Qualitative data in the form of open-ended items were therefore collected and analyzed to address research questions three, four, and five. Responses for these items were collected for the purpose of understanding the motivation and experiences of students who were involved with Direct Involvement I and Direct Involvement II projects. Responses were also collected to triangulate quantitative data.

Research questions three, four, and five were analyzed by examining open-ended reflection items (see Tables 7 and 8). Open-ended data were first entered into a Microsoft Excel spreadsheet. The researcher open-coded the responses using a method described by Strauss and Corbin (1990), and a second researcher verified these codes, which were then collapsed into axial codes organized by patterns and similarities. This process was repeated for each survey item. For example, two responses to item three from the treatment group were: "We wanted to help the cause which was wheelchair vans for the military" and "…when we were at the hospital it seemed like a need and a way to help sick kids at the same time." These two open codes were collapsed into the one axial code *Helping People with Special Needs*.

The researcher next examined the axial codes for patterns that suggested initial selective themes. For example, two axial codes were *Leadership Opportunity* and *Self-empowerment*, which were collapsed into the theme *Self-improvement*. Two researchers verified both axial and initial selective codes. Any discrepancies in coding were discussed and the researchers came to consensus on the final coding or theme. Resulting percentages were derived from counts of open-ended responses. A single respondent could have provided two or more open codes, which may have been categorized into one or more axial codes during this process.

An audit trail is recommended in research and is the documentation of the researcher's work from the gathering of raw data, ideas, the emergence of themes, and the data used to support them (Willis, Jost, & Nilakanta, 2007). Throughout this study the researcher maintained an audit trail consisting of the following items: (a) a calendar of meeting dates and times, (b) a notebook with important notes and reflections regarding the study, (c) a project log of important tasks to complete, and (d) files containing all open, axial and selective codes. As recommended by Willis et al. (2007), the researcher provided access to all records and consistently met with a second researcher to confirm all entries. See Appendix P for a sample entry of the audit trail.

Data Collection Procedures and Timeline

The following procedures were followed according to the timeline.

1. Approval from the assistant superintendent of schools (Appendix H) and building principal (Appendix I) was granted to conduct experimental research in the study's selected high school (fall, 2010).

2. Approval was granted by Western Connecticut's Institutional Review Board to conduct the study (fall, 2010).

3. Students were identified based upon program (Peer Leadership Program, Key Club, and ECE) and teacher consent forms were signed (fall, 2010; Appendix J).

4. Parent passive consent forms (Appendix K) and student assent forms (Appendix L) for all research participants were distributed and collected (January, 2011).

5. The Peer Leadership Program teacher administered open-ended items (January, 2011).

6. The researcher administered the pretest Co-CFS and demographic items to all student participants in the study (January, 2011).

7. Teachers of the control and treatment classrooms implemented their programs for 45 minutes a day, 5 times a week from January, 2011 to June, 2011. The advisors of the Key Club implemented their program once a week for 20-30 minutes with additional volunteer hours (minimum of 4 hours per month) during the same time period.

8. The researcher administered the posttest Co-CFS for each group in the study. The researcher also administered open-ended reflection items to participants in the comparison and treatment groups (spring, 2011).

9. Data input and analysis occurred (summer and fall, 2011).

10. Dissertation finalized (winter, 2011 and spring, 2012)

Data collection for this study commenced in January 2011 and concluded in June 2011. Initial permission to conduct research in the target district was secured from the assistant superintendent (Appendix H) and school principal in October of 2010 (Appendix I). Once

approval was secured from the Institutional Review Board in December 2010 (IRB), parent passive consent forms were distributed in January, 2011 (Appendix K) regarding the purpose and voluntary nature of the research, as well as contact information for the researcher and IRB. Permission to proceed on a passive consent basis had been secured from the assistant superintendent (Appendix H); parents only completed the forms if they did *not* wish for their children to participate in the study. The researcher read a prepared script (Appendix Q) to administer the pretest for the treatment and comparison groups over 3 weeks in January, 2011. Multiple days for administration were necessary due to student absences and early dismissals caused by inclement weather. The researcher visited the treatment classroom to determine fidelity of treatment in May and June of 2011. Posttesting occurred on two dates in June for treatment, five dates in May and June for the comparison group, and one date in June for the control group. Multiple dates were used to maximize the collection of data from participants who had agreed to be in the study. In June, 2011, the researcher presented a personal thank you note and gift card to each adult participant. All data collection was completed by June, 2011. Data cleaning analysis commenced and continued during summer and fall of 2011. The dissertation was written during the fall and winter of 2011 and spring of 2012.

Ethics Statement

Permission to participate in this research was sought from the district superintendent, school principal, and all participating teachers. To assure confidentiality, participants were assigned a coded identification number. Data were stored on a password-protected computer system and results of the study will be made available to those participating principals who request it.

CHAPTER FOUR: ANALYSIS OF DATA AND EXPLANATION OF

FINDINGS

This study examined the impact of student participation in Direct Involvement I or Direct Involvement II program activities on adolescents' social capital as compared to a control group. The five research questions that guided the study were:

Research Questions and Hypotheses

1. Are there significant differences in the mean posttest scores on the Operation Houndstooth Co-Cognitive Factor Scale (Optimism, Courage, Romance with a Topic or Discipline, Sensitivity to Human Concerns, Physical/Mental Energy, and Vision/Sense of Destiny) between 12th-grade students who participate in a Peer Leadership Program (Direct Involvement II), students who participate in Key Club (Direct Involvement I), and those who participate in neither?

2. Do mean pretest scores on the co-cognitive Factor, Romance with a Topic or Discipline, predict mean posttest scores on the co-cognitive factors (Optimism, Courage, Romance with a Topic or Discipline, Sensitivity to Human Concerns, Physical/Mental Energy, and Vision/Sense of Destiny) for 12th-grade students who participate in a Peer Leadership Program?

3. How do participants in the Peer Leadership and Key Club programs view their experiences in these programs?

4. What type of impact do they believe these experiences had on their view of helping others?

5. What patterns emerge when interest and motivation of students who participated in the Peer Leadership Program and Key Club are taken into consideration?

Chapter four presents the results organized into eight sections: (a) description of projects and activities, (b) description of the data, including data screening; (c) analysis of outliers; (d) Co-CFS subscale descriptive statistics; (e) demographic and descriptive statistics; (f) quantitative data analysis of the findings related to research questions one and two; (g) qualitative data analysis of the findings related to research questions three, four, and five; and (h) triangulation of qualitative and quantitative data. Chapter four presents the findings and statistical procedures that inform the research questions that guided this study.

Description of Projects and Activities

Treatment

One example of a community change project (Direct Involvement II) was a literacy event at a local elementary school created and facilitated by three Peer Leadership Program students. The students identified a growing immigrant population as a challenge faced by their school district. The students interviewed local school leaders to understand the nature of the issue and the impact that a population of students who do not speak English as a first language has on the school community and the needs of the individual elementary students. In addition, one of the Peer Leadership students had a sister who was a teacher; she inspired the group with stories about how ELL students sometimes struggled in her classroom because they did not always have access to books in their homes. The Peer Leaders also discovered that while the elementary schools held literacy events at their schools, students who did not speak English as a first language did not attend these events. To address the issue, the students chose to acquire books for these students and to host a literacy event tailored to the ELL students and their families. The students created an account through Google to share documents and an email account for communication with school leadership

and community volunteers. The students were responsible for promoting their event by contacting the leadership at the schools hosting the book drives as well as the school where the literacy event would take place. The high school students were responsible for acquiring the necessary building permits, teacher participation, and raising awareness among the families who the event was aiming to serve. The Peer Leaders were responsible for soliciting donations from local businesses to fund their proposed budget of ten dollars per student. The Peer Leadership Program students ran a book drive at their own school and the two middle schools to solicit reading material for students in kindergarten through fifth grade. They were able to collect 1,000 books, which were then distributed to students at the elementary school during a literacy event for that school. The students chose this particular school because it served the most English Language Learner (ELL) students in the district. The students also recruited 15 volunteers who accompanied them to the elementary school, where they read to students and facilitated activities related to the literature. The students arranged for each English speaking volunteer to be accompanied by a Spanish speaking volunteer so that each reading was bilingual. The three students who directed the project created eight lesson plans for the event for different grade levels from kindergarten through fifth grade. Elementary students were also provided with snacks during the literacy event.

A second project was a fundraiser to support the organization Shoe4Africa, which promotes health and fitness and also provides shoes in an effort to prevent recipients from contracting hookworm and other diseases. Shoe4Africa also supports AIDS awareness events, women's empowerment, peace reconciliation efforts, educational programs, and the building of schools and hospitals (Shoe4Africa.org, n.d.). The three students involved with the project were all members of the school's track team and noted that they were passionate

about running. As a result, they decided to organize and host a festival that included a 5K run, a 3K walk, and a children's race to collect donations of money and shoes to benefit the Shoe4Africa organization. Donations were used to pay for the shipping of the shoes to Africa. Additional funds were donated to the organization's fundraising efforts to benefit the construction of a children's hospital. During the process of organizing and promoting the event, students completed tasks such as writing letters to local business leaders for donations, arranging to rent the high school stadium, contacting news media, and soliciting volunteers to assist with the event. Through their project, these students collected over 250 pairs of shoes and more than $1,000 dollars for the organization Shoe4Africa.

Comparison

Typical Key Club activities included cleaning desks at the school, making sandwiches for a local soup kitchen, tutoring at a local federally subsidized housing development, assisting with local blood drives, assisting with Special Olympics regional games, and working with a soccer league for autistic and developmentally delayed children (TOPSoccer). Examples of representative projects completed by the Key Club are listed in Appendix O.

Some Key Club activities required that volunteers perform mainly logistical service, such as setting up and cleaning up for events, running activities, or providing physical labor. For example, students who volunteered for a blood drive placed signs to advertise the event, assisted in setting up and cleaning up on the day of the event, checked in community members who donated blood, and gave orange juice to people after they had donated blood. Similar services were provided during community events, including an Italian Festival, a Children's Day, and a Halloween on the Green. Some of these services were provided within

the school community, such as when members volunteered to clean student desks. Other

events involved fundraising, such as bake sales to raise money for Key Club activities or

other organizations, such as the Relief for Haiti, The Women's Society (an organization

dedicated to reduce domestic violence), and the Fight for the Homeless Community Project.

Other opportunities brought Key Club participants into contact with special needs

populations on a regular basis. For example, Key Club participants volunteered weekly with

TOPSoccer, a soccer league for developmentally disabled and autistic children. These

student volunteers attended weekly 2-hour practices where they helped athletes acquire

soccer skills and provided encouragement at weekend games. Other students volunteered

weekly to tutor at a federally subsidized housing community or at a local elementary school

with high levels of impoverished students and English Language Learners. In addition,

students regularly volunteered at local elderly housing. A main event for the Key Club was

participation in Special Olympics. The regional event for Special Olympics was held at their

high school, and students who volunteered assisted athletes for the entire day as they

navigated through their events. This service included attending opening ceremonies,

supporting athletes during their events, lunching with the athletes, and attending closing

ceremonies.

Description of the Data

Data collection occurred through the OHIT Survey packet, which included the six

subscales of the Co-CFS (Sytsma, 2006). For both the pretest and posttest, all participants

were given the Co-CFS, which utilized a 5-point Likert scale yielding subscale means for

each of the co-cognitive factors. All participants were also asked to complete a series of

demographic items, and participants in the treatment and comparison groups completed a

series of items that asked them to: (a) describe the steps taken to complete the Direct Involvement I or II experience, outcomes, and whether or not they were able to focus on an area of interest; (b) describe which elements of the experience were most important to their learning; and (c) describe whether their experiences had impacted their views about helping others.

Data were analyzed utilizing a sample of convenience ($n = 126$) consisting of high school 11th- and 12th- grade students involved in one of three groups: treatment, comparison, or control. The researcher disseminated and collected all of the pretests and the large majority of the posttests (95%). The researcher asked the teachers of the Peer Leadership and the ECE classes to administer six surveys due to student absences; completed surveys were collected within a week.

Data Coding and Entry

The researcher coded all surveys with identification numbers to ensure participant confidentiality. Prior to data entry, the researcher created a codebook (Table 9) to ensure that each variable contained legitimate and reasonable values (Meyers et al., 2006). A summary of codebook values for variables is presented in Table 9.

Table 9

Summary of Codebook of SPSS Variable Fields

Field Name	Type of SPSS Field	Possible Values
ID	String	T1-T45: Treatment Co1-Co49: Control C1-C48: Comparison
Gender	Numeric	0 = Males 1 = Females
Number Honors Courses	Numeric	1 = 0 2 = 1-2 3 = 3-4 4 = 5-6 5 = More than 6
Advanced Placement Courses	Numeric	1 = 0 2 = 1-2 3 = 3-4 4 = 5-6 5 = More than 6
Community Service Volunteerism	Numeric	0 = No 1 = Yes
Hours Per Week Volunteering	Numeric	0 = 0-1 1 = 2-3 3 = 4-5 4 = 6-7 5 = More than 7
Co-CFS Items	Numeric	1 = Strongly Disagree 2 = Disagree 3 = Neither Agree nor Disagree 4 = Agree 5 = Strongly Agree

Quantitative data were entered into the statistical package SPSS v. 15 (IBM, 2006).

Qualitative data were entered first into Microsoft Word 2010 and then open-coded into Excel

2010. Mean scores were calculated in SPSS for the subscales of the Co-CFS (pretest and posttest). No items required reverse scoring. The mean scores on the Co-CFS were then used for statistical analyses for research questions one and two.

Data Screening

Before proceeding with data analysis, the researcher screened all variables to ensure that all values were appropriate and that no variable exceeded more than 5% of missing values (Tabacnick & Fidell, 2001). The first step consisted of visually screening the data. One case in the sample contained too many missing values, and so under the method of listwise deletion, was eliminated from statistical analysis (Meyers et al., 2006). Approximately a third of the data from randomly selected pretests and posttests were then reviewed for accuracy. In addition, frequency tables were inspected to ensure that anomalous data were not present. All data appeared to be appropriate and so were retained for analysis.

Analysis of Outliers

Prior to proceeding with statistical analysis, the researcher checked pretest and posttest subscale means for outliers. Meyers et al. (2006) define an outlier as "cases with an extreme or unusual value on a single variable (univariate) or on a combination of variables (multivariate)" (p. 65).   When an outlier can be justified as representative of the sample, the researcher would include the variable for further data analysis. However, if the value is not representative, it is necessary for the researcher to remove the case from the sample before continuing analysis (Meyers et al., 2006).

First, the researcher examined subscale pretest means. The variables representing Sensitivity to Human Concerns, Physical/Mental Energy, and Courage demonstrated extreme

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kurtosis (beyond +1SD above the mean). An examination of box-and-whiskers plots revealed the presence of four outliers in these variables: two outliers for Sensitivity to Human Concerns, one for Physical/Mental Energy, and one for Courage. All outliers were more than 2.5 standard deviations below the mean and did not appear to be representative of the remaining data; therefore, the researcher made the decision to delete the mean scores for these participants (Hair, Anderson, Tatham, & Black, 1998). However, two of these outliers were the same case, resulting in the deletion of three outliers in total. The resulting skew and kurtosis values for the Co-CFS pretest means were within the acceptable values of absolute 1 and are listed in Table 10.

The process was repeated for all subscale posttest means. Upon examination of box plots, three posttest means of the Co-CFS (one for Romance with a Discipline, one for Physical/Mental Energy, and one for Courage) were found to be 3 standard deviations or more below the mean and not representative of the entire sample; therefore, the researcher made the decision to delete them (Hair et al., 1998). Two of the outliers were the same case, resulting in the deletion of two outliers in total. The posttest means for the subscales Sensitivity to Human Concerns and Optimism slightly exceeded skew and kurtosis values of absolute 1. Cohen, West, and Aiken (2003) state that if skew and kurtosis are not affected by outliers to the point that these values become extreme, the outliers may remain. Skew and kurtosis for posttest means are also presented in Table 10.

Table 10

Skewness and Kurtosis Values for Pretest and Posttest Co-CFS Subscale Means

Subscale (Pretest) $n = 122$	Skewness	Kurtosis	Mean	Standard Deviation
Romance with a Discipline	-.2	-1	4.3	.5
Sensitivity to Human Concerns	-.4	-.1	4.2	.5
Physical/Mental Energy	-.1	-.7	3.8	.6
Optimism	-.5	-.7	4.2	.6
Courage	-.3	-.5	4.4	.5
Vision/Sense of Destiny	-.3	-.3	3.7	.8

Subscale (Posttest) $n = 108$	Skewness	Kurtosis	Mean	Standard Deviation
Romance with a Discipline	-.3	-.3	4.2	.5
Sensitivity to Human Concerns	-.9	1.3	4.1	.6
Physical/Mental Energy	-.3	-.4	3.8	.7
Optimism	-.7	1.5	4.2	.5
Courage	-.7	.6	4.0	.5
Vision/Sense of Destiny	-.3	-.3	3.6	.8

Gall et al. (1996) suggest that histograms and stem-and-leaf diagrams are tools that researchers may use to display the shape and distribution of scores, facilitating the analysis of normality. Following the initial analysis and removal of univariate outliers, a visual inspection of histograms and stem-and-leaf diagrams was thus conducted. All histograms and stem-and-leaf diagrams appeared to be normally distributed, and so the data were deemed to be fit for analysis.

Co-CFS Subscale Descriptive Statistics

Tables 11 through 13 present the descriptive statistics following the initial data screening process for each of the co-cognitive factor subscales (pretest and posttest) for each group in the analysis: treatment, comparison, and control. The means and standard deviations for the dependent variables were based on a 5-point Likert scale instrument.

Table 11

Descriptive Statistics for Co-CFS Subscales: Control Group

Subscale (Pretest) n = 48	Minimum	Maximum	Mean	Standard Deviation
Romance with a Topic or Discipline	3.3	5.0	4.3	.6
Sensitivity to Human Concerns	2.8	5.0	4.0	.6
Physical/Mental Energy	2.5	5.0	3.5	.7
Optimism	2.8	5.0	4.0	.6
Courage	3.0	5.0	4.3	.5
Vision/Sense of Destiny	1.8	5.0	3.6	.9

Subscale (Posttest) n = 46	Minimum	Maximum	Mean	Standard Deviation
Romance with a Topic or Discipline	2.8	5.0	4.3	.6
Sensitivity to Human Concerns	2.2	5.0	4.0	.6
Physical/Mental Energy	2.0	5.0	3.5	.7
Optimism	2.0	5.0	4.1	.6
Courage	2.5	5.0	4.3	.6
Vision/Sense of Destiny	1.3	5.0	3.6	.9

Table 12

Descriptive Statistics for Co-CFS Subscales: Comparison Group

Subscale (Pretest) n = 32	Minimum	Maximum	Mean	Standard Deviation
Romance with a Topic or Discipline	3.3	5.0	4.3	.5
Sensitivity to Human Concerns	3.2	5.0	4.3	.5
Physical/Mental Energy	2.7	5.0	3.9	.6
Optimism	3.0	5.0	4.2	.6
Courage	3.3	5.0	4.4	.4
Vision/Sense of Destiny	2.0	5.0	3.7	.8

Subscale (Posttest) n = 21	Minimum	Maximum	Mean	Standard Deviation
Romance with a Topic or Discipline	3.0	5.0	4.2	.6
Sensitivity to Human Concerns	3.0	5.0	4.5	.4
Physical/Mental Energy	3.0	5.0	3.9	.6
Optimism	3.0	4.8	4.1	.5
Courage	3.8	5.0	4.3	.4
Vision/Sense of Destiny	1.8	5.0	3.6	.9

Table 13

Descriptive Statistics for Co-CFS Subscales: Treatment Group

Subscale (Pretest) n = 45	Minimum	Maximum	Mean	Standard Deviation
Romance with a Topic or Discipline	3.3	5.0	4.2	.5
Sensitivity to Human Concerns	2.3	5.0	4.1	.6
Physical/Mental Energy	2.3	5.0	4.0	.6
Optimism	3.0	5.0	4.3	.5
Courage	3.8	5.0	4.4	.4
Vision/Sense of Destiny	1.8	5.0	3.6	.7

Subscale (Posttest) n = 41	Minimum	Maximum	Mean	Standard Deviation
Romance with a Topic or Discipline	5.0	4.1	4.1	.4
Sensitivity to Human Concerns	5.0	4.0	4.0	.5
Physical/Mental Energy (n = 39)	5.0	4.0	4.0	.6
Optimism	5.0	4.3	4.3	.4
Courage	5.0	4.4	4.4	.5
Vision/Sense of Destiny	5.0	3.6	3.6	.7

Demographics and Descriptive Statistics

More female than male participants were represented in each group, and this difference was particularly pronounced in the control and comparison groups; almost four fifths of the participants were female in the comparison group, and over two thirds of the participants were female in the control group (Table 14).   Male and female participants were more equally represented in the treatment group.

Table 14

Control, Comparison, and Treatment Group Demographics (Gender)

Gender	Valid Percent - Treatment ($n = 45$)	Valid Percent - Comparison ($n = 33$)	Valid Percent - Control ($n = 48$)
Male	44.4	21.2	33.3
Female	55.6	78.8	66.7
Total	100.0	100.0	100.0

Students in all groups reporting earning high grades: the majority of students reported receiving a grade point average of mostly Bs and above (Table 15). More than 70% of students in the control group received either mostly As and Bs or all As; however, students in this group also earned the lowest percentage of all A's (2.1%). The treatment group reported the highest rate of all As (17.8%).

Table 15

Grade Point Average Earned by Participants

GPA	Valid Percent-Treatment (*n* = 45)	Valid Percent-Comparison (*n* = 33)	Valid Percent-Control (*n* = 48)
All As	17.8	9.1	2.1
Mostly As and Bs	55.6	54.5	68.7
Mostly Bs	20.0	24.2	12.5
Mostly Bs and Cs	6.6	12.2	16.7
Mostly Cs	0.0	0.0	0.0
Mostly below C	0.0	0.0	0.0
Total	100.0	100.0	100.0

A large majority of students in each group reported having taken Honors courses (Table 16) or Advanced Placement (AP) courses (Table 17). Similar numbers of students from each group reported taking more than six honors courses. The treatment group reported taking the most honors courses compared to the comparison and control groups: over half (55.6%) of the participants in the treatment group reported having taken five or more Honors courses. Students in the treatment group reported taking more AP courses than those in the other groups: 46.7% had taken at least three AP courses, compared with 29.2% in the control group and 18.2% in the comparison group.

Table 16

Number of Honors Courses Reported by Participants

Number of Honors Courses	Valid Percent- Treatment ($n = 45$)	Valid Percent- Comparison ($n = 33$)	Valid Percent- Control ($n = 48$)
0	2.2	0.0	4.2
1-2	17.8	18.2	29.2
3-4	24.4	39.4	29.2
5-6	22.2	12.1	10.4
More than 6	33.4	30.3	27.0
Total	100.0	100.0	100.0

Table 17

Number of Advanced Placement Courses Taken by Participants

Number of Advanced Placement Courses	Valid Percent - Treatment ($n = 45$)	Valid Percent - Comparison ($n = 33$)	Valid Percent- Control ($n = 48$)
0	13.3	39.4	2.0
1-2	40.0	42.4	68.8
3-4	37.8	18.2	12.5
5-6	6.7	0.0	16.7
More than 6	2.2	0.0	0.0
Total	100.0	100.0	100.0

A large majority of students in each group reported volunteering their time for community service at least once during the previous year (Table 18). Similar percentages of

participants in the comparison and treatment groups reported volunteering in the previous

year, 97.0% and 97.8% respectively, while a smaller percentage (81.3%) of participants in

the control group did so. Within each group, the greatest percentage of students volunteered

2 -3 hours a week the previous year.

Table 18

Community Service Hours from Previous Year as Reported by Participants

Hours Per Week	Valid Percent- Treatment ($n = 45$)	Valid Percent- Comparison ($n = 48$)	Valid Percent- Control ($n = 48$)
0-1	11.1	12.1	10.4
2-3	46.7	42.4	27.1
4-5	22.2	27.3	22.9
6-7	6.7	6.1	2.1
>7	11.1	9.1	18.8
Participants Who Volunteered in Previous Year	97.8	7.0	81.3

Research Question One

The researcher analyzed two quantitative research questions; research question one

required a multivariate analysis of variance (MANOVA) and research question two required

six simple linear regressions, for a total of seven procedures. Because of the number of data

analysis procedures, it was necessary to test both questions at an alpha level of .007 (.05/7) to

minimize the possibility of making a Type I error.

To address research question one, the researcher first ran a MANOVA using Program (treatment, comparison, or control) as the independent variable and the six subscale means of the Co-CFS pretest (Optimism, Courage, Romance with a Topic or Discipline, Sensitivity to Human Concerns, Mental/Physical Energy, and Vision/Sense of Destiny) as dependent variables. This procedure was necessary to determine whether the groups were equivalent on the subscale means for the Co-CFS pretest prior to the intervention.

Testing the Assumptions

First, assumptions for a MANOVA were tested. These assumptions include: univariate and multivariate normality, homogeneity of variance, and independence of scores (Green & Salkind, 2008). To test the univariate assumption that the pretest dependent variables were each normally distributed, individual histograms were examined. Histograms revealed that the dependent variables were each normally distributed.

The assumption of homogeneity of variance may be tested using a Box's M statistic (Meyers et al., 2006). The researcher examined the Box's M test and determined that it was not significant ($p = .445$) at the .05 level, indicating that the groups were equal in how they varied (Meyers et al., 2006). Bartlett's test of sphericity was significant ($p < .001$) indicating that the variables were sufficiently (but not overly) correlated, support for the independence of scores (Meyers et al., 2006). Levene's test indicated a homogeneity of variance violation only for the subscale mean variable Sensitivity to Human Concerns on the pretest ($p = .021$). Meyers et al. (2006) note that, although the Levene's result indicates variability across treatment groups, the researcher may proceed with caution.

To satisfy the independence of scores assumption, the researcher checked to make sure that no student was in more than one of the Program Types (treatment, comparison, and

control). One student was eliminated from the study due to her participation in the treatment group and the comparison group.

Analyzing Pretest Scores

Results of the MANOVA for pretest scores indicated that the dependent variate Social Capital, comprised of the 6 subscale means of the Co-CFS, was significantly affected by condition, Wilks' Lambda F (12, 228) = 2.21, p = .012, partial η^2 = .10, trivial. See Table 19 for results of the pretest MANOVA Post hoc analysis using Tukey's indicated that subscale means were significantly different between levels of the independent variable for the subscale Physical/Mental Energy. Treatment participants (M = 3.97, SD = .56) scored significantly higher on the Physical/Mental subscale for the pretest than control participants (M = 3.52, SD = .65, p =. 002). Comparison participants (M = 3.87, SD = .61) also scored significantly higher on the Physical/Mental Energy subscale for the pretest than control participants (M = 3.52, SD = .65, p = .038). No other significant pairwise differences were found.

Table 19

MANOVA Results for Mean Pretest Scores for Co-CFS

Dependent Variable	Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared
Romance With A Topic or Discipline	.4	2	.2	.82	.443	.01
Sensitivity To Human Concerns	1.0	2	.5	1.73	.182	.03
Physical/Mental Energy	4.8	2	2.2	6.54	.002*	.01
Optimism	1.6	2	.8	2.49	.091	.04
Courage	.1	2	.0	.17	.846	.00
Vision	.1	2	.1	.09	.911	.00

$p < .007$

Due to significant mean differences between groups for the subscale Physical/Mental Energy, the researcher made the decision to co-vary on pretest scores for this subscale.

Analyzing Posttest Scores

Next, the researcher ran a multivariate analysis of covariance (MANCOVA) using the independent variable Program and the posttest subscale means for the six co-cognitive factors to create the variate Social Capital. The mean of the pretest scores for the subscale Physical/Mental Energy was entered as a covariate.

Box's M was significant ($p = .003$) at an alpha level of .05, indicating that the groups were unequal in how they varied. Also, Levene's test of equality of error variances indicated significant differences on the posttest mean scores for the co-cognitive factors Romance with a Topic or Discipline ($p = .004$), Courage ($p = .033$), and Vision/Sense of Destiny

(p = .016).   Meyers et al. (2006) noted that unequal variances may be due to unequal group

sample size. As indicated in the descriptive statistics tables above, group sizes in this

research study were unequal. Meyers et al. (2006) stated that one may proceed with caution

but suggest using "Pillai's trace to assess the multivariate effect" (p. 430). Bartlett's Test of

Sphericity was significant (p < .001), indicating sufficient correlation among the dependent

variables to proceed with the analysis.

Results of the Posttest MANCOVA

Results of the MANCOVA for posttest scores indicated that the dependent variate

Social Capital was significantly affected by condition, Pillai's Trace F (12, 190) = 2.57,

p =. 004, partial η^2 = .14, trivial. See Table 20 for results of the posttest MANCOVA.

Table 20

MANCOVA Results for Mean Posttest Scores for Co-CFS Subscales

Dependent Variable	Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared
Romance With A Topic or Discipline	1.1	2.0	.6	2.02	.138	.04
Sensitivity To Human Concerns	2.2	2.0	1.1	4.31	.016*	.08
Physical/Mental Energy	1.9	2.0	.9	3.38	.040*	.06
Optimism	1.2	2.0	.6	2.21	.115	.04
Courage	.1	2.0	.0	.15	.858	.00
Vision/Sense of Destiny	.2	2.0	.1	.12	.890	.00

$p < .05$

Cramer and Swanson (1973) have suggested that when the independent variable contains three or more levels, the Fisher's Least Significant Difference (LSD) procedure is the most appropriate post-hoc analysis. DeCoster (2004) also noted that Fisher's LSD post-hoc analyses "will not substantially increase your experiment-wise error rate as long as you only perform the post-hoc analyses after you have already obtained a significant F statistic from an ANOVA" (p. 14). Due to the fact that the potential for making a Type I error had already been accounted for (through the original Bonferroni adjustment of the alpha level in the omnibus test), the researcher made the determination to use Fisher's LSD for post-hoc analysis and to test at the alpha level of .05.

Post-hoc analysis using LSD indicated that subscale means were significantly different between levels of the independent variable for Physical/Mental Energy and Sensitivity to Human Concerns. Treatment participants (M = 4.09, SD = .52) still scored significantly higher on the posttest subscale Physical/Mental Energy than control participants (M = 3.55, SD = .68, p = .015, d =.79, large), after controlling for initial differences related to Physical/Mental Energy. Comparison participants (M = 4.45, SD = .44) scored significantly higher on the posttest subscale for the factor Sensitivity to Human Concerns than control participants (M = 3.99, SD = .61, p = .008, d =.75, large) and treatment participants (M = 4.09, SD = .42, p = .011, d = .82, large), after controlling for Physical/Mental Energy pretest scores.

Research Question Two

Research question two was analyzed through a series of six simple linear regression equations using treatment data only. In each case, the predictor variable was the participant's pretest subscale mean score for the co-cognitive factor Romance with a Topic or Discipline.

The criterion variable for each model consisted of the participant's mean posttest score of one of the six subscales for the factors: Romance with a Topic or Discipline, Sensitivity to Human Concerns, Physical/Mental Energy, Optimism, Courage and Vision/Sense of Destiny.

Testing the Assumptions

First, assumptions for linear regressions were tested. These assumptions include: linearity, normality of the criterion variable, heteroscedasticity, and independence of predictor variables (Meyers et al., 2006). At no time was there more than one predictor variable, and therefore the last assumption was not tested.

To test the linearity assumption, the researcher first ran six scatterplots of students' scores using the mean for the pretest subscale Romance with a Topic or Discipline as the predictor variable. The criterion variable consisted of the mean scores for the posttest for each of the six Co-CFS subscales. A visual inspection revealed that all six scatterplots appeared to be linear.

When checking normality of the criterion variables, Meyers et al. (2006) suggest that a liberal interpretation of +1 or -1 for skewness and kurtosis values is acceptable. All dependent variables were within this range of absolute 1, except for the mean posttest scores for Sensitivity to Human Concerns, which contained one outlier with a resulting skewness value of -1.2. Upon inspection, all histograms for dependent variables were normal except for the posttest mean scores for the criterion variable Sensitivity to Human Concerns, which were slightly negatively skewed. However, the researcher chose to leave the outlier in the dataset. Cohen, West, and Aiken (2003) state that, if outliers are not very extreme, they may remain.

Heteroscedasticity was checked to determine if errors in the criterion variable were evenly distributed along the predicted values. Visual examination of the z-residual scatter plots in SPSS revealed equal variances of the residuals of all criterion variables against the predictor variable. Again, the alpha level required for significance was determined to be .007 (.05/7).

Results of Research Question Two

The means, standard deviations, and Pearson product-moment correlations for the variables used in this question are presented in Table 21 and the regression analysis summary table is presented in Table 22.

Table 21

Means, Standard Deviations, and Pearson Product-moment Correlations for Variables Used in Regression Models

Variable	*M*	*SD*	1	2	3	4	5	6	7
1. Romance with a Topic or Discipline-Pretest	4.16	.49	1.0						
2. Sensitivity To Human Concerns-Post	4.04	.53	.174	1.0					
3. Physical/Mental Energy-Post	4.04	.59	.049	.563**	1.0				
4. Vision/Sense of Destiny-Post	3.60	.49	.364*	.418**	.178	1.0			
5. Romance With A Topic or Discipline-Post	4.12	.41	.332*	.116	.118	.135	1.0		
6. Optimism-Post	4.28	.43	.079	.212	.409**	.310*	.004	1.0	
7. Courage Post	4.38	.45	.109	.207	.502**	.163	.028	.349*	1.0

Note. * Correlation is significant at the 0.05 level (2-tailed)

Note. ** Correlation is significant at the 0.01 level (2-tailed)

Table 22

Six Simple Linear Regression Models for the Predictor Variable Romance with a Topic or Discipline (Pretest) with Co-cognitive Criterion Variables

Model	Predictor	Criterion	Df-Regression	Df-residual	F	Sig. level	R adjusted
1	Romance with a Topic or Discipline (pretest)	Sensitivity to Human Concerns (posttest)	1	39	1.211	.278	.005
2	Romance with a Topic or Discipline (pretest)	Physical/Mental Energy (posttest)	1	37	.090	.766	-.025
3	Romance with a Topic or Discipline (pretest)	Vision/ Sense of Destiny (posttest)	1	39	5.973	.019	.111
4	Romance with a Topic or Discipline (pretest)	Romance with a Topic or Discipline (posttest)	1	39	4.837	.034	.088
5	Romance with a Topic or Discipline (pretest)	Optimism (posttest)	1	39	.245	.623	-.019
6	Romance with a Topic or Discipline (pretest)	Courage (posttest)	1	39	.471	.496	-.013

A series of six simple linear regressions were conducted with mean pretest scores of Romance with a Topic or Discipline as the predictor variable and the mean posttest scores of the six co-cognitive factors as the criterion variables for the treatment group. None of the models proved to be significant predictors at the .007 alpha level. These regression results

suggest that Romance with a Topic or Discipline did *not* predict mean posttest scores for the six co-cognitive factors.

Qualitative Analyses of Research Questions Three, Four, and Five

In addition to the demographic items and the Co-CFS survey items, the treatment and comparison group OHIT Surveys contained four open-ended items, numbered 2a, 2b, 2c, 3, 4, and 5. Lincoln and Guba (1985) refer to qualitative data analysis as an inductive process. The sources of data are analyzed to uncover embedded information as variables and theories emerge. Inherent to the process is the categorizing of data through the identification of key words known as open-ended codes (Lincoln & Guba, 1985), which are used to facilitate a mixed methods design in order to directly compare the statistical findings with the qualitative results (Creswell & Plano-Clark, 2007). Thus, one of the purposes of the open-ended responses in the current study was to triangulate participants' perceptions of Direct Involvement I or Direct Involvement II experiences with quantitative data. A second purpose was to further illuminate the quantitative findings. Table 23 displays the open-ended items and their relationship to the research questions for the treatment and comparison groups.

Table 23

Open-ended Survey Items and Corresponding Research Questions

Research Question	Survey Item
Three: How do participants in the peer leadership program view their experiences in the program?	2a. Treatment: Describe your community change project. What steps did you take to complete it?
	2a. Comparison: Describe any service project you completed in Key Club this year. What steps did you take to complete it?
	2b. Treatment and Comparison: What were the outcomes?
	5. Treatment: Within your community change project, which activities or experiences were most important to your learning? Why?
	5. Comparison: Within your service project, which activities or experiences were most important to your learning? Why?
Four: What type of impact do they believe these experiences had on their view of helping others?	4. Treatment and Comparison: Did your experience in this program affect how you think about helping others? If so, how? If not, why not?
Five: What patterns emerge when interest and motivation of students who participated in the peer leadership program are taken into consideration?	2c. Treatment and Comparison: Were you able to focus on a specific area of interest? Why or why not?
	3. Treatment and Comparison: What was your motivation for choosing this project?

Open-ended data were first entered into a spreadsheet. The researcher coded open-ended responses using the method described by Strauss and Corbin (1999), in which the researcher scans the qualitative data for phrases and sentences that convey a complete thought. A second researcher verified these open codes, which were then collapsed into axial codes organized by patterns and similarities. This process was repeated for each survey item. For example, two open codes in response to open-ended item 3 (*What was your motivation for choosing this project?*) from the treatment group were: "We wanted to help the cause which was wheelchair vans for the military" and "…when we were at the hospital it seemed like a need and a way to help sick kids at the same time." These open codes were then collapsed into the axial code *Helping People with Special Needs*. The researcher next examined the axial codes for patterns that suggested initial selective themes. For example, two resulting axial codes were *Leadership Opportunity* and *Self-empowerment*. These axial codes were collapsed into the theme *Self-improvement*. Two researchers verified both the axial and initial selective codes. Any discrepancies in coding were discussed and the researchers came to consensus on the final coding. Resulting percentages were derived from counts of open-ended responses. A single participant could have two or more responses from the same answer. As Miles and Huberman (1994) have suggested, "the labels are reviewed and, typically, a slightly more abstract category is attributed to several incidents or observations" (p. 58).

Research Question Three

How do participants in the Peer Leadership Program view their experiences in the program? To analyze this research question, the researcher open-coded data from treatment and comparison participants' surveys for items 2a, 2b, and 5. These open-codes were then

categorized into axial codes representing patterns in a process described above. The axial

codes for items 2a, 2b, and 5 and the percentages of responses for each code within the

treatment and comparison groups are displayed in Tables 24, 25, and 26.

Table 24

Initial Axial Codes for Qualitative Data for Survey Item 2a: Describe your [service or
community change] project. What steps did you take to complete it?

Description of Axial Code	Percentage of Responses Treatment ($n = 53$)	Percentage of Responses Comparison ($n = 45$)
Interface with special needs individuals	15.1	53.6
Fundraising	45.3	17.7
General event	30.2	28.7
Interface with recipient	9.4	0.0
Total	100.0	100.0

Table 25

Initial Axial Codes for Qualitative Data Survey Item 2b: What were the outcomes?

Description of Axial Code	Percentage of Responses Treatment ($n = 49$)	Percentage of Responses Comparison ($n = 37$)
Improve life for recipient individuals	4.1	8.1
Fundraising	38.8	2.7
Successful event	10.2	29.8
Self-improvement	00.0	13.5
Altruistic feelings about accomplishment	2.0	8.1
Self-awareness	0.0	5.4
Enjoyment of recognition	6.1	5.4
Connecting with other people	30.6	27.0
Raising awareness	6.1	0.00
Motivation to do more of the same	2.1	0.00
Total	100.0	100.0

Table 26

Initial Axial Codes for Qualitative Data Survey Item 5: *Within your community change project (service project), which activities or experiences were most important to your learning? Why?*

Description of Axial Code	Percentage of Responses Treatment ($n = 153$)	Percentage of Responses Comparison ($n = 86$)
Organization skills	7.7	0.0
Working with others	9.6	9.5
Overcoming setbacks	19.2	0.0
Facilitating the project	13.5	0.0
Give back to the community	2.0	4.8
Seeing people come together	3.8	0.0
Seeing gratitude of those you helped	21.2	9.5
Communication skills	5.8	0.0
Connections with special needs individuals	1.9	61.9
Reward of hard work	9.6	0.0
Learning about community needs	1.9	0.0
Social skills	1.9	9.5
Time management	0.00	4.8
None	1.9	0.0
Total	100.0	100.0

To determine themes representing initial selective codes, the researcher examined axial codes. Nine initial selective codes emerged for the three survey items responding to

research question three; these initial selective themes are presented, along with the

percentages of open-ended responses for the treatment and comparison groups in Table 27

below. Final selective themes are numbered 3.1-3.9 because they refer to research question

three.

Table 27

Initial Selective Themes for Research Question Three

Item Number	Theme Number	Selective Theme	Treatment *n*	Percentage of Responses Treatment Group	Comparison *n*	Percentage of Responses Comparison Group
2a	3.1	Interfacing with other people	13	24.5	15	53.6
	3.2	Interfacing with logistical activities	40	75.5	13	46.4
	Total		53	100.0	28	100.0
2b	3.3	Internal affect	5	10.2	12	32.4
	3.4	Successful project Logistics	27	55.1	12	32.4
	3.5	People-oriented outcome	17	34.7	13	35.2
	Total		49	100.0	37	100.0
5	3.6	Working well with others	2	4.0	4	19.0
	3.7	Skills necessary to facilitate a project	19	38.0	1	4.8

Table 27 (continued)

Initial Selective Themes for Research Question Three

Item Number	Theme Number	Selective Theme	Treatment *n*	Percentage of Responses Treatment Group	Comparison *n*	Percentage of Responses Comparison Group
	3.8	Seeing impact that you made on others	14	28.0	16	76.2
	3.9	Persistence	15	30.0	0	0.0
	Total		50	100.0	21	100.0

Students from both groups were asked to describe their community change project or community service, and their responses may be categorized into descriptions of people-oriented activities and descriptions of logistical activities. A majority of the responses from the comparison group described their service projects (Direct Involvement I) in terms of interfacing with other people, particularly with special needs individuals. One participant who volunteered with U.S. Youth TOPSoccer, a soccer league for young athletes with disabilities, described his service this way: "I would volunteer on Saturdays to play soccer with mentally challenged kids. I went and played soccer with kids hitting the ball back and forth and then you helped the little kids you were assigned to complete obstacles. You were always smiling and trying to have them have a good time." Fewer of the responses for the treatment group dealt with interfacing with other people. As one participant who worked to raise awareness and funds for families without health insurance stated, "My community change project brought the whole town together to support a small girl with pediatric leukemia." More responses in the treatment group dealt with the community change project

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(Direct Involvement II) in terms of the *logistical steps* necessary to plan, organize, and facilitate their projects. For example, one participant who worked to help handicapped veterans reported, "My community change project was time-consuming. We met with newspapers, different people from around town, and even had an assembly with the school to raise awareness." Comparatively fewer responses in the comparison group described their service project (Direct Involvement I) in terms of the planning and coordination required for the implementation of the volunteer activity. Comparison group students described setting up for events and cleaning up afterwards, as well as working at events to make sure that they were successful. For example, one participant who volunteered at a local residence for the elderly reported, "One service project I completed was a talent show for a retirement home. I had to make several phone calls and gather people."

Students were asked about the outcomes of their projects, and they described the outcomes in terms of changes to their own internal affect, a focus on logistics, or people-oriented outcomes. More students' responses from the comparison group (Direct Involvement I) stated that an outcome of their service project involvement was a change in their own internal affect. For example, students who participated in TOPSoccer league and Special Olympics stated "I learned to think about other people besides myself" and "The feeling of helping others is very rewarding and made me feel good about myself." Another respondent who volunteered with Special Olympics noted, "I found out that I love giving more than receiving. I mean, receiving is good, but I found out that I like to give more." A comparatively smaller number of responses from the treatment group mentioned internal affect as an outcome of their participation in the Peer Leadership Program and the completion of their community change project (Direct Involvement II). One who helped

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handicapped veterans purchase wheelchair vans did state that "The joy I got from the event was amazing and what I felt that day was an emotion I can't explain."

More of the responses from the treatment group (Peer Leadership Program) indicated that these students viewed their experiences in terms of their logistical ability to facilitate a successful Direct Involvement II project. Over half of these responses were related to the steps and skills that it took to manage the logistics of a long term project such as, "raising money for the necessary supplies," " getting all the permissions that we needed," "meeting with community members," "getting other volunteers," and " overcoming many obstacles." Fewer of the comparison group responses focused on successful project logistics, and were more general in nature, as one participant who assisted with the annual Special Olympics meet stated, "we were able to get through the day successfully" or "the opening ceremonies went very smoothly."

Similar numbers of responses for both treatment and comparison groups identified people-oriented outcomes as part of their Direct Involvement I or II experience. Participants in the treatment group who were involved with a project to raise awareness and funds to purchase wheelchair vans for handicapped veterans reported, "We brought tears of joy to Sergeant _____ [wounded soldier] and his wife and kids." Responses from the comparison group noted that an outcome of their volunteering experience with special needs students and young adults was that "the Special Olympics athletes had an enjoyable day" and "we made people happy. They were smiling and enjoying themselves."

Students were asked about which experiences within the project were important to their learning. Students' responses indicated that they valued working with others, learning the skills necessary to facilitate a project, seeing the impact they made on others, and

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learning to persist in a task. More responses for students in the comparison group (Direct Involvement I) stated that working well with others was the most important component of their learning as a participant in Key Club service projects. A minority of the responses in the treatment group related to working well with others as being most important to their learning as a participant in the Peer Leadership Program and the completion of their community change project (Direct Involvement II). One participant who organized a cut-a-thon at a local hair salon that benefited the organization Smile Train noted, "I believe that working with others is extremely important. There were so many times we found ourselves with conflicts or disagreements. Though we overcame these obstacles they taught me to be a team player." Conversely, more responses in the treatment group suggested that the most important part of students' learning was acquiring the skills necessary to facilitate an independent project. Students felt that "organization," "speaking in front of large groups," and "getting other people to follow through" were skills they needed to master for the successful completion of their projects. One participant who organized a walk to benefit Shoe4Africa stated, "The whole process of organizing an event was a huge learning experience. I learned to be extremely organized and to plan ahead of time."

Many more of the comparison participants' responses dealt with seeing the impact of their projects on others. For example, respondents stated that working with those who were "different than me" helped them "grow as a person," "become more mature," and "learn to be comfortable with people who were different than me." Students who worked with TOPSoccer and Special Olympics noted that seeing the gratitude and happiness of others helped them to "really experience that it is better to give to others than to receive. It brought me joy…I have never really felt that" and "I learned that when you help people you feel

really good about yourself." More participants in the treatment group believed that the most important part of their learning was the development of persistence. For example, one participant who initiated the Shoe4Africa event stated, "Coordinating a fundraiser takes a lot more work and time than I expected. There are many crucial steps to take that I was not aware of before taking on this project. I learned how to work for success." *None* of the responses from the comparison group suggested that persistence was an important part of these students' learning during their Direct Involvement I experience.

After examining the initial selective themes for research question three, patterns were noted that enabled these themes to be further collapsed into three final selective themes: (a) Focus on Project Logistics, (b) Focus on People-oriented Outcomes, and (c) Focus on Internal Affect and Persistence. The final selective themes are presented, along with the initial selective themes from which they were derived, as well as the percentage of responses for the treatment and comparison groups in Table 28 and Figures 3 and 4 below.

Table 28

Final Selective Themes for Research Question Three

Final Selective Theme Number	Final Selective Theme	Initial Selective Themes	Percentage of Responses Treatment Group	Percentage of Responses Comparison Group
3.1	Focus on Project Logistics	3.2 3.4 3.7	56.2	25.6
3.2	Focus on People-Oriented Outcomes	3.1 3.5 3.6	21.0	57.0
3.3	Internal Affect/Persistence	3.3 3.8 3.9	22.8	17.4
Total			100.0	100.0

Focus on People-Oriented Outcomes 21%

Focus on Internal Affect and Persistence 23%

Focus on Project Logistics 56%
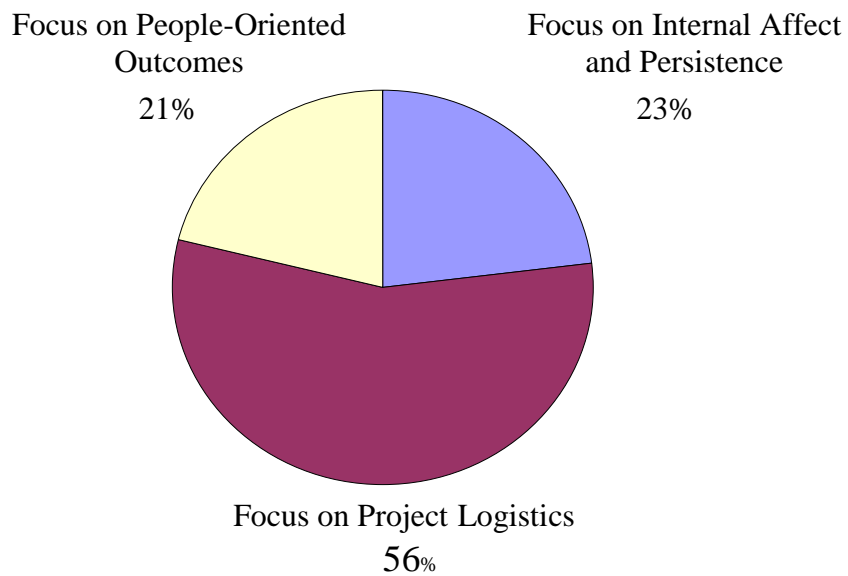
Figure 2. Final selective themes for Research Question Three. This figure illustrates the final selective themes for *the treatment group* related to how participants viewed their experiences in the Peer Leadership Program (Direct Involvement II).

Focus on Internal Affect
and Persistence

17%

Focus on Project Logistics

26%

Focus on People-Oriented
Outcomes

57%
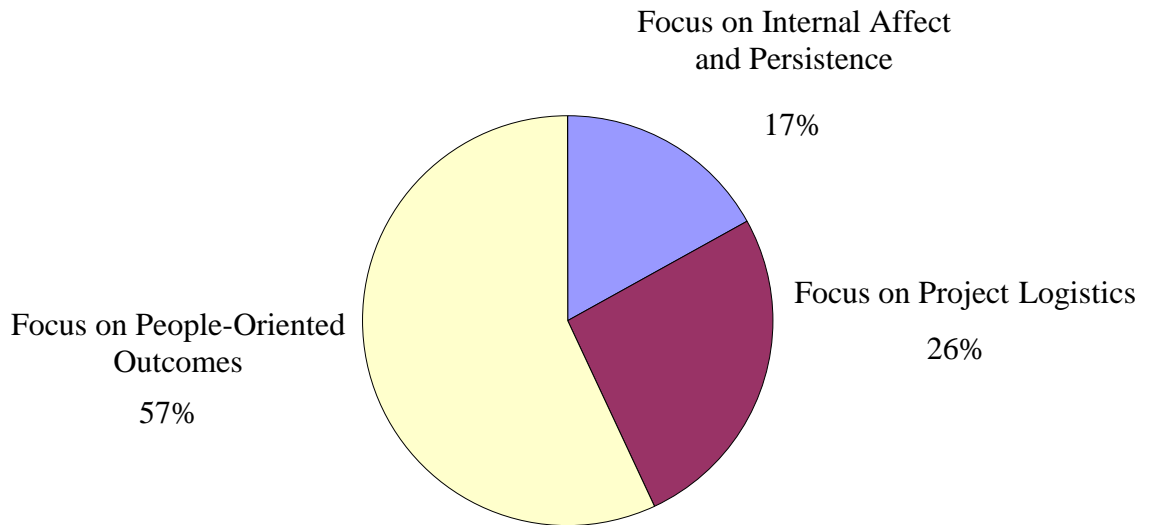
Figure 3. Final selective themes for Research Question Three. This figure illustrates the final selective themes *for the comparison group* related to how participants viewed their experiences in the Key Club (Direct Involvement I).

Research Question Four

What type of impact did participants believe these experiences had on their view of helping others? Item 4 of the open-ended items on the OHIT Survey provided information necessary for the researcher to address this question. The open-ended item asked participants to identify what impact their experiences had on their view of helping others. To analyze this item, the researcher open-coded data from item 4 for the treatment and the comparison groups. Responses were first categorized into *positive, negative, or unsure* responses, which indicated that participants had either believed the experiences influenced their views on

helping others, they did not believe this, or they were unsure. Responses to these categories

were then tabulated; corresponding percentages are presented in Table 29 below.

Table 29

Responses for Qualitative Data Survey Item 4: *Did your experience in this program affect how you think about helping others? If so, how? If not, why not?*

Response	Percentage of Responses Treatment ($n = 41$)	Percentage of Responses Comparison ($n = 19$)
Participants believed that the experience *had* influenced their views of helping others.	48.8	84.2
Participants believed that the experience *had not* influenced their views of helping others.	48.8	15.8
Participants were *unsure* whether the experience had influenced their views of helping others.	2.4	0.0
Total	100.0	100.0

Participants in the treatment group were split as to whether they believed their

experiences had affected their views of helping others. Almost half of the students in the

treatment group believed that their community change project (Direct Involvement II) had

impacted their view of helping others. Many respondents thought that the project inspired

them to "find other ways to help people even more." One respondent who was involved with

Smile Train, an international charity that provides cleft palate surgery to those in need noted,

"This program strongly focuses on community and helping others. Throughout the program,

my desire to help and the importance of it definitely became a lot stronger." However, the

same percentage of participants in the treatment group did *not* feel that the program affected how they thought about helping others. Nineteen of these respondents indicated that they had *always* felt strongly about helping others but that this experience provided "opportunities," "skills," and the "motivation" to do something that made a difference in the community. Other participants noted that they had always understood the importance of community service; however, this experience "gave them the chance to be in charge" and "made them aware of all the needs in our community," and "the endless amount of things you can achieve with help from the school community."

More participants within the comparison group believed that their experience in Key Club (Direct Involvement I) affected how they thought about helping others. Respondents stated that they had increased in their "sensitivity to others," "had been pushed to put others before myself," were "inspired to be a better person," and "even though I wanted to help before; I never did it. After doing things with Key Club it made me realize some of the things people are going through and made me want to do more." One participant who worked with low-income students noted "because of Key Club, I now believe that in helping others I can help myself. The joy I feel in helping others makes me a better person in the long run." A small number of participants in the Key Club responded negatively, indicating that the experience had not affected their views of helping others. One student who thought that the program did not help him and had a negative response noted, "they [other students in the Key Club] had a semi-numb feeling because they are used to projects like this."

Research Question Five

What patterns emerge when interest and motivation of students who participated in the Peer Leadership Program and Key Club are taken into consideration? Again, the

researcher open-coded data from participants for survey item 2c and 3. These open-codes were then categorized into axial codes representing patterns. The axial codes from the response data from survey item number 2c, along with the percentage of responses that dealt with this code are displayed in Table 30.

Table 30

Responses for Qualitative Data Survey Item 2c: Were you able to focus on a specific area of interest? Why or why not?

Response	Percentage Treatment ($n = 41$)	Percentage Comparison ($n = 18$)
Yes	75.6	61.1
No	24.4	38.9
Total	100.0	100.0

The majority of students from both the treatment and comparison groups indicated that they were able to work within an area of interest. However, among the participants who responded negatively, some then went on to elaborate that, although the project was not in their interest area, they still believed that it was important to participate. For example, respondents in the comparison group who volunteered to help with community events such as "Halloween on the Green" or a local blood drive felt that they had " just pitched in where … needed" and "I showed up to help set up and clean up which is needed but not my interest."

Open-ended survey item 3, "What was your motivation for choosing this project?" was also analyzed to address research question five. Eighteen axial codes emerged, which

are presented, along with the corresponding percentages of open-ended responses, in Table

31 below.

Table 31

Initial Axial Codes for Qualitative Data Survey Item 3: *What was your motivation for choosing this project?*

Description of Axial Code	Percentage of Responses Treatment (*n* = 58)	Percentage of Responses Comparison (*n* = 36)
Helping people with special needs	12.1	13.8
Giving happiness or enjoyment	7.0	11.0
Personal connection to issue	29.3	13.8
Personal interest area	12.1	11.0
Raise awareness	5.2	5.6
Feel sadness about situation	0.0	5.6
Leadership opportunity	1.7	2.8
Makes me feel good	0.0	2.8
Self-empowerment	1.7	2.8
Giving back	8.6	2.8
Help children	0.0	5.6
Want to make a difference	1.7	5.6
Help others feel successful	3.4	5.6
Personal challenge to change	0.0	2.8
Fun for me to be with my friends	0.0	5.6
Motivated by others	8.6	0.0

Table 31 (continued)

Initial Axial Codes for Qualitative Data Survey Item 3: *What was your motivation for choosing this project?*

Description of Axial Code	Percentage of Responses Treatment ($n = 58$)	Percentage of Responses Comparison ($n = 36$)
Easy and quick to do	5.2	2.8
Filled a need	3.4	0.0
Total	100.0	100.0

The researcher next examined the 18 axial codes to explore patterns that might represent final selective themes. Four final selective themes emerged for survey item 3. The selective themes are presented, along with their corresponding axial codes and the percentage of responses for the treatment and comparison groups in Table 32 below. Final selective themes are referred to as 5.1- 5.4 because they refer to research question five.

Table 32

Final Selective Themes for Survey Item 3: What was your motivation for choosing this project?

Theme Number	Selective Theme	Axial Codes	Treatment *n*	Percentage of Responses Treatment Group	Comparison *n*	Percentage of Responses Comparison Group
5.1	Wanting to make a difference in the lives of others or community	Helping people with special needs	19	32.8	19	52.8
		Giving happiness or enjoyment				
		Giving back				
		Want to make a difference				
		Help others feel successful				
		Feel sadness about situation				
		Makes me feel good				
		Help children				

Table 32

Final Selective Themes for Survey Item 3: What was your motivation for choosing this project?

Theme Number	Selective Theme	Axial Codes	Treatment *n*	Percentage of Responses Treatment Group	Comparison *n*	Percentage of Responses Comparison Group
5.2	Personal connection to issue	Personal connection to issue Personal interest area Raise awareness Motivated by others	32	55.2	11	30.6
5.3	Self-improvement	Leadership opportunity Self-empowerment Personal challenge to change	2	3.5	3	8.3
5.4	Pragmatic-easy to do/filled a need	Fun for me to be with my friends Easy and quick to do Filled a need	5	8.5	3	8.3
Total			58	100.0	36	100.0

More responses from the comparison group dealt with students' desire to "make a difference," or "really help those who need it." One student in the comparison group noted, "My motivation is to help people who live in poverty or those who are less fortunate than me." Fewer responses from the treatment group dealt with this theme.

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Over half of the responses from the treatment group cited a personal connection to the issue as motivation for choosing their project. One student appeared to be motivated by the fact that her brother was serving in the military and another was inspired by "a family with two children with Cystic Fibrosis, so it is near and dear to me." In contrast, fewer of the responses from the comparison group indicated that students were motivated by a personal connection to the issue that they supported with their volunteer hours.

Although fewer responses overall mentioned being motivated by a desire for self-improvement, more of these responses were from the comparison group. These students cited an opportunity to "take on a leadership position" or "to take on a challenge and be successful." One participant who worked with special education students in the comparison group wrote, "I took the opportunity to choose something that I thought would change me."

A few responses suggested that a minority of students in each group were motivated by pragmatism, such as projects were selected because they "fit into their [student's] schedule." One participant who assisted with the Karing for Kelly event to benefit a young girl with pediatric leukemia wrote, "We could do it earlier in the semester and wanted to get it out of the way."

In conclusion, the results of qualitative data analysis indicated that participants from different groups exhibited different interest levels in their project, different motivations, and different outcomes (Table 33).

Table 33

Summary of Qualitative Responses: Comparison between Treatment and Comparison Groups

Finding	Treatment (Peer Leadership)	Comparison (Key Club)
Able to Focus on an Interest in Project	More (75.6%)	Less (61.1%)
Motivation for Project: Personal Connection	More (55.2%)	Less (30.6%)
Motivation for Project: Focus on People	Less (32.8%)	More (52.8%)
Motivation for Project: Focus on Self (e.g., self-improvement)	Less (3.4%)	More (8.3%)
Motivation for Project: Pragmatism	Similar (8.5%)	Similar (8.3%)
Outcome of Project: Focus on Logistics	More (56.2%)	Less (25.6%)
Outcome of Project: Focus on People	Less (20.9%)	More (57.0%)
Outcome of Project: Focus on Self (e.g., affect)	More (22.9%)	Less (17.4%)
Affected How Participants Thought About Others - Yes	Less (48.8%)	More (84.2%)

Triangulation of Qualitative and Quantitative Data

In a convergent parallel mixed method design, quantitative and qualitative data are

collected simultaneously and then used to triangulate results (Creswell & Plano-Clark, 2007).

In the current study, quantitative analyses suggested that students who participated in a Direct Involvement I experience benefited in terms of increased Sensitivity to Human Concerns. Qualitative analyses suggested by responses from students in the comparison group also indicated that these students were more motivated than students in the treatment group by wanting to make a difference in general, as well as by a focus on people or self-improvement. In terms of outcomes, analyses indicated that more students in the comparison group viewed their Direct Involvement I experience in terms of people-oriented outcomes rather than in terms of logistics, a view that was reversed in the treatment group. Within the treatment and comparison groups, students identified internal affect and persistence as an outcome of their experiences; however, students in the comparison group identified personal changes within themselves related to attitudes towards others. Importantly, students in the comparison group believed that their Direct Involvement I experience impacted how they viewed helping others.

Quantitative analyses suggested that students who participated in a Direct Involvement II experience benefited in terms of increased Physical/Mental Energy. In terms of motivation, qualitative analyses suggested by responses from students in the treatment group indicated that these students were more motivated than students in the comparison group by a personal connection to the focus of the project. In terms of outcomes, analyses indicated that more students in the treatment group viewed their Direct Involvement II experience in terms of project logistics, as well as focus on self, particularly the development of persistence to overcome obstacles related to the completion of the Direct Involvement II experience. About half of the students who were in the treatment group believed that the Direct Involvement II experience did not change how they felt about helping others, but gave

them opportunities to do something about their desire to help in the community. The

triangulation of the qualitative and quantitative results is summarized in Table 34.

Table 34

Triangulation of Qualitative and Quantitative Results with Research Question One

Quantitative Results	Qualitative Results	Percentage of Responses Treatment Group (Direct Involvement II)	Percentage of Responses Comparison Group (Direct Involvement I)
Sensitivity to Human Concerns was significantly higher for the comparison group.	Interfacing with Other People: As opposed to the treatment group, a greater percentage of responses from the comparison group dealt with interfacing with other people.	24.5	53.6
	Internal Affect: As opposed to the treatment group, a greater percentage of responses from the comparison group suggested that the process impacted their internal affect.	10.2	32.4
	Working Well with Others: As opposed to the treatment group, a greater percentage of responses from the comparison group suggested that working well with others was most important to their learning during the experience.	4.0	19.1
	Seeing the Impact that You Made on Others: As opposed to the treatment group, a greater percentage of responses from the comparison group suggested that seeing the impact that you made on others was most important to their learning during the experience.	28.0	76.2

Table 34 (continued)

Triangulation of Qualitative and Quantitative Results with Research Question One

Quantitative Results	Selective Theme/Interpretation	Percentage of Responses Treatment Group (Direct Involvement II)	Percentage of Responses Comparison Group (Direct Involvement I)
	As opposed to the treatment group, a greater percentage of respondents in the comparison group also stated that their experience affected how they thought about helping others.	48.8	84.2
Physical/Mental Energy was significantly higher for the treatment group.	Interfacing with Logistical Activities: As opposed to the comparison group, a greater percentage of respondents in the treatment group mentioned project logistics.	75.5	46.4
	Successful Project Logistics: As opposed to the comparison group, a greater percentage of responses from the treatment group focused on the necessary steps to complete their projects.	55.1	32.4
	Skills Necessary to Facilitate a Project As opposed to the comparison group, a greater percentage of responses from the treatment group suggested that learning the skills necessary to facilitate a project was most important to their learning during the experience.	38.0	4.8
	Persistence As opposed to the comparison group, a greater percentage of responses from the treatment group suggested that persistence in the face of obstacles was most important to their learning during the experience.	30.0	0.0

The implications of the results in this chapter are presented in chapter five. The following chapter also presents a discussion of the significance and limitations, as well as educational implications and proposed directions for future research associated with Direct Involvement I and II experiences.

CHAPTER FIVE: SUMMARY AND CONCLUSIONS

The purpose of Operation Houndstooth Intervention Theory is to develop the characteristics and capacities associated with the development of social capital in students (Renzulli et al., 2006). This study was an initial attempt to investigate whether certain types of volunteer experiences may promote the development of co-cognitive factors associated with the development of social capital, specifically through the impact of a Direct Involvement I or a Direct Involvement II experience. Outcomes were measured with the Co-CFS subscales and open-ended survey items.

This chapter is divided into six sections. The Summary of the Study provides an overview of the inquiry. The Findings Section describes the data collection procedures and methods of quantitative and qualitative analyses that were utilized to analyze the five research questions in this mixed methods study. The Comparison and Contrast of Findings Section relates findings of this research study to the review of literature in chapter two. The Implications Section provides recommendations for using Direct Involvement I and II experiences as a method of promoting the factors that are associated with the development of social capital, and the Future Research Section addresses future research topics that build upon the results of this study. The Limitations Section includes specific limitations to internal and external validity that may impact the results of this research study and the steps taken by the researcher to address each limitation.

Summary of the Study

Research Questions

The purpose of the study was to evaluate the effect of a Direct Involvement I or II experience on the development of the co-cognitive factors of high school junior and seniors

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through school-based volunteer experiences. In this sample, participants were enrolled in a

Peer Leadership Program (treatment), a volunteer organization, Key Club (comparison), or

neither (control). The research questions that guided the research are restated below.

1. Are there significant differences in the mean posttest scores on the Operation

    Houndstooth Co-Cognitive Factor Scale (Optimism, Courage, Romance with a

    Topic or Discipline, Sensitivity to Human Concerns, Physical/Mental Energy, and

    Vision/Sense of Destiny) between 12th-grade students who participate in a Peer

    Leadership Program (Direct Involvement II), students who participate in Key Club

    (Direct Involvement I), and those who participate in neither?

2. Do mean pretest scores on the co-cognitive Factor, Romance with a

    Topic/Discipline, predict mean posttest scores on the co-cognitive factors

    (Optimism, Courage, Romance with a Topic or Discipline, Sensitivity to Human

    Concerns, Physical/Mental Energy, and Vision/Sense of Destiny) for 12th-grade

    students who participate in a Peer Leadership Program?

3. How do participants in the Peer Leadership and Key Club programs view their

    experiences in these programs?

4. What type of impact do they believe these experiences had on their view of

    helping others?

5. What patterns emerge when interest and motivation of students who participated in

    the Peer Leadership Program and Key Club are taken into consideration?

Procedures

The study utilized a mixed method design to address the five research questions. The collection of quantitative and qualitative data facilitated the triangulation of data in a mixed methods convergent parallel data model design. Quantitative data were collected using the OHIT Survey (Form F), and qualitative data were collected through five open-ended questions related to students' activities within their volunteer experiences.

The 126 students who participated in the study comprised three groups: control, comparison, and treatment. The students were juniors and seniors from one high school in an urban school district. Students were not randomly assigned to group, due to the self-nominating nature of the programs. The treatment group participated in Direct Involvement II projects as a requirement of their involvement in the Peer Leadership Program. Students in the comparison group were members of a volunteer organization (Key Club) who were required to complete a set amount of volunteer hours per month. Students in the control group were students in a 12th-grade dual credit English class and did not participate in school-based Direct Involvement I or II experiences.

Co-CFS subscale pretest scores were analyzed to determine whether there were initial differences between group means. There were significant differences between groups on the means of the subscale for the factor Physical/Mental Energy, and so the researcher co-varied in the final analysis on this variable. Posttest data for research question one were analyzed using a MANCOVA. Data for research question two were analyzed through a series of simple linear regressions to determine if the variable for the factor Romance with a Topic or Discipline (pretest) was a predictor of the remaining co-cognitive factors. Qualitative data for the treatment and comparison groups were analyzed utilizing four open-ended items.

Data were open-coded and entered into a spreadsheet, and a second researcher verified these codes, which were then collapsed into axial codes based on common patterns. The researcher next examined the axial codes for patterns that suggested initial selective themes. Two researchers verified both axial and initial selective codes. Any discrepancies in coding were discussed and the researchers came to consensus on the final coding or theme. An independent auditor verified the findings.

Findings

There was a significant main effect for the independent variable Type of Program. Students in the treatment group scored significantly higher ($p = .015$) on posttest mean scores for the co-cognitive factor Physical/Mental Energy than students in the control group. Participants in the comparison group scored significantly higher than students in the treatment ($p = .011$) or control group ($p = .008$) on the subscale for the co-cognitive factor Sensitivity to Human Concerns. In addition, the results of six simple linear regressions indicated that the means of the subscale for the co-cognitive factor Romance with a Topic or Discipline was not a significant predictor of the remaining co-cognitive factors.

Qualitative analyses produced final selective themes which indicated that over half of the responses from the treatment group focused on the Direct Involvement II experiences in terms of project logistics, while over half of the responses from the comparison group viewed their Direct Involvement I experience in terms of people-oriented outcomes. More responses from the treatment group related to students' ability to focus their Direct Involvement II project around a personal area of interest when compared with the comparison group. Some students in the treatment group also noted that, even though their project may not have been

an area of interest for them, they believed that it was an important issue to address. These

findings will be discussed in the implications section of this chapter.

<div align="center">**Comparison and Contrast of Findings**</div>

Theoretical Comparisons

The review of literature in chapter two included the theoretical basis for this research,

as well as empirical studies related to social capital. Supporting previous research, students

in the Key Club (comparison group, Direct Involvement I) scored higher on Sensitivity to

Human Concerns than the remaining students. Renzulli et al. (2006) have stated that

empathy and sensitivity to others are results of students' involvement in Direct Involvement I

activities, due to a student's ability to associate individuals with societal issues.   A majority

of qualitative responses, which focused on outcomes from the comparison group, indicated

that these students believed that their experience impacted how they viewed helping others.

By comparison, a majority of responses which focused on outcomes in the treatment group

stated that the main focus was on project logistics rather than people, and fewer students

indicated that their Direct Involvement II experience had impacted their views of helping

others.

Putnam (2000) noted the difference between two types of experiences related to the

development of Social Capital: Bridging (dissimilar groups) and Bonding (similar groups).

Putnam (2000) stated that Bridging Social Capital contributes to an individual's desire to

contribute to the greater good through contact with those who differ in status, roles, norms,

socioeconomic status, and worldview. As a result, he categorized Bridging Social Capital as

more outward looking, generating broader ideas of reciprocity towards others as opposed to

bonding which reinforced identities and homogeneous groups (Putnam, 2000). Other

researchers also noted the importance of bringing students into contact with dissimilar backgrounds and those in an obvious state of need as an important element in the development of civic engagement (Beamer, 1998, Boyte, 1991; Youniss & Yates, 1997). Students who participated in Key Club activities had frequent and sustained opportunities to come into contact with community members from dissimilar groups, including special needs students, the elderly, and students living in poverty. Students who participated in Direct Involvement II experiences from the treatment group had limited contact with the recipients of their efforts: children living in Africa, children with critical illnesses, or military serving overseas. This interaction with dissimilar groups on the part of the comparison group may explain why students who participated in Direct Involvement I Key Club activities scored higher on Sensitivity to Human Concerns.

Conversely, over half of the students who initiated and facilitated a Direct Involvement II project in the Peer Leadership Program were motivated by a personal connection to the issue, often through family members, friends, or neighbors. This connection may be an example of Putnam's (2001) Bonding Social Capital. These students' projects brought them into contact with people who were in need, but who were similar to them. Putnam (2000) noted that Bonding Social Capital is more inward looking and promotes specific reciprocity within similar groups.

Larson (1991) noted that, to maximize the development of social capital, students who participate in voluntary activities should be exposed to the following processes: setting their own goals, developing plans, and empathizing with people from dissimilar backgrounds. Students in the Direct Involvement I and II activities did not each participate in all of the above processes. Students in the Direct Involvement I experiences had

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opportunities to empathize with people from dissimilar backgrounds, while students who completed Direct Involvement II projects were more involved in setting goals and developing plans.

Students in the treatment group who participated in Direct Involvement II projects scored significantly higher in terms of Physical/Mental Energy, even after accounting for initial group differences. Sytsma (2003) stated that increased levels of Physical/Mental Energy were most likely related to students' perceptions of how effective their efforts were in achieving their visions or goals. Morgan and Streb (2001) found that student voice and ownership in student-initiated projects led to significant gains in self-efficacy, or students' beliefs in their own competence, as well as feelings of student empowerment. In the current study, students in the treatment group noted that initiating and facilitating such involved projects led to persistence in the face of obstacles and hard work to accomplish their goals, supporting Sytsma's (2003) suggestion that increased levels of Physical/Mental Energy was related to students' perceptions of their own efforts.

<center>**Implications for Educators**</center>

This study provided support for the implementation of Direct Involvement I and II experiences for the development of co-cognitive factors in junior and senior high school students. Major findings and implications for educators are found in Table 35, and will be discussed below.

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Table 35

Major Findings and Implications for Educators

Finding	Implications for Educators	Implications
1. Quantitative: Students involved in the Peer Leadership Program (treatment) scored significantly higher than the control group on Physical/ Mental Energy. However, they did not score as highly as the comparison group on Sensitivity to Human Concerns.	Curriculum Coordinators and Teachers of Leadership Programs	1. Ensure that students receive some type of face-to-face time with recipients of their efforts.
2. Qualitative: Students in the Peer Leadership Program (treatment) did not emphasize face-to-face time with volunteer dissimilar recipients.	Curriculum Coordinators and Teachers of Leadership Programs	2. It may be helpful if volunteer recipients are dissimilar to the students in some way (Putnam, 2000).
3. Qualitative: Students in the Peer Leadership Program (treatment) focused more on the project logistics required to complete their projects	Curriculum Coordinators and Teachers of Leadership Programs	3. Structure the projects in such a way that students receive more logistical support in their organizational endeavors while still maintaining control of the project, freeing time for more face-to-face contact.
4. Quantitative: Students involved in the Key Club (comparison) scored significantly higher than the treatment and control groups on Sensitivity to Human Concerns. However, they did not score as highly as the treatment group on Physical/Mental Energy.	Facilitators of School Clubs and Teachers of Service Learning	4. Empower students by allowing students to choose, initiate, and facilitate individualized projects.

Table 35 (continued)

Major Findings and Implications for Educators

Finding	Implications for Educators	Implications
5. Qualitative: Students involved in the Key Club (comparison) did not select their own projects as frequently and did not report a personal connection with the topic as frequently as the treatment group.	Facilitators of School Clubs and Teachers of Service Learning	5. Encourage students to explore their own personal connections to topics of interest.
6. Qualitative: Students involved in the Key Club (comparison) did not focus on logistics of projects.	Facilitators of School Clubs and Teachers of Service Learning	6. Enable students to learn the importance of logistics during project work by allowing them to plan and implement; however, do not make logistical work burdensome to the point that it allows for little face-to-face interaction with recipients of the volunteer activity.

The results of the current research demonstrated that students involved in the Peer Leadership Program (Direct Involvement II, treatment) increased in their Physical/Mental Energy levels. For these students, the very act of persisting to accomplish the tasks necessary to achieve their goals may have contributed to their increase in Physical/Mental Energy. These findings indicate that the independent aspect of the Direct Involvement II experience may be empowering for students, and that the greatest benefits in Physical and Mental Energy for students may occur when they are allowed to choose, initiate, and facilitate their own Direct Involvement II projects. Facilitators of service learning organizations such as Key Club, Red Cross, and others would do well to consider allowing

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students to select more of their own personal projects of interest to explore and develop. For example, students might be allowed to research the areas of greatest need in the community and then select particular projects to undertake based on interest.

An interesting finding from the study indicated that, although more than half of the students who participated in the Peer Leadership Program (Direct Involvement II) experiences were motivated by their personal connections to issues, their attention was directed towards dealing with the logistics required to complete their projects and not towards the recipients of their volunteer efforts. The scope of these projects and the skills necessary to successfully facilitate them took precedence over interactions with individuals. These results imply that the benefits of a Direct Involvement II experience could be enhanced if the experiences are structured in such a way that students are not required to focus *all* of their efforts on the organizational and monetary aspects of the project. Facilitators of Direct Involvement II activities and others would do well to provide more support for students as they attempt to arrange a venue, contact those in local or state government positions, or meet with administrators within the school. Perhaps a guidebook could be helpful for such endeavors. In addition, a coordinator for Direct Involvement II projects could create a network of adults within the community who would also be able to assist students as they navigate through the more procedural aspects of their projects, particularly related to working for a specific organization, such as local hospitals or charity organizations. In addition, funds could be made available for students' projects, freeing students to devote time and energy to interfacing with recipients.

Students involved in the Key Club (Direct Involvement I, comparison) program scored higher in their Sensitivity to Human Concerns than students in the treatment group.

These students focused on helping others in the community, and appeared to be motivated by helping others. They believed that important outcomes for their projects were bringing others happiness and joy. In addition, students in the Key Club, or Direct Involvement I experience, noted that many of their volunteering activities brought them into frequent contact with people who were dissimilar to them. An increased level of Sensitivity to Others is most likely related to an individual's contact with dissimilar groups (Larson, 1998; Putnam, 2000; Renzulli et al., 2006). These findings indicate that the face-to-face aspect of the Direct Involvement I experience with people from dissimilar groups was an important aspect of the experience in the development of Sensitivity to Human Concerns. The greatest benefits of volunteer experiences may occur when activities involve frequent and sustained contact with the recipients of their efforts, particularly if their efforts benefit dissimilar individuals who are in need. Facilitators of service learning organizations should focus student efforts on projects that would be the most likely to bring students into contact with dissimilar group that are in a state of need, particularly if they are able to address issues of social justice or promote relationships among dissimilar groups.

Suggestions for Future Research

Suggestions for future research are presented in Table 36 and are discussed below.

Table 36

Suggestions for Future Research

Finding	Suggestions for Future Research
1. Quantitative: Students involved in the Peer Leadership Program (treatment) scored significantly higher than the control group on Physical/ Mental Energy. However, they did not score as highly as the comparison group on Sensitivity to Human Concerns.	How can Direct Involvement Direct Involvement I and II activities and I be structured for maximum development of Social Capital? How do educators develop the other factors?
2. Qualitative: Students in the Peer Leadership Program (treatment) did not emphasize face-to-face time with volunteer recipients.	Do factors such as type and frequency of contact with recipients of student efforts impact the development of the co-cognitive factor sensitivity to others?
3. Qualitative: Students in the Peer Leadership Program (treatment) focused more on the project logistics required to complete their projects	What is the impact of the concept of flow on the development of the co-cognitive factors within a Direct Involvement II experience? How is this impacted by students applying new skills that are challenging for them within the context of the project?
4. Quantitative: Students involved in the Key Club (comparison) scored significantly higher than the treatment and control groups on Sensitivity to Human Concerns. However, they did not score as highly as the treatment group on Physical/Mental Energy.	Do factors such as type and frequency of contact with recipients of student efforts impact the development of the co-cognitive factor sensitivity to others?
5. Qualitative: Students involved in the Key Club (comparison) did not select their own projects as frequently and did not report a personal connection with the topic as frequently as the treatment group.	Does the type of interest an individual has in a project have an impact on the development of Social Capital?
6. Qualitative: Students involved in the Key Club (comparison) did not focus on logistics of projects.	Would students be more likely to focus on a project that would benefit dissimilar groups if they were not focused on the managerial aspects of the project?

The findings of the current research suggest that participation in a Direct Involvement I project impacted students' Sensitivity to Others and participation in a Direct Involvement II project impacted students' Physical/Mental Energy in a sample of junior and senior high school students. Further research is warranted to establish a deeper understanding of the nature of these experiences and their impact on these and other co-cognitive factors. The question that remains is how activities should be structured for maximum benefit to social capital. That is, researchers may investigate how to structure Direct Involvement II activities so that students are not overwhelmed with organizational aspects to the point of not being able to focus on the recipients of the project. Similarly, students involved in Direct Involvement I activities may benefit from being able to select, to some degree, their own projects.

In addition, researchers may wish to investigate whether the novelty factor of the focus is crucial. In their open-ended responses, some students in the comparison group noted that, before their Direct Involvement I experiences, they had never felt the reward of giving back to others. Similarly, students in the Direct Involvement II experiences noted that they never had to put in so much effort to obtain a goal or to direct such a large project. How do students' perceptions of what is new for them impact the development of co-cognitive factors?

Sytsma (2003) noted the importance of absorption in a topic for the development of the factor Romance with a Topic/Discipline. Csikszentmihalyi (1990) referred to this total absorption as *flow*. Does having a learning curve influence the student's ability to be absorbed enough in the project to reap the full benefits of the experience? If students are focusing on the mastery of a new skill set to realize their goals, does this interfere with their

ability to experience flow? If so, does this impact lead to a diminished development of the co-cognitive factors?

Most students in the treatment group indicated that they were able to select a volunteer activity or initiate a project in their area of interest. However, the co-cognitive factor Romance with a Topic or Discipline did not predict the remaining factors. Further investigation of the impact of interest on the co-cognitive factor romance is warranted. Renzulli et al. (2006) proposed that Direct Involvement II projects which bring about change focused on "peace, justice, or more harmonious relationships among people" (p. 22) are most effective for the development of the co-cognitive factors. Some students listed their areas of interest and indicated that they had completed their projects on topics related to justice, such as helping students who live in poverty or English Language Learners. However, other participants stated that their area of interest was related to sports or theater. Consequently, researchers may wish to explore whether the *type* of interest has an impact on the development of social capital.

Based on prior research (Larson, 1991; Putnam, 2000; Renzulli, 2006) and the results of the current study, contact with dissimilar groups who are in need is an important part of developing Sensitivity to Human Concerns. Further research is warranted as to the nature of the contact with dissimilar groups. Are factors such as type of contact or frequency of contact integral to the development of Empathy? Open-ended responses indicated that students in the treatment group initiated Direct Involvement II experiences as a way to expend effort on an issue that was personally meaningful to them. An avenue of future research could also focus on whether or not the experience of initiating and facilitating a Direct Involvement II experience increases the likelihood of becoming involved in similar

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projects in the future. In addition, would those projects be more likely to benefit dissimilar groups in need, in which they have no personal interest.

Limitations of the Study

Internal and external limitations may impact the results of any research. Due to parameters beyond the researcher's control, threats and limitations of this study should be addressed. In this section, threats or limitations to the study and efforts to mitigate them are discussed. The findings of this study are especially limited by differential selection and attrition.

Validity

A study has internal validity when the researcher has controlled for as many variables as possible to ensure that changes in the dependent variable can be attributed to the independent variable in the study. Although random assignment to group was not possible, the use of comparison and control groups was an attempt to address threats to internal validity. In an effort to determine that differences in outcome could not be attributed to a difference between groups, Gall et al. (2007) have suggested ensuring that all groups are similar except for the factors, which are manipulated; this was accomplished through the collection of demographic information to help ensure that all groups were as equal as possible prior to the study. In addition, a MANOVA on pretest scores was utilized to determine whether differences in subscale means existed prior to treatment. Because pretest means for the subscale Mental/Physical Energy were significantly different between groups on the Co-CFS, this variable was utilized as a covariate in the subsequent quantitative analyses of research question one.

History is an extraneous variable that can affect the internal validity of a study. History refers to the fact that a researcher cannot be certain that participants may not have had experiences between the pretest and posttest that impacted the results of the study (Gall et al., 2003). In addition to the use of comparison and control groups, all participants attended the same high school and experienced the same type of learning environment. History and maturation are considered a larger threat with longitudinal studies. Due to the length of the study, history and maturation were low threats to the internal validity of the study.

Students in the Peer Leadership Program (treatment) were chosen for participation from a pool of applicants and could not be randomly assigned to group. Students in the Key Club (comparison) chose to join the organization and also could not be randomly assigned to group. Therefore, differential selection was an internal threat, and attempts to minimize this were addressed through the collection of demographic data and co-varying of pre-assessment data for the comparison and control groups to determine equivalency prior to the treatment.

Attrition was a large threat to the internal validity of this research study. During the pretesting phase of this research study, a total of 126 students completed the OHIT Survey Packet. Fewer students from each group were administered the posttest than the pretest. However, the comparison group lost the most students ($n = 12$) during the course of the research study. Students did not complete Key Club activities due to an inability to maintain the minimum number of volunteer hours; they did not show up for posttest administration, despite numerous attempts by the researcher. Attempts were made on four separate dates during the spring of 2011 to collect responses from these participants. The withdrawal of students from the comparison group was limiting, both because it impacted student sample

size (Gall et al., 2007) and may have biased the sample towards higher-achieving, more persistent students.

Due to the pretest, posttest design, sensitization to testing was also a threat to external validity. The pretest may have alerted students to attributes of interest and therefore impacted posttest results (Gall et al., 2007). However, because the two administrations of the instrument were separated by 5 months, it is unlikely that the research was seriously impacted by this threat.

When a researcher utilizes a sample of convenience, generalizability is limited due to the lack of random assignment to group (Gall et al., 2007). However, in the current research, only one Peer Leadership Program of this type existed within the area. Consequently, the selection of a pre-existing group receiving this type of program was required and limited the number of students available for the treatment group. Similarly, the comparison group was an after-school volunteer organization. Students volunteered to participate and were required to maintain volunteer hours to continue membership. Therefore, membership in the comparison group was also limited. Every effort was made to procure the largest sample size possible.

The Hawthorne Effect refers to participants' awareness of their role in a study and the possibility that they may change their behavior as a result of this awareness (Gall et al., 2007). Although students were cognizant that they were participants in a research study, they were not made aware of the hypothesis of the study, nor were participants in the control group made aware that they were in the control group. The John Henry effect is when the control group reacts to the study and attempts to outperform the treatment group (Gall et al., 2007). Again, the Peer Leadership and Key Club were courses that were part of the school

and not special or unique experiences as a result of the current study. In addition,

participants in those programs did not receive additional resources or attention due to the

research study, a fact that may have lessened the effect.

Trustworthiness

      Truth-Value. Guba (1981) identified four facets of trustworthiness in qualitative

research: truth-value, applicability, consistency, and neutrality. Truth-value or credibility of

the findings of a study can be established through prolonged engagement with the subjects of

a study to establish trust and limit researcher bias (Lincoln & Guba, 1985). Prolonged

engagement during this study was not feasible and was not critical to the data that the

researcher was soliciting. The qualitative data were limited to self-reported open-ended

survey items; the purpose of these items was to triangulate and elaborate on the quantitative

data. Although self-reported data can be a methodological limitation, credibility of the

responses was established through consistency of student responses within and across groups.

The researcher regularly met with a second researcher and a colleague to review perceptions,

insights, and analyses. Finally, the researcher met with an outside auditor to establish truth

value in the form of confirmability. Confirmability "depend[s] on the researcher's (a) being

clear in demonstrating through an audit trail how he or she framed the study and collected

and analyzed data; (b) being aware of his or her own assumptions, values, and biases as they

influenced the study; and (c) considering rival conclusions full" (Miles & Huberman, 1994,

p. 417).

      Applicability. According to Guba (1981), applicability is the idea that the study has

been described in enough detail to enable future investigators to make comparisons to other

contexts and groups. This limitation was addressed through the detailed description of data in context. A description of the setting, participants, and methodology were provided.

Consistency. Guba (1981) defined consistency in terms of dependability or evidence such that, if the study were to be repeated with a similar sample and context, similar results would occur. This limitation was directly addressed through the use of a detailed description of research methodology, peer review, and the development of an audit trail (Lincoln & Guba, 1985). Detailed records were kept to identify all data sources including axial codes, categories, and themes developed during the qualitative coding process.

Neutrality. Neutrality refers to researchers' making a concerted effort to be aware of their own biases and the impact they may have on the research. Although the researcher did not interview or interact at length with the subjects, bias may be applicable in the interpretation of open-ended responses. In an effort to maintain impartiality, the researcher consistently discussed categories, axial codes, and themes with a second researcher to ensure that conclusions were the product of the research and not the researcher's biases or opinions.

<div align="center">

Summary

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Chapter five of this dissertation provided a summary of the present study. Participants completed OHIT Survey, after which quantitative and qualitative analyses were conducted to examine the impact of Direct Involvement I and Direct Involvement II experiences on the development of the co-cognitive factors associated with Social Capital. The results suggested that these experiences had an impact on the development of the co-cognitive factors Sensitivity to Human Concerns for the comparison group and Physical and Mental Energy for the treatment group. Future study may bring new information on specific

ways that educators can structure and support these types of experiences, which may lead to developing in students the ability to be agents of social capital.

Prior to this research study, no empirical studies examined the impact of Direct Involvement I or Direct Involvement II experiences on the development of social capital. The findings of this study suggest that the opportunity to interact with others may have a positive impact on students' attitudes towards others. These results can best be summed up by the comments of one participant, "Volunteering for Special Olympics really changed my perspective on life and being positive." In addition, students' belief in themselves and their ability to make a difference for others through hard work led to an increase in energy and was motivating, enabling them to persist, as this participant who was involved in a fundraiser to purchase vans for handicapped veterans stated, "I think the most important thing was learning to overcome struggles…the joy I got from the event was amazing and what I felt that day was an emotion that I can't explain."

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Appendix A: Renzulli 3-Ring Conception of Gifted Behavior with Houndstooth Pattern
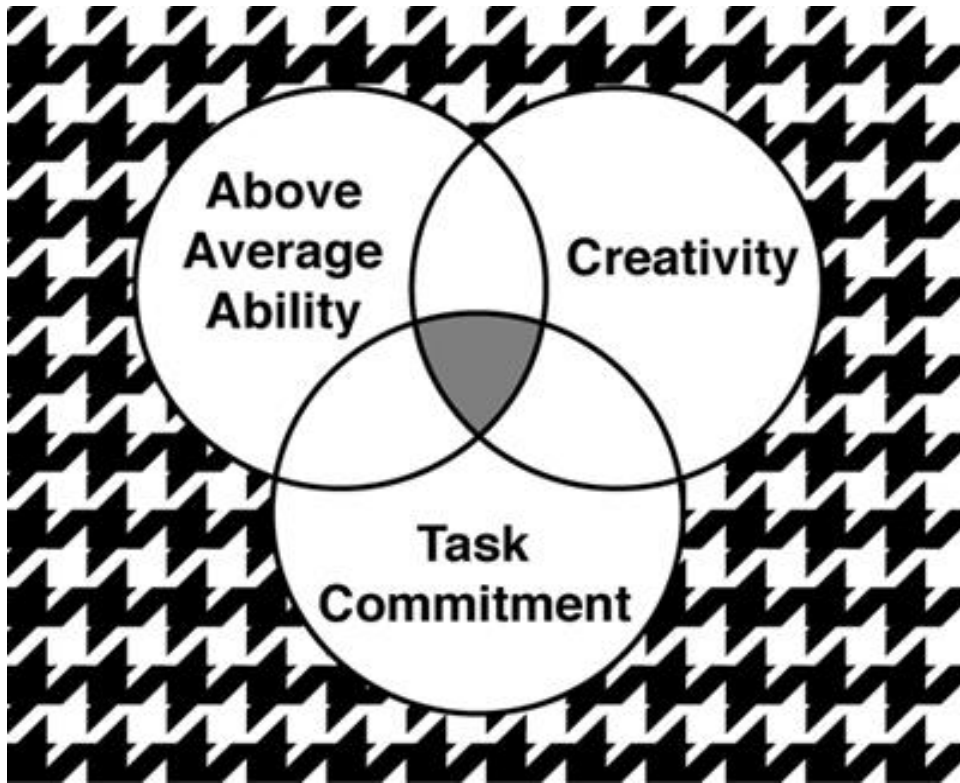
Graphic representation of Renzulli 3 Ring Conception of Gifted Behavior

Appendix B: Operation Houndstooth Intervention Theory

OPERATION HOUNDSTOOTH

OPTIMISM
• hope
• positive feelings from hard work

COURAGE
• Psychological/intellectual independence
• moral conviction

ROMANCE WITH A TOPIC OR DISCIPLINE
• absorption
• passion

SENSITIVITY TO HUMAN CONCERNS
• insight
• empathy

PHYSICAL/MENTAL ENERGY
• charisma
• curiosity

VISION/SENSE OF DESTINY
• sense of power to change things
• sense of direction
• pursuit of goals
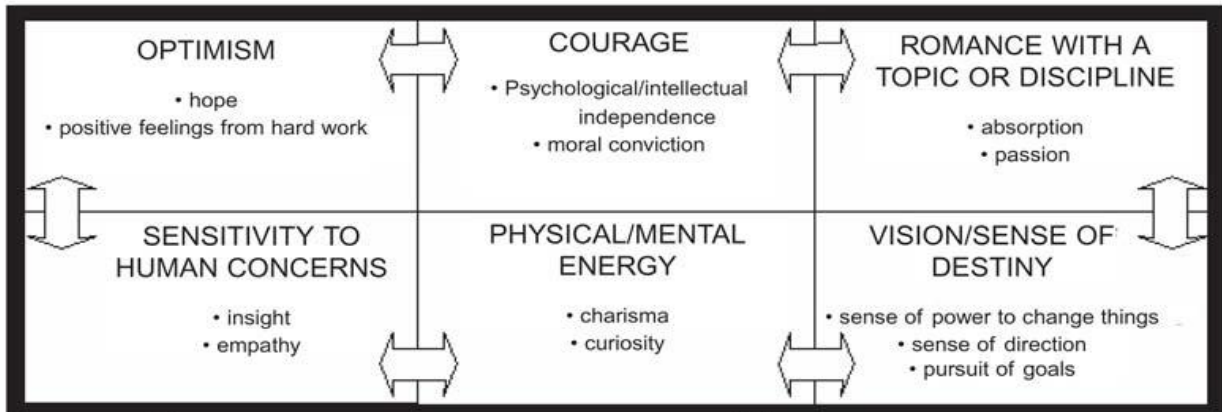
WISDOM
SATISFYING LIFESTYLE
THE PURSUIT OF HAPPINESS

diversity 差异性
balance 平衡
harmony 和諧
proportion 比例

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Appendix C: Operation Houndstooth Co-Cognitive Factor Scale (Co-CFS), Form F

6. **Please rate each of the following statements according to how much you agree or disagree. It is important that you <u>check one response</u> for every stem.**

   Think about a time when you were interested in <u>helping or giving to others</u> in some way when responding to each stem and record those responses within the context of that experience.

   As I respond to each of the following stems, I will be thinking about a time that I was interested in helping or giving to others, which is: (write on blank below)

   _____

	1 - Strongly Disagree	2 - Disagree	3 - Neither Agree Nor Disagree	4 - Agree	5 - Strongly Agree
a. I am motivated to improve the quality of life for other people.					
b. I have a strong sense about what I am meant to do in my life.					
c. I have always had a vision of what kind of person I want to be.					
	1 - Strongly Disagree	2 - Disagree	3 - Neither Agree Nor Disagree	4 - Agree	5 - Strongly Agree
d. I would volunteer to help those in need.					
e. I consider myself sensitive to the well-being of people I don't personally know.					
f. I expect good things to happen for me in the future.					
g. I support unpopular viewpoints					

when I believe they are correct.					
h. I am hopeful about my future.					
i. I have known from a very young age what my career path would be.					
j. I am willing to take risks to support something I believe in.					
k. I have a strong need to help others.					
l. At this point in time, I see myself as successful.					
m. I go out of my way to help people I see who are struggling.					
n. I would miss working on my favorite are of interest if I were no longer able to do it.					
o. I am intrigued by unanswered questions in my area of strongest interest.					
p. I want to keep learning about my favorite area of interest.					
q. I cannot imagine my life without working in my strongest area of interest.					
r. I am optimistic about my future.					
s. I know that in the future I will be doing what I was born to do.					
t. Even when I face setbacks, I am able to remain positive about my future.					
u. I have more energy than most people.					
v. When others tire of working on something I continue working.					
w. I stay physically or mentally focused longer than others.					
x. I consider myself energetic.					
y. I have the courage to maintain my beliefs in the face of opposition.					
z. I stand up for what I believe is right.					

Appendix D: Permission to Use and Publish Instruments

Dear Michelle,

You have my permission to publish any figures or instruments related to Houndstooth Intervention Theory.

Joseph S. Renzulli
--
Joseph S. Renzulli, Director
The National Research Center on the Gifted and Talented University of Connecticut Board of Trustees Distinguished Professor Raymond and Lynn Neag Professor of Gifted Education and Talent Development Winner of the 2009 Harold W. McGraw, Jr. Prize in Education

Appendix E: Open-Ended Items: Treatment

Identification Number: _____

Please check one:
                    Male _____
                    Female _____

Please respond to the following questions.

1. Why did you want to be a part of the peer leadership course?

2. What do you hope to learn/accomplish as a result of the peer leadership course?

3. Do you have a specific interest area in which you would like to focus your project?

Appendix F: Demographic Items: Treatment, Comparison, and Control

Identification Number _____
Please Check One:

        Male   _____

        Female   _____

Demographic Information

1. **Please estimate your overall grade point average (GPA) by checking the appropriate range:**
   - ⭕ All As
   - ⭕ Mostly As and Bs
   - ⭕ Mostly Bs
   - ⭕ Mostly Bs and Cs
   - ⭕ Mostly Cs
   - ⭕ Mostly below C

2. **Please estimate the number of Honors courses that you have taken while in High School:**
   - ⭕ 0
   - ⭕ 1-2
   - ⭕ 3-4
   - ⭕ 5-6
   - ⭕ More than 6

3. **Please indicate the number of Advanced Placement (AP) courses that you have taken while in High School:**
   - ⭕ 0
   - ⭕ 1-2
   - ⭕ 3-4
   - ⭕ 5-6
   - ⭕ More than 6

4. **Did you participate in any extracurricular activities (school-related or outside school) involving community service or volunteerism IN THE LAST SCHOOL YEAR (For example, volunteer fire department, church youth group, soup kitchen etc.)?**
   - ⭕ Yes
   - ⭕ No

5. **If yes, please estimate how many <u>hours per week</u> IN THE LAST SCHOOL YEAR were spent participating in community service or volunteering activities:**
   - ⭕ 0-1
   - ⭕ 2-3
   - ⭕ 4-5
   - ⭕ 6-7
   - ⭕ More than 7

Appendix G: Open-Ended Reflection Items: Treatment and Comparison

Treatment Group

<u>**Please Respond to the following questions.**</u>

2. **a. Describe your community change project. What steps did you take to complete it?**

    b. What were the outcomes?

    c. Were you able to focus on a specific area of interest? Why or why not?

3. **What was your motivation for choosing this project?**

4. **Did your experience in this program affect how you think about helping others? If so, how? If not, why not?**

5. **Within your community change project, which activities or experiences were most important to your learning? Why?**

Comparison Group

Please Respond to the following questions.

2. a. Describe any service projects you completed in Key Club this year. What steps did you take to complete it?

b. What were the outcomes?

c. Were you able to focus on a specific area of interest? Why or why not?

3. What was your motivation for choosing this project?

4. Did your experience in this program affect how you think about helping others? If so, how? If not, why not?

5. **Within your service project, which activities or experiences were most important to your learning? Why?**

Appendix H: Assistant Superintendent Permission to Conduct Study Using Passive Consent

Hi Michelle,

It was a pleasure meeting with you on October 18th. You are a wonderful addition to the doctoral program.

Per our conversation regarding obtaining parental permission, I gave you full permission to use passive permission where the parents would send the informed permission back only if they do not wish for their child to participate in the study.

Please let me know if you need anything else from me to support your study.

All the best,

_____

Appendix I: Principal Consent Form

Michelle Sands
Western Connecticut State University

Dear   ,

I am currently enrolled in the doctoral program for Instructional Leadership at Western Connecticut State University. This program requires that I design and implement a dissertation research study. Please accept this letter as my formal request for you to take part in this research study. This research will take place in the winter/spring of 2011.

The purpose of the study is to determine if co-cognitive factors can be internalized by students who initiate and facilitate social action projects. Co-cognitive factors are factors related to the development of student potential. The co-cognitive factors are optimism, courage, romance with a topic or discipline, vision/sense of destiny, physical/mental energy, and sensitivity to human concerns. Currently research studies have been conducted on the development of socially constructive behaviors, and the personal attributes that contribute to the development of a student's ability, creativity, and task commitment. There are also studies on the presence and distribution of the co-cognitive factors among high school seniors and juniors. However, there is limited research on whether or not students taking an active leadership role to bring about positive social change leads to the internalization of the co-cognitive factors.

This research study has been reviewed and approved by Western Connecticut State University's Institutional Review Board. Results of this study will enable educators to better understand the types of curriculum opportunities that can lead to the development of co-cognitive factors.

Participation in this study is completely voluntary. The surveys are coded to ensure that all responses will be held strictly confidential. Individual school identities will not be known to the researcher. Copies of the results of the study, as well as your school-wide results will be made available to you, please indicate below your interest in receiving your school's data.

If you have any questions, or would like further information about the study, please contact me via email at
Thank you for your cooperation and contribution to this research study. Please sign and return this form in the enclosed pre-addressed envelope, or indicate your consent to participate in the follow-up e-mail that you will be receiving shortly.

Sincerely,

Michelle Sands

Participant Signature_____ Date _10/18/10_

Appendix J: Sample Teacher and Advisor Consent Forms

Wednesday, January 5, 2011

Dear *Participating Teacher*,

I am a doctoral candidate enrolled in the Ed.D Program at Western Connecticut State University. You are invited to participate in my dissertation study, **The Impact of a Peer Leadership Program on High School Students' Social Capital, as Measured by Co-Cognitive Factors of the Renzulli Houndstooth Theory,** because you are a 12th grade teacher or advisor. The purpose of this study is to determine the impact of certain types of curricular experiences on students' character.

Should you decide to participate, you will be asked to allow the researcher to come into your class or club meeting twice to distribute a survey to your class or club members. The first administration of the survey will take place in January and the second will take place in June. The estimated time to complete the survey is 20 minutes. You will also be asked to distribute a parental permission form and maintain a list of students whose parents do NOT wish for them to participate. All student data will be confidential. No names will be collected on the surveys and their identities will be represented in my records and transcripts by a numerical code.

Your participation is completely voluntary. The only risk or inconvenience to you is time. The major benefit of the study is the potential gain in knowledge regarding how students' character is developed.

This research study has been reviewed and approved by Western Connecticut State University's Institutional Review Board (WCSU Approval # 1011-72). If you are willing to participate in this research, please sign the form on the bottom of this page, please place the signed form in the envelope provided and return to me as soon as possible.

Appendix K: Parent Passive Consent Form

Principal Investigator: Michelle M. Sands, Ed.D. Candidate

**Title of Study: The Impact of a Peer Leadership Program on High School Students'
Social Capital as Measured by Co-Cognitive Factors of the Renzulli
Houndstooth Theory**

Introduction

Your child is invited to participate in a study, The Impact of a Peer Leadership Program on High School Students*'* Social Capital as Measured by Co-Cognitive Factors of the Renzulli Houndstooth Theory that will be conducted in your school beginning in January of 2011. Your child is being asked to participate because he or she is a senior at Danbury High School.

Why is this study being done?

The purpose of this study is to determine the impact of curricular experiences on the development of certain characteristics (such as empathy and motivation). These characteristics are of particular interest, because they may be associated with helping a child learn how to become a better citizen and help others.

What are the study procedures? What will my child be asked to do?

Danbury Public Schools has agreed to participate in this study. However, your child's participation is completely voluntary. Your child will be asked to complete a survey that asks questions related to the development of these characteristics. The survey will be administered twice, once in January and again in June. In addition to the items provided, some basic demographic information (e.g. gender) will be collected.

What are the risks and inconveniences of this study?

This survey does not involve any risk to your child. Your child will not be identified by name and all data are confidential. The only inconvenience is the administration time (15-20 minutes).

How will my child's personal information be protected?

No identifying information will be on the survey (e.g. name, ID number, etc.) Only the researcher will have access to the surveys. Information on the surveys is confidential. Information on the surveys will be input for analysis into a password-protected computer.

If you do **NOT** want your child to participate in this study, please sign the attached sheet and return the form to your child's teacher by [date] to indicate that you do NOT wish to participate. If you decide to allow your child to participate, you do not need to return the form.

Whom do I contact if I have questions about the study?

The researcher will be happy to answer any questions that you may have about the study. If you have further questions about this project, please contact Michelle Sands at sandsm@northsalem.k12.ny.us. You may also contact the University of Western Connecticut State University Institutional Review Board (IRB) at 203-837-8563.

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Parental Notification Form

Principal Investigator: Michelle M. Sands, Doctoral Student

Title of Study: The Impact of a Peer Leadership Program on High School Students' Social Capital as Measured by Co-Cognitive Factors of the Renzulli Houndstooth Theory

If you do **<u>NOT</u>** want your child to participate, please complete and return this form to your child's teacher by [date].

Authorization:

I have read this form and decided that _____

(name of student)

will NOT participate in the study above. The general purposes, the particulars of involvement, possible risks, and conveniences, and benefits have been explained to my satisfaction. I understand that unless this form is returned, my child will participate in the study.

Signature _____   Date _____

Print Name _____   Relationship to Child _____

Appendix L: Student Assent Forms

Principal Investigator: Michelle Sands
Title of Study: The Impact of a Peer Leadership Program on High School Students'
Social Capital as Measured by Co-Cognitive Factors of the Renzulli Houndstooth
Theory
You are invited to participate in a study, **The Impact of a Peer Leadership Program on**
High School Students' Social Capital, as Measured by Co-Cognitive Factors of the
Renzulli Houndstooth Theory, because you are a 12th grade student. The purpose of this
study is to determine the impact of certain types of curricular experiences on students'
character.

Your participation in this study is completely voluntary, and will require that you complete
two surveys that will take approximately 20 minutes of your time. You will take the first
survey today and the second survey in a few months. The teacher will collect your survey
once it is completed to return to me. Your participation will be confidential.
These surveys do not involve any risk to you. However, the benefits of your participation
may impact education by informing educators in regards to effective school experiences for
the development of student's character.

You do not have to be in this study if you do not want to be. I will be happy to answer any
questions you have about this study. If you have further questions about this project or if you
have a research-related problem, you may contact Michelle Sands at
sandsm@northsalem.k12.ny.us or Dr. Nancy Heilbronner at heilbronnern@wcsu.edu. If you
have any questions about your rights as a research participant, you may contact the
University of Western Connecticut State University Institutional Review Board (IRB) at 203-
837-8563. The IRB is a group of individuals who review research studies to protect the rights
and welfare of research participants.
If you wish to participate in the study, please continue to the next page.

Appendix M: Example of Peer Leadership Program Student Proposal

Community Change Proposal
Community Festival to Help Shoe4Africa

Identify the Problem
1. What is the nature of the problem?

Shoe4Africa is a charity organization that started off with the simple goal of delivering shoes to people who live in the poorest regions of Africa. In countries like Kenya, Shoe4Africa's main beneficiary, something as simple as a pair of shoes can change lives. Diseases like hookworm are contracted through the feet, and children who walk the streets of the slums barefoot are most vulnerable. People have to walk miles for water and aid; many make this long journey without shoes. The running movement is huge in the peripheral countries of Africa; villages host races for peace, sponsor runners from their village to compete in other countries, empower women, and encourage athletic training as a way to promote general well-being. By donating shoes (both old and new), we can help others make better lives for themselves by stopping disease, promoting general health, and empowering many people. Money donations are just as valuable to non-profit organizations like Shoe4Africa; they ship the shoes directly to Africa, sponsor races and athletes, and are even working to build a new hospital there. Small changes and donations can be made that can make a world of difference for someone.

2. Who is affected? To what extent?

People living in the poor regions of Africa are the most affected by this problem. Many live in slums, where living conditions are awful; people are poor, living without food and clean water, in unsanitary conditions, and without health care or basic medical aid. Diseases, which can be fatal without proper medical attention, spread so quickly - mostly through contact with the skin, which is why basic protection like shoes is so needed. People there cannot afford the basis medical help, so by simply donating a pair of shoes and shipping them for just $7, you can easily prevent these diseases that can be detrimental to someone's life and family. As many people know, Africa is a continent wrought with civil war and internal conflict, so these poor villages, vulnerable to the violence going on around them, are trying to promote peace in anyway they can. The running movement is one way they are doing this. By hosting races and runners, they are doing simple things to promote the well-being of their village and their children. The only they need to do this is a pair of shoes.

3. Do others in the community share your view of the problem?

This is a problem so many people can connect with. Families know the importance of healthy and safe children. Runners can understand the importance of shoes and running. The general public know the importance of promoting peace in these conflict-ridden countries. Many people do not know about Shoe4Africa or all of the wonderful, simple things they are doing for the less fortunate. However, spreading awareness is one of the biggest steps in beginning the process to help them. We have already talked to many people who are interested in our cause, and, as said before, many people can sympathize with the problem at hand and are willing to help make a difference. The problem is so serious, it is easy for people to rally for the cause,

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and it is so easy to help, that many people are willing to do what they can to join the cause.

4. How long has this problem existed?

Countries in Africa have been some of the poorest, most exploited countries in the world for centuries. Diseases spread rapidly and millions live in poverty. People have been helping in their own small ways for decades, yet some people still refuse to acknowledge the problems there. Shoe4Africa was founded in 1995 and has since then been sending countless pairs of shoes over to help those in need. Their new projects include AIDS Awareness, women's empowerment, and the building of a brand new hospital in Kenya. They have sponsors who run the New York City Marathon, runners across the country supporting their cause, and more people are finding out about Shoe4Africa every day.

5. What has been done to address it in the past? In other communities?

In the past money and shoes have been raised by various means of charity organizations. Whether it be in a church group or put on by a local track team the goals of this mission are the same. Everyone is trying to raise shoes and money for the people of Africa. In the past people have spread awareness through videos, flyers and pamphlets within their community. Our project is a part of a movement and therefore is branching off of what other communities have done to help Shoe4Africa in the past.

6. If there have been other attempts at resolving the problem, why have they fallen short?

Attempts at solving Africa's health problems have fallen short in the past for a few reasons. One of which being a lack of funds. It costs a lot of money to raise donations as well as ship goods across seas. For some organizations it is a challenge to raise a significant amount of moeny. Many charities and organizations are discouraged by the costs and in turn loose motivation. Another problem that has been faced in the past is lack of knowledge. Not many citizens are aware of the true horrors accuring in Africa. If people are naive to what is going on they are unable to help work towards the common goal. By spreading awareness and inspiring others to take part in Shoe4Africa's movement we move one step closer towards resolving the problem.

Outlining possible solutions

1. Describe your overall vision (provide a detailed description)

Our overall vision is a huge festival located in   stadium. Everyone in the community as well as outside towns such as   or   are welcome to come join in for a day of activities, food and music. We will be hosting a 4x400m relay, 3000m race, a kids race as well as a walk-a-thon in order to raise shoes and funds. Each racer or walker will run/walk their race in a pair of shoes that they plan on donating. We are not just targeting experienced runners, you need not be a professional athlete in order to participate in one of the races. Although we plan on getting other running teams in the FCIAC on board, as well as the   boys and girls track teams. We are currently working on getting the Nike Running Van to come to the races. The Nike Running Van is well known within the running community and would promote runners to come out and participate in the races. The van would be educating people about the culture of running as well as promoting their own Nike products. Along with the races there will be African dance and music going on in the middle of

Hav?

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Who's performing?

the turf. The community will be able to jump in and learn African dance for themselves as well as enjoy music from local bands and the Tri-M Club. The National Art Honors Society will be show casing artwork from students as well as running craft tables, face painting booths and doing chalk art on the pavement. All the NAHS activities will be centered around African culture and Shoe4Africa's cause. Different clubs at   would be welcomed to come and set up their own booth to contribute their own variation to Shoe4Africa. Each booth will have a pamphlet centered around our cause. For example, Green Club could set up a table that informed people about the eco-friendly hospital that Shoe4Africa is currently building. We will be making announcement over the sound system throughout the day updating people on the amount of shoe donations as well as letting them know what activities are taking place. Food will be sold in the concession stand which will be run by volunteers from the Key Club as well as parental volunteers. Different vendors will be set up around the outskirts of the turf selling products that will contribute to the cost of shipping. Businesses that have sponcered us will be promoting their products at their own stations. Donation boxes will be set up around the track so that donors can easily drop off their shoes. To promote this day announcements will be said over the intercom at the beginning of first period two weeks before May 29. Currently we are working on a possible school-wide assembly with   in order to promote our cause, similar to the assembly last year for the project Kick For Nick. There will be signs posted around the community as well as in surrounding towns. The goal is to have as many people as possible come throughout the day to participate in a day of community fun. Police volunteers will be used to ensure safety and regulate parking. Our overall vision is to make this a day that people in the community will want to attend. It is meant to be appealing to all ages in order to attract as many donors as possible.

I like it!

2. Who is in a position to do something about the situation? If the support of others will be necessary, you need to explain who they are and how you plan to get them on board. (Identify community resources)

Everyone and anyone is in a position to do something about the situation. All we ask is for people of the community to donate a pair of lightly used or new shoes or simply just a money donation in order to help our cause. However we will be needing the support of many others in order to make this day possible and to ensure that it will run smoothly. We have already met with the athletic director, Mr.   , and have reserved the date for the athletic fields. The assistance of   will be needed in promoting our project to the students whether it be in the form of student announcements or in the form of a school wide assembly. We have met breifly with him and he is very enthusiastic about our project (it was his advice to have the racers run in the shoes that they donate). He has agreed to meeting with us in the future to help in our project.   , the boys track and cross country coach is working with us on liability issues. He has put on charity races of his own in the past and is able to assist us with the insurance and safety issues. Donations and sponsorships from companies such as RMI, Goodrich, Cendant, and GE will be needed to fund the large expenses of putting on the festival. We plan on communicating our proposal to these large companies through letters as well as personal meetings. Smaller companies such as the local running store Kilometers would help donate shoes as well as contribute to the shipping costs. Each of us has connections with various local businesses that we plan on targeting. We will pay each company a visit and present our ideas to them through either a pamphlet, letter or word of mouth. The support from the local fire department as well as policemen will be needed in order to ensure safety and

Will they?

handle parking.   dad is in the police force and we have a close friend who's father is fire
chief of the   street area fire department. Each parent is willing to work with us to figure out
volunteers. Grocery stores such as Stop and Shop and Costco will be needed to donate food for
the concession stand. These stores will be sent a letter which will try and convince them to make
food donations. Various teachers and club leaders will need to be contacted in order to organize
the contributions that each club will be making. We plan on telling the teachers and club leaders
what we are doing by presenting the cause to them as well as the benefits of getting their club
involved.

3. How will you call attention to this cause?

To tackle the problems that Africans are facing we will be collecting running shoes to
send to Shoe4Africa as well as fundraising to make a cash donation to the organization. We
will be holding our festival day, as described in the previous question, where races, crafts, food
sales, dancing, walks and races will all take place. The entry fee for the races will be a pair of
running shoes or a cash donation. We will also inform participants of our festival day of what
is going on in Africa by having pamphlets that relate to the craft they are completing, or the
activity they are participating in. For example, if NAHS has a table at our event on craft making,
we will have a pamphlet informing participants about the culture in Africa, to make connections
between the activities we are holding and what life is like in this country. Attention will be called
to this cause because people will be informed about what is going on in Africa and we will
be donating to Shoe4Africa in the process, raising awareness and accomplishing our goals.

4. Will your plan require funds to implement?

Our plan will require funds to implement. We are striving to receive donations from
corporations to cover the cost of shipping and handling for the shoes. Aside from that expense,
we will need to cover the costs for our purchases, such as T-shirts, etc. But, after the event is
held we expect to receive this money back. The cost for the stadium use and volunteers will
be free of cost, but our biggest expense will be shipping and handling. USATF will sponsor our
event, so liability will be free. We hope to receive food donations from companies, so primarily
the event will be at no cost to us. Our goal is to have all donations go directly to the organization
and the shipping of the shoes.

5. Will the plan require other workers or volunteers to implement? Who will they be? What
organizational structure do you plan to create?

Many volunteers will be needed for our plan. We plan on networking with not only the
track teams at   but also with other clubs and organizations at   , such
as NAHS and Green Club. Aside from student volunteers, we plan on networking to family
and friends outside from our high school to volunteer, such as police officers and fire marshals
that we already have prior connections with. The organizational structure of the event will be
further implemented, but we plan on having student clubs run the tables (crafts, etc.) that will
be taking place on the field, and adults running the walkathon event and relay events. The
volunteers for safety will be monitoring the general area and parents or adult volunteers for the
bake sale and concession stand. The three of us will be in charge of making announcements

and organizing volunteers on the day as well as making sure things are running efficiently and timely.

6. Do you expect any opposition to your plan? From whom? How will you combat it?

As of right now, our only opposition is earning the money we need to ship the shoes to Africa. We are aware that it is our biggest opposition, therefore we have already created a plan to combat it. We are targeting big corporations to donate money, specifically companies who reach out to the community. We are writing letters and meeting with managers and business executives to see how willing they are make a cash donation or product donation the organization Shoe4Africa. In attempt to avoid this opposition, we have already begun to tackle the problem, so we avoid running into this problem all together. Aside from this, we do not currently expect any oppositions, for we have already made many prepositional arrangements for this event.

We want to see these letters!

Appendix N: List of Community Change Projects Completed by Peer
Leadership Participants

List of Community Change Projects Completed by Peer Leadership Participants

Title of Event	Description of Event	Number of Participants
Karing for Kelly	Provided financial and emotional support for local child critically ill with leukemia. Organized a community dinner entertainment at a local restaurant that raised $20,000.00 dollars for the family of the ill child.	4
Holiday Helpers	Created and delivered Easter baskets for children who were in the hospital during Easter	3
Literacy Event for English Language Learners	Organized and facilitated a bi-lingual literacy event at a local school in conjunction with a book drive to provide students with 1,000 books for their homes.	3
_____ Memorial Scholarship Fund	Raised money to donate to a scholarship fund that had recently been established by the family of a former school student/athlete who died of cancer.	4
Leadership Training for at Risk Fifth Graders	Designed and implemented a leadership program for fifth grade students who were recommended before they transition to middle school	4
Shoe4Africa	Organized and facilitated a walk to collect 250 shoes and $1,000 for this cause.	3
Fireman Breakfast	Organized a breakfast to express gratitude to volunteer fire department in community.	3
Waiting for Superman	Organized and created a panel to view and discuss the film *Waiting for* Superman, which was attended by 30 community members.	3
Help Our Military Heroes	Organized a fundraiser to raise $180,000 for handicapped veterans with wheelchair accessible to purchase two vans.	4

Title of Event	Description of Event	Number of Participants
Fundraiser for Cystic Fibrosis	Organized a team of 20 members for community walk to raise donations for the Cystic Fibrosis Foundation; created gifted baskets for a school raffle, earning $1,200.	2
Freshman Orientation	Added a component to Freshman Orientation that encouraged incoming students to meet and sign up for sports and clubs available at the high school for the new academic year.	3
Unified Sports Track Meet	Organized and held a Unified Sports Meet for special education and regular education students.	3
Cut-A-Thon for Smile Train	Recruited local hair dressers and salon owners to participate in a Cut-A-Thon where proceeds benefited Smile Train Organization.	3
Dance for the Troops	Organized a dance for high school students in the school and other communities to benefit Fisher House (organization that provides housing for those who need medical care)	1
Field Trip for 3rd Grade Students	Created a field trip for third grade students who were studying local history.	2

Appendix O: Examples of Student Projects Completed by Key Club Members

Examples of Student Projects Completed by Key Club Members

Title of Event	Description of Event	Total Hours Earned for Participating in Event
Bake Sale	Raised money to fund Key Club.	6
Youth Service Basketball Tournament	Volunteered at tournament. Assisted with running event.	6
March of Dimes Walk	Raised $244.00 from donations and formed a team for walk.	3
Volunteering at Local Elementary School (Designated School In Need of Improvement)	Volunteered to assist in classrooms and provide tutoring.	2
Special Olympics (Annual Event)	Volunteered to assist athletes during their day at Special Olympics. This included assistance in navigating schedule, attending all sporting events, lunch, opening and closing ceremonies, and time between events as Olympic Town (an area of games and crafts when athletes are not involved in an event).	10
Children's Day (Community Event at Local Hospital)	Helped at community event. Assisting children with activities set up and clean up.	5
Multi-Cultural Fair Bake Sale for Haiti	Raised funds ($313.46) to benefit Haiti relief efforts.	6
TOPSoccer (Weekly Event)	Students attended weekly soccer practices with developmentally delayed youth.	2
Clean ____ Day (Town Cleanup)	Picked up litter for town cleanup day in honor of Earth Day.	4
Make Sandwiches for Local Homeless Shelter	Purchased supplies, made sandwiches, and delivered then to a local homeless shelter.	3

Title of Event	Description of Event	Total Hours Earned for Participating in Event
Blood Drive	Assisted in all aspects of assisting in a community Red Cross blood drive.	12
Italian Festival	Assisted with set up, clean up and activities at community Italian festival.	28
Women's Center Walk	Formed a team and collected donations ($179.00) for Women's Center Walk to address domestic violence issues.	3
Tutoring Students Living in Federally Subsidized Housing	Tutored disadvantaged students residing in federally subsidized housing on a monthly basis.	5
Collecting Can Tabs (monthly event)	Collected, sorted, and counted tabs for Ronald McDonald house.	Not Available
Trick or Treat for UNICEF	Collected donations for UNICEF's annual Halloween fundraising event ($110.98).	Not Available
Supplies Drive for Low Income Students	Assisted with the collection of and dissemination of school supplies for low-income students at community event.	Not Available
Collecting Tissues	Donated and distributed tissues for classrooms in the high school.	Not Available
Pies for Janitors	Baked and distributed pies to the custodial staff in appreciation for the efforts.	Not Available
Sock Drive	Collected and donated socks for community homeless shelter.	Not Available
Cards for Yale Children's Hospital	Distributed Valentine cards for children who are in the hospital.	1
Cleaning Desks	Assisted in cleaning student desks after school.	1

Title of Event	Description of Event	Total Hours Earned for Participating in Event
Valentine's Day Party for Residents of Elderly Housing	Organized and planned holiday party for residents of federally subsidized elderly housing complex.	1
Fight for the Homeless Community Project	Sold bracelets for the benefit of the local homeless shelter.	Not Available

Appendix P: Sample Entry, Audit Trail

Sample Entry, Audit Trail

Date	Activity	Reflection
1/15/2012	Met with Nancy for a writing session in 117A at WCSU. Revised Chapter Four and discussed triangulation of quantitative findings from Research Question 1 and Research Question 2 with Qualitative data from questions 3, 4, and 5	Concerned that I won't make deadline. Need to clarify types of projects that students in the treatment completed versus the comparison and include in write up of qualitative section.
1/17/12	Appointment with Nancy from 4-5 Discussed plan for creating table and relevant headings for Direct Involvement I and II projects for Chapter 3	Find documentation from Key Club and from Peer Leadership. Question for Nancy-hours will be available for Key Club but not comparison. Share data I do have and how I arranged it for with Nancy for Thursday's appointment.
1/19/12	Met with Nancy from 4-5. Discussion of Triangulation of Quantitative and Qualitative data for chapter 5	There seem to be specific patterns related to type and frequency of contact with the recipients of the services or volunteer efforts, particularly special needs.

Appendix Q: Script for Administration of Pretests and Posttests

Directions:

Hello, my name is Michelle Sands and I am conducting a research study. The purpose of this study is to determine the impact of curricular experiences on the development of certain characteristics (such as empathy and motivation). The information that you share with me today will be used in my thesis to describe which types of school experiences may lead to the development of factors that promote these characteristics in high school students. You will not be identified in any way. I will use random numbers to identify your information.

Your participation is completely voluntary. You do not have to take part in the study if you do not wish to, and you may withdraw at any time. If you choose to participate, you will be asked to respond to a 26-item survey and some open-ended questions. There is no time limit and there are no right or wrong answers.