

DISSERTATION

ALTRUISM AND VOLUNTEERING AMONG HIGH SCHOOL STUDENTS:

A MIXED METHODS STUDY

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ABSTRACT

ALTRUISM AND VOLUNTEERING AMONG HIGH SCHOOL STUDENTS: A MIXED METHODS STUDY

Twenty-first century skills require that students leave high school prepared for leadership by exhibiting selflessness and acting with larger community interests at heart. The role of altruism and volunteering among high school students who volunteered for a local Special Olympics event is examined with a mixed methods approach. An exploratory factor analysis of the Rushton Self-Rater Altruism scale (SRAS) is conducted to evaluate the existence of underlying factors present in the altruism scale. All questions of the SRAS loaded onto three factors, which are also verified by a scree plot analysis. Further analysis is conducted to determine if sex differences, grade level differences, and grade point average correlations among the total SRAS score and summated factor scores are significant. Sex differences are statistically significant for females in total altruism, low risk, and high-risk summated factor scores. There are no statistically significant differences between grade levels total altruism, or summated factor scores. Grade point averages (GPAs) are also not found to correlate with altruism scores, indicating that students with higher GPAs are not more altruistic than their peers with lower GPAs .

Qualitative coding and thematic analysis of written responses related to student motivations and benefits from volunteering is conducted. Eleven motivational codes and eight benefit codes are developed. These codes are then analyzed with quantitative analysis methods to determine if there are statistically significant sex and grade level differences in the reported

motivations and benefits of the volunteer experiences. Sex differences are statistically significant for females on the motivation code of volunteering for a social/friend connection, and are statistically significant for males on the motivation code of volunteering to fulfill a senior service/community service requirement. Grade level differences are statistically significant for sophomore students on the motivation code of volunteering for career exploration, and for senior students on the motivation code of completing a senior service/community service project.

While there are no sex differences amongst volunteers in relation to the benefits from volunteering, there are statistically significant differences for sophomores on the benefit codes of gaining skills/experience and a community connection. Junior students have statistically significant differences for the benefit code of a social/friend connection.

key words: altruism, volunteering, prosocial behaviors, twenty-first century skills, high school, adolescents

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DEFINITION OF TERMS

1. **Altruism:** “Social behavior carried out to achieve positive outcomes for another rather than for the self,” (Rushton, 1980, p. 8; 1982, p. 427).
2. **Egosim:** This perspective views all human motivations as self-serving, addressing the individual’s desire to obtain pleasure or avoid pain. Every act results in self-benefit. (Batson, 2002, p. 90; Sober, 2002, p. 19). “Social behavior carried out to achieve positive outcomes for the self rather than for another” (Rushton, 1980, p. 8).
3. **Volunteer:** “Freely giving of one’s labor and time without monetary compensation” (Wymer, 2011, p. 2). “Giving of time, talents, and skills, without pay” (Hayghe, 1991, p. 17).
4. **High School Students:** The volunteers in this study were students from a public high school enrolled in grades 9, 10, 11, and 12.
5. **Motivation:** “To be motivated means *to be moved* to do something... energized or activated toward an end” (Ryan & Deci, 2000, p. 54).
6. **Benefit:** “An advantage or a profit gained from something” (Schroeder, 2007, p. 205).
7. **Special Olympics Event:** In this study, the event was an annual track and field event for student athletes with disabilities from two school districts in Northern Colorado.
8. **Student Athlete:** A student with disabilities who competed in athletic competitions at the Special Olympics Event.
9. **Peer Buddy:** A high school student who volunteered for the Special Olympics event, and was matched up with a student athlete. The role of the peer buddy was to run athletic events, or stay with their assigned student athlete throughout the event, assisting them with navigating the layout of event, competing in all of their scheduled athletic

competitions, cheering for their assigned student athlete, eating lunch together, and engaging in socialization with the athlete to determine their likes, dislikes, and similarities.

CHAPTER I: INTRODUCTION

Background/Overview

Altruism is a prosocial behavior that can be linked to the twenty-first century skill learning outcomes that all students should obtain for post-secondary readiness. The Partnership for 21st Century Skills (2015) promotes the development of leadership and responsibility within the career and life skill student outcomes that are essential for success in the twenty-first century. The leadership and responsibility domains include specific outcomes for inspiring others by example and selflessness, and acting with larger community interests at heart. It is essential that comprehensive high schools create programming that provides students with opportunities to engage in altruistic and volunteer experiences as an experiential way to meet these outcomes.

Altruism, prosocial behaviors, and volunteering relate to one another within the theoretical construct of helping others in need (Büssing, Kerksieck, Günther, & Baumann, 2013). The research community has been studying altruism and volunteering among individuals mainly focuses on adults, college students, and young children (Berkowitz, 1972; Carlsmith & Gross, 1969; Chou, 1996, Emler & Rushton, 1974; Gergen, Ellsworth, Maslach, & Seipel, 1975; Hartshorne & May, 1928; Khanna, Singh, & Rushton, 1993; Long & Lerner, 1974; Miller & Smith, 1977; Rosenhan, 1968; Rushton, 1975; 1976; 1980; Rushton, Chrisjohn, & Fekken, 1981; Rushton & Teachman, 1978; Rushton & Wiener, 1975; Strayer, Wareing, & Rushton, 1979). Altruism is rooted in social psychology, which focuses on the individual motivations of humans. The social psychological perspective theorizes that individuals “act out of concern for our own well-being rather than out of any genuine or selfless concern for the welfare of others,” (Gantt & Burton, 2013, p. 441). This view of the selfish individual aligns with egoistic perspectives of individuals acting with “self-serving ends, such as getting peace of mind by avoiding shame and

guilt,” (Batson, Bolen, Cross, & Neuringer-Benefiel, 1986, p. 212). Egoism is presented in direct opposition to the individual’s capacity to act with purely altruistic intentions.

Rushton, Chrisjohn, and Fekken (1981) were not convinced that egoism could explain the intentions of individuals who make personal sacrifices to help others, and they explored the existence of an altruistic personality. Rushton proposed that egoism and altruism were not mutually exclusive, and theorized an altruistic trait could be found and measured among individuals. Rushton et al. (1981) developed the Self-Rater Altruism Scale (SRAS) as a tool to measure the presence of altruism through self-report questionnaires. Rushton (1980) maintains, “There is a ‘trait’ of altruism. Some people are consistently more generous, helping, and kind than others...there is an altruistic personality,” (p. 66, 85). For this study, altruism is defined as “social behavior carried out to achieve positive outcomes for another rather than for the self,” (p. 8).

The importance of volunteering, from a social perspective, has been well documented in literature. Volunteers contribute to program implementation and “without volunteers, many, if not most, social and community programs would cease to exist,” (Burns, Reid, Toncar, Fawcett, & Anderson, 2006, p. 81). This is significant because many programs in schools depend upon student volunteers. These programs, such as student council, student ambassadors, Key club, and National Honor Society, focus on welcoming students in the school community, helping incoming freshman and new students connect to the school, organizing school dances, school spirit days, bon fires, school unity days, diversity recognition events, community adopt-a-family Christmas, and Halloween trick-or-treating programs for children. All of these events require that students spend hours of time outside of the school day to organizing and hosting these opportunities for the school community. Community members, agencies, and other students

would not receive these program services without the support of high school volunteers. Burns et al. (2006) reported a connection between altruism and volunteering, specifically in regard to the motivations of college students who volunteer. Understanding the motivations of volunteers allows organizations to target their recruitment strategies. This aligns with the functionalist theoretical perspective of Katz (1960) that individuals volunteer to satisfy psychological and social motivations. These motivations can vary among individuals and situations; volunteers may engage in the same acts in order to satisfy various, and often, multiple individual motivations. Clary, Snyder, and Stukas (1996) created the Volunteer Functions Inventory (VFI) to identify the motivations of volunteers, which builds upon the functionalist perspective. These researchers developed six motivational functions related to volunteering: values, understanding, social, career, protective, and enhancement. Participants express altruistic values as a motivation for volunteering that fall within the values function. Altruism and prosocial behaviors are linked together in their mutual pursuit of valuing and helping others (Büssing et al., 2013, p.336). The extent to which others engage in altruistic activities can be enhanced by the experiences of the individual, and many volunteers express multiple motivations for volunteering (Clary et al., 1996). Volunteering, altruistic, and prosocial behaviors can be learned. Public schools are one of the major systems that contribute to socialization; they create opportunities for students to learn prosocial behaviors (Rushton, 1980).

Statement of the Research Problem

Schools can foster the development of prosocial behaviors, altruism, and volunteering by creating structured opportunities for students to participate in a variety of experiences that benefit others. Over the last four years, volunteer rates of students participating in an annual Special Olympics event hosted by a comprehensive high school in Northern Colorado have

steadily increased. Little is understood about the specific motivations of high school students who volunteer for this event. Understanding the motivations and perceived benefits of volunteering will help me use that information as a tool for recruiting volunteers, in addition to supporting the development of a variety of volunteer opportunities that meet the social and psychological goals of the volunteer. Information related to the motivations and perceived benefits of high school students who volunteer, and the identification of altruism among high school student volunteers, is lacking in current research.

Sex and age differences in altruistic behavior has been studied and reviewed with mixed results. Chou (1998) conducted an extensive review of literature and found evidence in support of, and against sex differences in altruistic tendencies. These conflicting results have become the catalyst for this research.

This mixed-methods study will examine the presence of altruism among high school students who volunteered for an annual Special Olympics event, along with their self-described motivations and benefits for volunteering. I hypothesize that there were age and grade level differences among the high school students who volunteered for this event. Historically, there have been more females than males who volunteer for this annual event, which lead me to the hypothesis that females in high school are more altruistic than their male peers. I also hypothesize that females and males have different motivations for volunteering for the event, and that they walked away with different experiences. I will use the results of this study to inform my professional practice to expand experiential and volunteer opportunities that allow students to demonstrate the twenty-first century skills of selflessness and acting with larger community interests at heart (Partnership for 21st Century Skills, 2015).

Research Questions

The research questions for this study are presented in three phases, aligning with the data analysis procedures. The first phase of data analysis is quantitative, the second phase is qualitative, and the third phase includes a synthesis of quantitative and qualitative data.

Phase I: Quantitative Research Questions

The first research question of the study is developed in order to examine the factor structure of the Rushton Self-Rater Altruism Scale (SRAS) through exploratory factor analysis. I hypothesize that the 20 items on the SRAS represent multiple concepts, which can be identified through exploratory factor analysis. A study conducted by Erdle, Sansom, Cole, and Heapy (1992) included a principal-components factor analysis of the combined questions from the SRAS, Emotional Empathy Scale (Mehrabian, & Epstein, 1972), and the Jackson Personality Inventory (Jackson, 1977). The results yielded two factors loadings. The first factor was interpreted as low-risk, low-physical strength altruistic behaviors, and the second factor was interpreted as high-risk, high-physical strength altruistic behaviors (p. 932). My own preliminary doctoral work completed in the summer of 2014 indicated similar findings.

RQ 1: What factors will emerge after validating the Rushton SRAS through exploratory factor analysis?

I developed the second question of this study in order to identify differences in altruism scores of high school volunteers by sex, grade level, and possible correlations with grade point averages (GPAs). The participation rates of females to males who volunteered for Special Olympics was 3:1, and since the literature is unclear about sex and age differences in altruism, I hypothesize that sex and grade level differences in altruism scores would be found among the volunteers. In addition, I hypothesize that students with GPA differences in altruism scores will

be found. Although GPA is not a measure of intelligence, correlations between GPA and altruism will add to the existing literature on intelligence studies using IQ scores conducted by Krebs and Sturupp (1974), and Millet and Dewitte (2007).

RQ2: What are the altruistic differences across high school student volunteer demographics, as measured by the SRAS?

- RQ 2.1 What is the difference in the total altruism and summated altruism factor scores between males and females?
- RQ 2.2 What is the difference in the total altruism scores and summated altruism factor scores between freshman, sophomore, junior, and senior students?
- RQ 2.3 What is the interaction between sex and grade level on total altruism and summated factor scores?
- RQ 2.4 What is the Strength of the Relationship Between GPA and Total Altruism and Summated Factor Scores?

Phase II: Qualitative Research Questions

I developed the third research question to understand the self-reported motivations and benefits from volunteering at the Special Olympics event. I will analyze written responses from volunteers, and hypothesize that multiple motivations will be identified from the responses, which is consistent with Clary et al. (1996).

RQ3: What are the reported motivations and benefits of high school students who volunteer?

- RQ 3.1 What are the reported motivations for volunteering?
- RQ 3.2 What are the reported benefits from volunteering?

Phase III: Mixed Research Questions

RQ4. To what extent does the explanatory qualitative data about high school students' reported motivations and benefits of volunteering combine with, or differ from, the quantitative altruistic differences reported on the SRAS help us understand altruistic behaviors among volunteers?

- RQ4.1 What is the difference in reported motivations between males and females?
- RQ4.2 What is the difference in reported motivations between Freshmen, Sophomores, Juniors, and Seniors?
- RQ4.3 What is the difference in reported benefits between males and females?
- RQ4.4 What is the difference in reported motivations between Freshmen, Sophomores, Juniors, and Seniors?

Study Delimitations

This study is delimited by its focus on high school volunteers from an annual Special Olympics event at one high school in Northern Colorado. This study is not designed to analyze all volunteer activities high school students could participate in, nor is it designed to be a comparative study with other high schools. This study is delimited by the sample being used. A convenience sample of student volunteers from the sponsoring high school is used in this study. Volunteer applications were collected by school personnel coordinating the event and analyzed. Finally, this study is delimited by using only one year of data from the 2014 event.

Study Limitations

Due to convenience sampling, the limited sample decreased the generalizability of the results in this study. The event committee chose the Rushton SRAS for measuring altruism as part of their volunteer screening process. The limitation of this choice is it is a self-rater form, but was chosen because of its ease of completion and scoring. The final limitation of this study is that written responses from volunteers are analyzed. Interviewing volunteers is not possible, as all student identifiers were removed from applications prior to data analysis.

Study Assumptions

My main assumption is that all students who volunteered for the event have completed all parts of the application honestly. I did not question the honesty of applicants in completing the SRAS, or in answering the open response questions regarding their motivations for applying and benefits received after participating in the event. I also assume that all volunteers were altruistic in their choice to volunteer to help with Special Olympics, that students volunteered for a variety of motivations, and would also leave with varied experiences from the event. In regards to sex, I am operating under the assumption that students will report their sex as either male or female. The sex with which the student identifies and reports is what I support in this study, and purposefully chose to avoid using the term gender throughout my research and dissertation. The application that students completed asks them to choose between male or female in their identification, instead of asking them to report their “sex” or “gender.” At the time that the students were applying to be volunteers, gender roles and gender identity, especially as it relates to transgender identity was beginning to be explored in my high school. I absolutely support every student and whether they identify as male or female, and it is assumed that if a volunteer

was transgender, they would report male or female based upon how they preferred to be identified.

Need or Significance

This study addresses several gaps in the existing literature related to altruism. First and foremost, a mixed methods approach to understanding altruism among high school students has not been conducted. I have chosen to focus the quantitative analysis on determining the factor structure of the Rushton SRAS through exploratory factor analysis, which has only been completed in one article for publication. After exploratory factor analysis, I will analyze the summated altruism and sub-factor scores for differences among grade levels, sex, and GPA. Existing research on altruism focuses on young children and adults, but there is a lack of information related to altruism among high school students. Additionally, there is a lack of qualitative information related to adolescent motivations and benefits received from participating in the altruistic act of volunteering. I will analyze the written responses from high school volunteers, in an attempt to determine possible themes that can be used for future volunteer recruiting efforts. In the final stage, the qualitative themes will be compared with the quantitative data, in an attempt to explain any quantitative differences. I will use quantitative analysis methods to determine sex and grade level differences between the qualitative motivation and benefit codes. Studies focused on altruism through volunteering with a high school student samples are missing from the current body of research.

The missing perspective in altruism research is that of a high school adolescent. It is unclear what altruistic differences exist among high school volunteers. It is also unclear if the information gathered from young children and adults can serve as a predictor of adolescent altruism. How does research on sex, age, and GPA apply to high school volunteers? A mixed

methods approach to studying altruism is lacking in the research. Qualitative responses from volunteers regarding their reported motivations for volunteering, and benefits received from volunteering have not been gathered and analyzed.

Quantitative differences are combined with qualitative analysis of volunteer responses. Together, the results will be applied towards recruitment of volunteers through targeted advertisements and fliers that will highlight motivations, benefits, and twenty-first century leadership skills of selflessness and a concern for the greater community. Selflessness is tied to volunteering in research (Carson, 1999). This study will contribute new information to the existing body of literature on altruism, as little exists on altruism among high school students. The analysis will help support the development of high school programs and recruitment strategies that encourage volunteering as a way to gain altruist experiences. Comprehensive high school programming that is targeted toward building altruism in students will help them obtain necessary twenty-first century skills required for post-secondary college and career readiness in the leadership domains of selflessness and acting with larger community interests at heart.

Researcher's Perspective

I grew up with disabled adults in my life. My mother worked for an adult disability provider, Comprehensive Systems, in my hometown of Charles City, Iowa. I watched her make relationships with the adults in the group homes, and found enjoyment in their company. Comprehensive Systems was a large employer in Charles City, and also had several group homes in Cedar Falls, Iowa, where I attended college. Although I worked a part-time job in the College of Business at the University of Northern Iowa, I also worked part-time for Comprehensive Systems. In their group homes, I helped adults with their daily living skills. I supported the adults with accessing the community, preparing meals, dressing, bathing, washing their clothing, and anything else that supported their independence. Most of all, I developed deep, caring

relationships with the adults and they made special places in my heart. Despite the difficulties in behaviors and aggression, I looked forward to seeing them and worked hard to make their lives better. Seeing their happiness contributed to my own happiness.

As I progressed through college, I graduated from the University of Northern Iowa with a Bachelor of Arts degree in Public Administration and Political Science. Upon graduation, I worked as a clerk of court in the Iowa House of Representatives for the 1997 legislative session. While this position taught me excellent research and organizational skills, I was disillusioned with the political process and decided not to continue my career in the political arena. While working part-time as a student in the College of Business, I spent most of my time in the Small Business Development Center (SBDC). A staffing position as project associate opened up, and I was hired to work with entrepreneurs who were starting and growing their businesses. For the next five years, I helped business owners write business plans and created financial pro formas in order to obtain government grants and business loans. The early 1990s ushered in the beginning of Internet businesses, and I was able to travel around the state of Iowa, teaching entrepreneurship and technology courses for women. While I enjoyed my opportunities to educate adults, I was not fulfilled in my work. An opportunity presented itself to move to Colorado in 2000, and I took it. I was able to take some time to reflect upon my life and determined that I love teaching, but missed working with adults with disabilities. I entered graduate school at the University of Northern Colorado (UNC) in Greeley, Colorado, and began working on my master's degree in special education. While in graduate school, I managed group homes and day programs in the adult disability system in Fort Collins, Colorado. I completed the practicum requirement of my master's degree at Rocky Mountain High School in 2003, and I graduated from UNC in May of that year.

In the fall of 2003, Poudre School District was opening a new high school, Fossil Ridge. I took an opportunity to help open Fossil Ridge, with the intent of creating a school that was focused on inclusion of students with disabilities in all areas. A team consisting of myself and two other special educators worked with the principal and teaching staff to integrate classrooms throughout the building. We were determined to start a school that did not have a “special education” wing, a school where you would not be able to determine which classrooms educated general education students, and which ones educated students with disabilities. Our mission continued to grow, and we were the first to implement co-teaching models in the high school, which allowed more students with disabilities to access general education environments and provided them more opportunities to learn along with their non-disabled peers. This focus continued as I moved in the positions of department chair and Dean of Students. During my second year as a Dean of Students in 2012, two colleagues approached me from Mountain View High School in Loveland, Colorado, with an idea to start a Special Olympics Track and Field event in Northern Colorado. Fossil Ridge High School was an ideal location, and work began with district leadership to host the event. My focus was still on inclusion, and I wanted to create an event that was almost entirely run with student volunteers. We set out to provide each student with disabilities at least one peer buddy without disabilities who would support their athletic participation, but most importantly serve as their friend and cheerleader throughout the day. The entire mission of the peer buddy was, and still is, to be a true friend. The buddies are responsible for making a personal connection with the athlete, helping them compete in each of their events, eating lunch with them, and then continuing the relationship at school after the event is over.

I believe all students benefit from experiences that allow them to help others, whether the person is providing the support, or is the recipient of the support. I have spent six years

coordinating the Special Olympics event, and have seen firsthand the joy that comes from students with and without disabilities competing and supporting each other in athletic events. Throughout those six years, I have watched the numbers of student athletes and peer buddy volunteers grow from 75 to over 600, and I believe there is a powerful story to be learned from the volunteers related to their reasons for volunteering, and the benefits they receive from volunteering. Additionally, understanding the demographic and altruistic differences among the volunteers can contribute to the development, and recruitment, of additional altruistic opportunities for high school students.

Finally, my personal philosophy of education is that a school setting that focuses on inclusion and provides opportunities for students with and without disabilities to socialize, support, and learn from one another is best for all kids. Providing opportunities for students to volunteer for events, such as Special Olympics, allows students with disabilities to represent their school in athletics competitions, and at the same time, allows students without disabilities the chance to understand the strengths and challenges that their disabled peers face each day.

CHAPTER II: REVIEW OF THE LITERATURE

Introduction

In order for students to attain the proficient twenty-first century skills, schools must provide opportunities for students to develop selflessness and a concern for their community (P21 Partnership for 21st Century Skills, 2015, p. 7). I have created a visual representation of the organizational structure of this review in Figure 1. In the first section of this literature review, *Altruism, Selflessness, and a Concern for a Greater Community*, I will present research related to the origins of altruism, followed by research on egoism, because it is presented as the opposite motivation of altruism in research. Next, I will present an alternative perspective that expands the discussion of motivation beyond a binary view of altruism and egoism, and focuses on a blended view of intended and unintended goals of motivation that align with selflessness and a concern for the greater community.

In the second section of this literature review, *Altruism in Research*, I will present a synthesis about altruism through research. First I will report on Rushton's work on the social learning perspective, empathy, and personal norms that serve as a foundation for his work on establishing the existence of an altruistic personality that can be measured. Next, I will focus on the SRAS that has been created by Rushton et al. (1981), along the Hindi and Chinese versions that have been adapted. I will then move into a review of the literature that examines the altruistic differences between sex, age, and intelligence. I will review intelligence, as it is the closest topic related to GPA and altruism in current research. Finally, I will review research focused on the role of altruism as a motivation for volunteering.

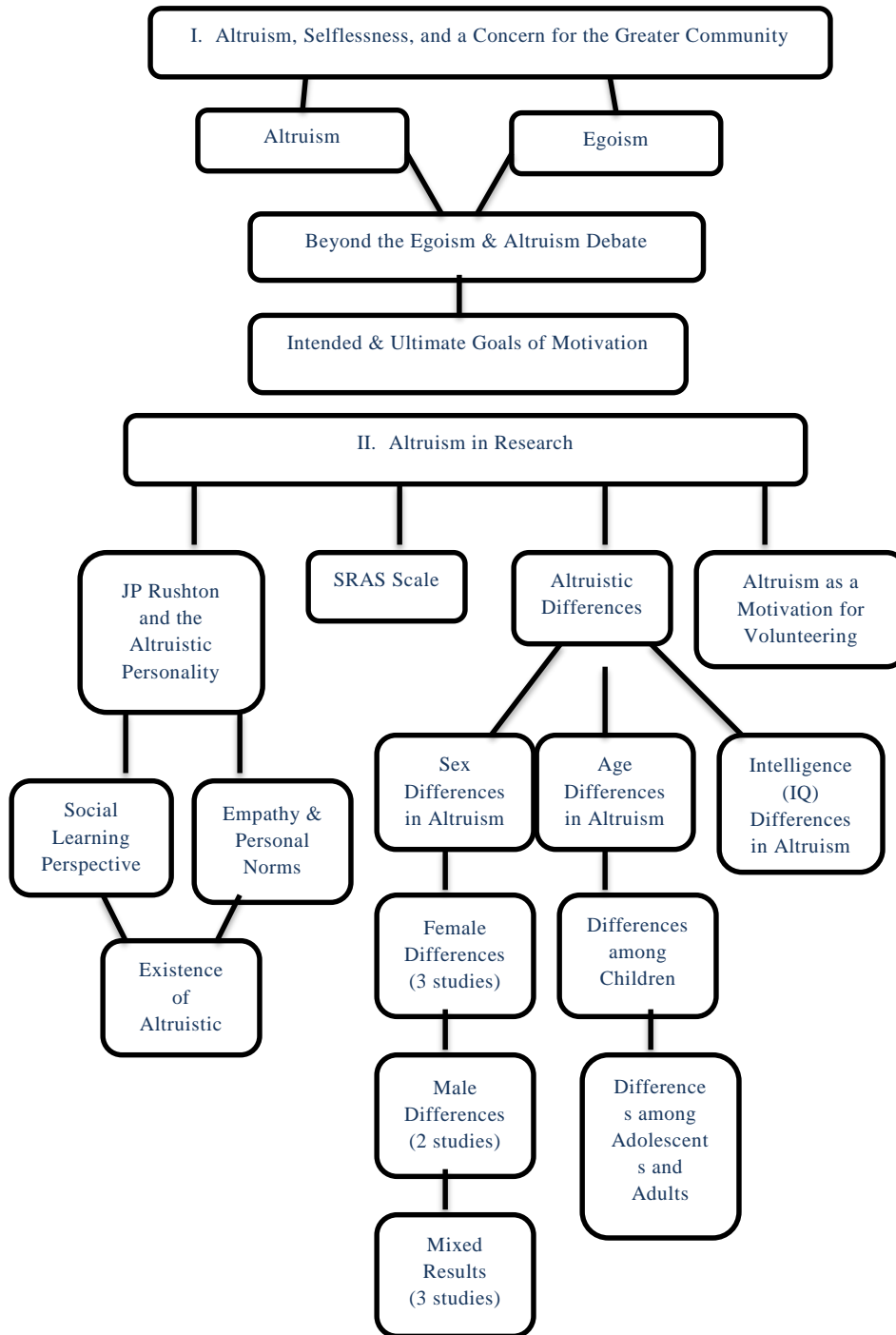


Figure 1. Organization of the literature review: Section I focuses in establishing the connection between altruism, selflessness, and a concern for the greater community. Section II provides a review of the literature on JP Rushton’s (1980) theory of altruism, the development of the

Rushton et al. (1981) SRAS scale, the altruistic differences found in literature that are related to sex, age, and GPA, and ends with research related to altruism as a motivation for volunteering.

Altruism, Selflessness, and a Concern for the Greater Community

Altruism

The term altruism first appeared in literature written by Auguste Comte (1875). Comte (1798–1851) is the founder of Positivism, a theoretical perspective that proposes through observation and experimentation, all knowledge is derived. Most of his work was dedicated to science, mathematics, and improving society. Comte is considered one of the first sociologists (Brown, 2003). Comte searched for scientific evidence, through observation, and concluded the welfare of society was dependent upon each person's actions. In order for society to sustain, the importance of others must be recognized so choices can be made which benefit the greater good. A key component of living is missed when individuals only live for themselves. Ultimate "happiness and worth" (Comte, p.566) depends upon our interactions with each other. In this context, altruism was first defined as "living for others" (p.566) and serves as the moral code of Positivism.

Comte (1875) recognizes the existence of egoism as the opposite motivation of altruistic behavior. Internal motivations to serve ourselves above the benefit of others exist in all humans, but he believed we could learn to act with the intention of helping others as the ultimate goal. Based on the Positivist view of living for others, he developed a classification system that included 10 motivations for behavior, which he categorized into seven main principles. He then further organized each of the motivations as personal/egoistic or social/altruistic classifications. I have presented Comte's alignment in Table 1, in order to help visualize the organization between motivations that he believes are self-serving and egoistic. Comte (1875) wrote although the "personal, egoistic motivations were internalized and automatic" (p. 726), a person was still

capable of thinking before they act. In this process, it is possible to choose to act altruistically despite the initial egoistic motivation. The principles of *Interests of Instinct*, *Interests of Improvement*, and *Ambition* include motivations that he believes to be self-serving and intrinsic in nature. The principles of *Attachment*, *Veneration*, and *Benevolence* include motivations that require each person to thoughtfully consider others in their actions and focus on the social/altruistic intentions, also establishing the first theorized motivations of altruism in literature.

Table 1
Comte's 10 Effective Forces

Principle	Motivation	Classification
Interests of Instinct	The Individual: Nutritive Instinct	Personal / Egoism
	The race: Sexual Instinct	Personal / Egoism
	The race: Maternal Instinct	Personal / Egoism
Interests of Improvement	Destruction: Military Instinct	Personal / Egoism
	Construction: Industrial Instinct	Personal / Egoism
Ambition	Temporal, Pride: Desire of Power	Personal / Egoism
	Spiritual, Vanity: Desire of	Personal / Egoism
	Approbation	
Attachment	Commitment	Social / Altruism
Veneration (Reverence)	Respect	Social / Altruism
Benevolence	Universal Love, Empathy	Social / Altruism

(Modified from Comte (1875) *Positive Classification of Eighteen Internal Functions of the Brain*, p. 594)

Levinas (1969) also provided a view of the selfless individual who is influenced by his/her social relationships. People identify themselves as mothers, brothers, husbands, neighbors, friends, and citizens. Much like Comte, Levinas proposes that the relationships people have result in feelings of obligation that cause them to live for another. Essentially, a “sense of self” (Gantt et al., 2013, p. 455) cannot exist without the connectedness to others around them. Levinas believes that the ethical human response is to help others. Responding to the needs of another is what defines people as selfless social beings, instead of selfish beings

who only seek to maximize their personal happiness. Commitment to help and care for others without expecting any rewards or direct benefit aligns with altruistic intentions that result when another person calls for help (Gantt & Burton, p. 455). In this context of altruism, selflessness and a concern for the greater community are aligned.

Egoism

A review of altruism would not be complete without a discussion related to the egoistic perspective of human behavior, because it is presented in contrast to altruism as a motivation for helping. Essentially, egoism is the desire to benefit the individual. Social psychologists Gantt and Burton (2013) theorized that individuals are only concerned about their personal welfare and act accordingly (p. 441). Bauman, Cialdini, and Kendrick (1981), Wegener and Petty (1994), and Hoffman (2001) reported individuals are inherently selfish and that essentially, selflessness does not exist. This view of the selfish individual aligns with egoistic perspectives of individuals acting with “self-serving ends, such as getting peace of mind by avoiding shame and guilt,” (Batson et al., 1986, p. 212). Egoism is presented in direct opposition to the individual’s capacity to act with purely altruistic intentions.

Psychological hedonism, considered to be a form of egoism, is used to establish the egoism-altruism debate. This perspective views all human motivations as self-serving, addressing the individual’s desire to obtain pleasure or avoid pain. Every act results in self-benefit. (Batson, 2002, p. 90; Sober, 2002, p. 19). Essentially, an individual may choose to help a person who is stranded on the side of the road because they want to reduce their own personal feelings of guilt or shame they might feel if they did not help. In other cases, an individual may choose to help the stranded person because they want to feel good about themselves. Helping

may also result in positive recognition from others, which contributes to their overall positive self-perception.

Beyond the Egoism-Altruism Debate

Several researchers (Batson, Duncan, Acherman, Buckley, & Birch, 1981; Batson & Shaw, 1991; Karylowski, 1982; Krebs, 1982; Krebs, 1970; Krebs & Van Hesteren, 1994; Rushton, 1976, 1980; Sharabany, 1984; Sober, 2002; Toi & Batson, 1982) provide an alternative view which challenges the binary view of the individual as either selfish (egoistic) or selfless (altruistic). Everyone has a little bit of both (Sharabany, p. 202), and most helping behaviors are a result of both intentions (Krebs & Van Hesteren, p. 104), along with intrinsic and extrinsic motivations (Batson, Fultz, Schoenrade, & Paduano, 1987, p. 595). Rather than debate the existence of egoism and altruism in humans, it is better to acknowledge that both traits are present, observe the behavior, and attempt to uncover the motives of the helper.

Rushton (1980) associated internal motivations and empathy as reinforcements for altruistic acts that were carried out based upon social or personal norms. If an act is intended to help others, and there is no intent for personal benefit or reward, Batson et al. (1986) believed this was enough evidence to view the act as altruistic (p. 213). Similarly, Krebs and Van Hesteren (1994) defined altruism by the motives of the individual, stating that priorities for self and others do not need to be mutually exclusive and both can contribute to the motivation of helping. Deciding to help may require that the person act upon their morals, principles, and values, while simultaneously evaluating the risks to themselves and the benefits for others (Krebs, 1987).

Intended and ultimate goals of motivation. As stated previously, altruistic and egoistic motivations are present in all people. Rather than debate the presence of egoism in human

motivation, examining the intended or *ultimate goal* is another way to define an altruistic act. Altruistic motivations could be used to meet *instrumental* and *ultimate goals* (Sober, 2002, p. 19) and psychological hedonism (a form of egoism) can present itself in *strong* and *weak forms* (Batson, p. 90). Sober's definition of the *instrumental goal* aligned with Batson's (2002) definition of the *strong form* of psychological hedonism.

In both of these definitions, the altruistic act is performed with the intent of relieving the personal stress of the helper. When the helper sees another person who is need, he/she experiences a high level of stress from watching the other individual who is in need. The intention of helping is to remedy the situation and eliminate the stress felt from not providing help. When altruism was the *ultimate goal* or when the *weak form* of hedonism was present, the altruistic act is performed with the intent of relieving the stress of the person in need. The intent of the helper is to remedy the situation so that the person in need doesn't feel bad any longer (Sober, 2002, p. 19).

Sharabany (1984) identified situations in which the *ultimate goal* is to help others, but in which the helper also experiences hidden rewards such as feeling good after helping. The hidden rewards do not overshadow the ultimate goal of helping and do not change the act from being altruistically to egoistically motivated. These concepts will be explored further in this chapter as it relates to experimental research conducted by Batson in over 25 studies of altruism.

Altruism in Research

In this section of my review of research, I will organize research related to altruism according to the variables in my study. Rushton's (1980) definition of altruism is the operational definition for this study; therefore work related to observing altruistic behaviors, defining possible motivations for altruism, establishing the existence of an altruistic personality, and the

development of the SRAS begins with him. After a review of Rushton's work, I present studies hypothesizing altruistic differences between sexes, age groups, and intelligence. Once again, I will report on intelligence as it is the closest variable to GPA that I can find in studies on altruism.

J.P. Rushton and the Existence of an Altruistic Personality

J.P. Rushton spent his career researching altruism. Rushton (1982) believed altruism existed in all humans and altruistic behaviors supported all communities. Rushton researched altruism from the social learning perspective, and then from the social biological and evolutionary perspectives, before focusing on the idea of a general factor of personality that could be measured in humans (Hur, 2013, p. 247). A search of Rushton's work resulted in over 352 publications. For the purposes of this review, I will only report findings from his work related to altruism from the social learning perspective because it aligns most closely with understanding the demographic altruistic differences and motivations of individuals who help others. The biological and evolutionary perspectives, which Rushton devoted much of his later work studying, do not align with my proposed study because they focus on altruism from a genetic perspective.

Social learning perspective. Rushton's (1980, 1982) view of altruism from a social learning perspective was based upon his belief that all societies function effectively when concern for others is valued (p. 425). Rushton cited examples of people who have helped those in need while fighting in military battles, donating money or vital organs, giving directions to strangers, volunteering time, and helping peers and teachers in the classroom. In all situations, the behaviors led to helping another person in need. Rushton hypothesized that an altruistic personality existed (Rushton, 1980; 1982).

In establishing the existence of an altruistic personality, Rushton conducted experiments with young children in school settings. In a study with children aged three to five years, Steayer, Wareing, and Rushton (1979) observed the play of six children. They coded approximately 20 hours of play activities and found that the children engaged in over 1200 altruistic acts, averaging 15 every hour. The altruistic acts included giving and sharing toys, helping pick up dropped items, helping to remove or button clothing items, and comforting classmates who were upset. After coding, the researchers classified behaviors into four categories of altruism: object-related, cooperative, helping, and empathic.

From this study, Rushton suggested that there were two motivations for altruistic behavior: empathy and personal norms (Rushton, 1980, p. 37). Rushton proposed empathy as being present when the helper's emotions match those of the emotions of the person in need. The helper observes the person in need and then tries to imagine what that person is feeling. Once the helper understands what the person in need is feeling, they are motivated to act.

Personal norms are the internal rules that guide a person's behavior (Rushton, 1984). Rushton (1980) indicated people's actions are guided by their internal beliefs about what is right and wrong. These internal beliefs become the person's norms for behavior, and he suggests that a person will change their behavior to align with their personal norms. While empathy and personal norms are theoretical constructs, it is believed that behavioral observations and experiments can be conducted to capture behaviors that aligned with these constructs, (Rushton, 1984).

Empathy and personal norms. Rushton (1980) hypothesizes that empathy will increase a student's motivation to help others. Rushton cited an earlier study conducted with students aged six to ten years. Students were awarded certificates for their own accomplishments, and

then offered the choice of using all of their certificates to purchase prizes or donating some of their certificates to orphans in need. The students were divided into two groups. The first group heard stories of orphans who had no parents, clothing, toys, or basic items. The second group did not listen to specific stories of orphans. The results of the study indicated when the specific needs of the orphans were discussed, more students donated their certificates (Roshenhan, 1968). Rushton later conducted similar classroom experiments with young children that provided evidence for the notion that positive reinforcement and modeling behaviors play a key role in increasing altruistic behaviors (Rushton, 1975; 1976; Rushton & Teachman, 1978; Rushton & Wiener, 1975).

Rushton (1980) suggested three categories of personal norms that guide altruistic behavior: social responsibility, equity, and reciprocity (p. 42). Studies conducted by Berkowitz (1972) and Carlsmith and Gross (1969) indicated people who unintentionally break social norms will engage in altruistic acts in order to repair their norm of social responsibility. In the first study, workers who thought their supervisor was dependent upon them were more likely to work harder and produce more. Here, the worker's norm of social responsibility led to an increase in their productivity because they perceived another person was dependent upon their actions (Berkowitz, 1972).

In the second study, participants believed they had administered either electrical shocks or loud buzzes to a student as a negative reinforcement for their incorrect responses. Afterward, the students asked the participants to help them with a task that seemed unrelated. Rates of helping were higher among the participants who believed they had administered electrical shocks to the student. In this study, the participants' sense of social responsibility led to increased rates

of helping because they perceived they had caused harm to the student (Carlsmith & Gross, 1969).

Long and Lerner (1974) and Miller and Smith (1977) conducted separate studies that provided evidence in support of the existence of the norm of equity. In both studies, children were given incorrect amounts of money after making a classroom purchase. Students were either given too much change, exact change or too little change. Results indicated children donated or shared with their peers more when they were given too much change. The children's norm of equity motivated them to give more and help others when they themselves had excess.

Bar-Tal (1976) and Staub (1978), after reviewing several studies, concluded people engage in reciprocal behaviors. Gergen, Ellsworth, Maslach, and Seipel (1975) conducted several such studies to examine the concept of reciprocity. Gergen et al. (1975) measured reciprocity among adults from Japan, Sweden, and the United States. In all three countries, when participants received financial donations, they reported higher rates of positive feelings about the donor when they were allowed to pay back the donor, than in situations where payback was not expected. Participants preferred situations that allowed for the norm or reciprocity to be utilized.

Batson, O'Quin, Fultz, Vanderplas, and Isen conducted a study in 1983 that examined the relationship between empathy and altruistic motivation. Their results indicated that participants who self-reported an empathetic, emotion response were more likely to help others as an altruistic motivation. A second part of their study also showed that even when costs to the participant were high, an altruistic response was seen when empathy was high.

The existence of an altruistic personality. After determining that altruistic behaviors could be observed and coded into categories, and then establishing two possible motivations for

altruistic behavior, Rushton (1980) set his sights on establishing the presence of a general altruistic personality. Once this was established, Rushton hypothesized altruism could be measured through self-report (Rushton, 1981). Establishing the presence of an altruistic personality that could be generalized to a variety of situations required that he begin to review research conducted by Hartshorne and May (1928) related to the “generality versus specificity debate,” (Rushton, 1980, p. 59). The study was conducted with over eleven thousand students from both middle and high schools. The students were given an extensive battery of assessments that included observational, paper-and-pencil, teacher rating, and peer rating methods. The assessment procedures measured altruism, honesty, self-control, persistence, moral rules, helpfulness, and the student’s ability to inhibit behavior (Rushton).

On the one side of the debate were Hartshorne and May (1928), who reported evidence supporting the specificity of behaviors. They hypothesized that if behaviors were specific to the situations that children encountered, the correlations between each assessment would be low. This is what they found when they analyzed their data. Between correlations of one behavioral test to another resulted in +0.20 correlation. On the other side of the debate was Rushton (1976; 1980), who, after reviewing the results from their study, believed the evidence could be used to support the theory of generality. Rushton hypothesized that behavioral assessment scores should be grouped together as one battery in looking for evidence in support of the generality of behaviors. When Rushton compared the correlations from the battery of behavioral assessments with the peer and teacher ratings of altruistic perceptions, the correlations increased to +0.61 (Rushton, 1980, p. 63).

Rushton (1980) concluded that when looking at the relationship between two specific assessments one could find evidence for specificity, and when looking at the relationship

between the averaged scores of the battery one could find evidence for generality. The situation and researcher's focus should determine which way to analyze the data. In the case of finding evidence for generality, looking at the assessment data as a battery would allow for the predictions to be generalized. Much like with reliability, the more data points that are used, the less chance there is for random error. Lower instances of random error allow for a more accurate representation of the person's behavior. (Rushton, 1980, p. 63). Based upon the theory of generality, Rushton concluded that an altruistic personality does exist and hypothesized that it could be measured through self-report.

Rushton, Chrisjohn, and Fekken's (1981) Self-Report Altruism Scale (SRAS)

Rushton et al. (1981) created a SRAS for the purpose of measuring altruism amongst individuals. This scale has been used to measure altruism in the United States and Canada, and has been translated into Hindi and Chinese versions. Throughout the development of the SRAS, Rushton and his colleagues administered the scale with college students from the University of Western Ontario. The SRAS is a 20-item questionnaire that asks respondents to indicate how often they have completed the altruistic act in question. Five possible responses to each question include: never, once, more than once, often, and very often.

Rushton et al. (1981) conducted three studies to evaluate the relationship of the SRAS scores with peer ratings, the predictive ability of altruistic responses, and the convergent validity the SRAS. Their results provide evidence for the psychometric stability of the SRAS. The SRAS scores of four student samples were collected and analyzed. Two initial samples of 99 students and 56 students were analyzed in the first phase, followed by the development of two additional studies. In these additional two studies, the SRAS scores of 118 students (sample 3) and 146 students (sample 4) were added to the psychometric analyses.

The mean scores, standard deviations, and coefficient alphas for internal consistency were reported. Means and standard deviations were comparable across samples. Coefficient alphas indicated high internal consistency, providing evidence that the altruism measure is reliable and the questions are measuring the same construct (see Table 2).

Table 2
Means, Standard Deviations and Reliabilities for SRAS Respondents

	Sample 1	Sample 2	Sample 3	Sample 4
Sample size	99	56	118	192
Combined mean	52.01	55.34	57.09	57.11
Standard deviation	10.12	10.46	8.89	11.70
Coefficient alpha	0.84	0.83	0.78	0.87
No. of males	36	27	39	64
Mean for males	52.30	55.15	55	56.29
Standard deviation	10.80	9.80	7.40	12.50
No. of females	63	29	79	82
Mean for females	51.80	54.76	57.22	57.75
Standard deviation	9.80	12.50	10.00	11.00

Adapted from Rushton et al. (1981) p. 298

Evidence in support of SRAS validity was gathered in the first study. SRAS scores of 118 students were correlated with peer ratings of how often the student engaged in the altruistic behaviors on the SRAS (*peer SRAS ratings*). SRAS scores were also correlated with peer ratings of how caring, helpful, considerate of others' feelings, and their willingness to make sacrifices for others (*peer global ratings*). Peer ratings were summed and averaged in order to find a composite rating for each student.

High internal consistency of all *peer SRAS* ratings was calculated for all respondents, indicating consistency among items was $r(416) = 0.89$ ($p < 0.01$). In addition, split-half reliabilities were calculated for students who had two or more peer rater responses, yielding significant results for interrater reliability of $r(78) = +0.51$ ($p < 0.01$) for *peer SRAS ratings*. Interrater reliability results of $r(78) = +0.39$ ($p < 0.01$) were calculated for *peer global ratings*.

While neither of the reliability measures is high, both set of results indicate there is some consensus among raters.

The second study measured whether the SRAS was related to eight other measures of altruism. Correlational evidence provided additional support for consistency of the SRAS to measure altruism. There were 146 students who completed the SRAS along with responses related to reading to blind persons, volunteering for an experiment for a “needy” experimenter, completing a first aid course, possessing a medial organ donor card, responses from the Sensitive Attitudes questionnaire of the Educational Testing Service (ETS) (Derman, French, & Harman, 1978), responses from the Nurturance scale of the Personality Research Form (PRF) (Jackson, 1974), emergency scenario responses, and responses from the Helping Interests on the Jackson Vocational Interest Survey (JVIS) (Jackson, 1977). Positive correlations were found between the SRAS and completion of an organ donation card ($0.24, p < 0.05$), Sensitive Attitude questionnaire scores ($0.32, p < 0.01$), Nurturance scale scores ($0.27, p < 0.01$), and responses to altruism scenarios ($0.32, p < 0.01$). The evidence provides support for validity of the SRAS measure related to additional measures of altruistic behaviors. (Rushton et al., 1981, p. 298-299).

The third study examined the relationship between the SRAS scores and scores from the Social Responsibility Scale (Berkowitz & Daniels, 1964), the Emotional Empathy Scale (Mehrabian & Epstein, 1972), the Social Interest Scale (Crandal, 1975), the Fantasy-Empathy Scale (Stotland, 1978), the Machiavellianism scale (Christie & Geis, 1968), the Rokeach Value Survey Form C (Rokeach, 1973), the Nurturance Scale of the Personality Research Form (PRF) (Jackson, 1974), and the Defining Issues Test (Rest, 1979). Positive correlations between the SRAS scores and the Social Responsibility Scale scores ($0.15, p < 0.01$), the Emotional Empathy Scale scores ($0.17, p < 0.01$), the Fantasy-Empathy Scale scores ($0.20, p < 0.01$), the Nurturance

Scale scores ($0.28, p < 0.01$), Rokeach's Value scores ($0.14, p < 0.05$), and Defining Issues Test scores ($0.16, p < 0.01$). In addition, a negative correlation was found between the SRAS scores and the Machiavellianism scores ($-0.13, p < 0.05$). Finally, the SRAS scores were positively correlated with the composite scores of all measures ($0.44, p < 0.001$). In total, the scores indicate that knowing how a person responds on the SRAS provides "greater than chance" possibility that they will engage in the act of altruism (p.299).

Interpretations from all results are used to justify the psychometric stability, internal consistency, and validity of the SRAS as a measure of altruism. Rushton et al. (1981) maintain that this evidence supports the notion of a trait of altruism that can be measured; however, they suggest the format of the questions may limit responses because it focuses on altruistic acts that have been completed. Recommendations for future use include allowing alternative responses that ask the respondent *what they would do* if they were in the situation. These recommendations will be implemented in the methods section of my study.

Hindi and Chinese versions of the SRAS. Rushton, et al. (1981) created the 20-question SRAS and provided support of psychometric stability, internal consistency, and discriminant validity of the measure. I include this section in my literature review to provide additional support for its usage and validation of the SRAS scale. Additionally, I adjusted the wording to allow high school students to answer questions in relation to what they would do if they were presented with opportunities, and not just upon what they had actually done. Question six of my application is an example of this change. In my application the question reads: I have donated (or would donate) blood. This change allows for students who are under 17 years of age to report about their intentions to help if presented with the opportunity. I will expand upon this further in the methods section of my dissertation. This similar adjustment was made to the Hindi

versions, and therefore, helps support my decision to adjust the wording in my volunteer applications.

In 1993, Khanna, Singh, and Rushton used the SRAS to create a Hindi version that could be used in research conducted in India. The researchers incorporated recommendations from Rushton et al. and adapted the scale to include responses from participants about what they would do if they were presented with certain situations. In addition, they made cultural adaptations to reflect appropriate terminology and optional he/she sex responses. These adaptations are illustrated in the first question of the SRAS that reads, “I have helped push a stranger’s car out of the snow.” On the Hindi version of the SRAS this question was adapted to read, “A stranger’s scooter is stuck in a pit. Would you help him/her take it out?”

Ten college professors served as judges to review each question to determine appropriate translation. In addition, 100 bilingual college students from the Maharishi Dayanand University completed both versions of the SRAS. In order to control for possible language difference effects, respondents were broken into two groups. Respondents in the first group completed the Hindi version followed by the English version, and the second group completed the SRAS versions in reverse order. Results indicated males and females attained higher mean scores ($M_{\text{HINDI}} 73.39$, $M_{\text{ENGLISH}} 51.89$) and lower standard deviations ($SD_{\text{HINDI}} 12.04$, $SD_{\text{ENGLISH}} 17.60$) on the Hindi version of the SRAS scale compared to the English version. Mean differences among the measures indicated significant differences between the measures as indicated by their *t-test* scores (10.09 , $p < 0.01$). This difference was attributed to the different formats and the adaptations of the questions. Khanna et al. (1993) reported high correlations among all altruism scores and concluded that this evidence supported the similarity between the Hindi and English versions.

Internal consistency of the Hindi version was measured by correlating the Hindi scores, and indicated consistency among respondents and similarity among items. SRAS composite score correlations of all 100 respondents was 0.83. Correlations between each of the 20-items were 0.46, 0.38, 0.55, 0.45, 0.40, 0.50, 0.40, 0.66, 0.43, 0.54, 0.40, 0.19, 0.48, 0.41, 0.32, 0.39, 0.54, 0.33, 0.18, and 0.51 respectively (p.269). Split-half reliability was 0.73 and test-rest after 40 days was 0.72, both providing additional support for internal consistency.

Additional support for the validity of the Hindi SRAS version was also presented through criterion validity measures. Hindi SRAS scores were significantly, positively correlated with peer ratings ($r = 0.60$, $df = 23$, $p < 0.01$). In addition, the Hindi SRAS scores were positively correlated with another Altruism Scale developed by Rai and Singh (Khanna et al., 1993, p. 268). Correlations of composite scores were $r = 0.42$, $df = 23$, $p < 0.01$).

In 1996, Chou translated the English Hindi version of the SRAS into a Chinese version for his use with high school adolescents in Hong Kong. He analyzed the results collected from 247 individuals aged 11 to 28. The English version Hindi SRAS was adapted to expand possible responses from five to seven options: never, very rarely, a little of the time, some of the time, a good part of the time, very frequently, and all of the time. After he divided the responses into two groups, he used the results from the second group to confirm findings from the first group. He conducted these measures to help ensure that the translated version of the SRAS was reliable and valid.

Chou (1996) continued his validation of internal consistency of the Chinese version of the SRAS (C-SRAS) by calculating a coefficient alpha of 0.858 ($p < 0.01$) and split-half reliability alpha of 0.822 ($p < 0.01$). The results from the second sample served to validate the initial findings, and were 0.86 and 0.79 ($p < 0.01$) respectively. The C-SRAS was further

validated by correlating the C-SRAS scores with the Child Altruism Inventory (CAI) scores and peer rating of global altruism used by Rushton et al. (1981). The correlations between the C-SRAS scores and the CAI empathy and norm scores were 0.22 and 0.30 ($p < 0.01$) respectively. The correlations between the C-SRAS scores and peer global ratings of caring, helpfulness, considerate of others' feelings, and willingness to sacrifice for others, were 0.57, 0.53, 0.54, and 0.50 ($p < 0.01$) respectively. All of this evidence was used to provide support for the validity of the C-SRAS.

Altruistic Differences

Sex differences in altruism. The social role theory indicates sex differences can be predicted in instances of helping behavior. Men and women engage in helping through the stereotyped behaviors that are presented in our culture (Eagly & Crowley, 1986). Social role theories predict women help more in situations where the person in need is a close personal acquaintance who is in need of an empathetic, nurturing response (Eagly & Crowley; Rushton, 1980). Eagly and Crowley evaluated the social role theory in sex differences and found men can also be predicated to help in situations involving high personal risk to physical or emotional safety, essentially taking on the role of the hero.

If social role theory is correct, then it is hypothesized that sex differences in altruism can be measured. This review of research will begin with general findings from two literature reviews and one meta-analysis, before delving into eight individual studies examining sex differences in altruistic experimental settings. A selection of studies from 1964 through 2008 conducted with children and adults will be presented. Unfortunately, there have not been any studies conducted which measure sex differences of altruism among adolescent, high school students, which is the population being studied in in this research. The literature also lacks

studies that were designed to test solely for sex differences in altruism as a specific variable measured through self-report. Sex is one of the independent variables of my proposed study, so I will present studies that are based upon their potential to help inform the design, analysis or interpretation of my results.

Krebs (1970) and Piliavain and Charng (1990) conducted a review of literature on altruism and found that sex differences in altruism are mixed, but overall differences favored females. Krebs found no sex differences in 10 of the 15 studies he reviewed. Of the five studies that found sex differences, none of them were statistically significant ($p < 0.05$). All five of these studies measured altruism by recording the number of incidents of sharing and giving among elementary age students. In three out of five of the studies, female students were found to share and give more than their male counterparts (Bryan & Walbek, 1970; Floyd, 1965; Grusec & Skubiski, 1970; Rosenhan & White, 1967; White, 1967). While these studies indicated sex differences, each of them reported a variety of experimental conditions that involved charitable modeling of altruistic giving by adults or reciprocal sharing amongst peers; thus making it difficult to generalize the results to situations where these variables were not present.

Eagly and Crowley (1986) conducted a meta-analysis of sex and helping behavior. In their analysis, they reported that when sex differences were found, they aligned with social role theory. In their review of 171 studies, sex differences favored males, especially in earlier studies (p. 21). In all studies, only 99 reported effect sizes along with the frequency of helping. In all studies, counting methods were used for statistical analysis. Men helped more than women in 62% of the studies. Of the 99 studies that reported effect sizes, 58 indicated a positive effect size in the direction of males, however, it is important to note that 17 of these 58 studies yielded small effect sizes of $< .20$ (Eagly & Crowley, p. 10-14).

Men were associated with greater incidents of helping in situations involving high risk or danger either to the participant or the victim. The experiments were designed for controlled situations with short-term contacts of those in need of help, many times in situations involving personal physical or emotional risk to the participant. The social role theory and stereotype studies align with these variables (Eagly & Wood, 1985, p. 229), and report that men are more willing to take risks and help under circumstances with high danger, while women increase helping in situations involving helpfulness and compassion. The social role theory also predicts that men are more willing to help in instances where the person in need is either a stranger or a close companion, however, women are more likely to help close companions than they are strangers (Eagly & Crowley, 1986, p. 4).

In Table 3, I have presented a simplified format that explains the key aspects of eight studies reporting sex differences of altruistic behaviors. I have chosen to present three studies where sex differences favoring females have been found, two studies where sex differences favoring males have been found, and three additional studies where the sex differences were mixed in their results. I will provide further details about each study in the following sections, but will summarize the results provided in the table.

In the first study where female sex differences were found, the dependent variable of sharing was impacted by the independent variables of model nurturance as a method of presenting information to the participants, along with sex and grade level of the participants. The results indicated that model nurturance influenced the sharing behavior of females (Grusec & Subiski, 1970). In the second study, helping was the dependent behavior, and was influenced by the independent variables of related to the cost of helping and sex. The results contradict social role theory, and indicated that females helped more in higher cost scenarios (Austin,

1979). In the third study, the independent variable of altruism was impacted by the independent variables of reputation of the helper and the behavioral helping tasks being completed by the helper. Here, females were found to have higher reputations of helping, and when sex differences were found in completing helping tasks, they favored females (Shigetomi et al, 1981).

In the first study that favored male sex differences, the dependent variable of sharing behavior was impacted by the independent variables of need for approval and reciprocal sharing. The findings indicated that males shared more in situations where they felt a higher need for approval and when they experiences higher incidents of reciprocal sharing from another peer (Staub & Sherk, 1970). In the second study, the dependent variable of helping was influenced by the independent variables of the country where the students from each sample live in, the sex of the participant, and the level of sacrifice, or cost of helping. Overall, males helped more in situations involving higher potential physical effort or pain (Johnson et al., 1989).

In the final three studies, both male and female sex differences were found. In the first study, conducted by Schopler and Bateson (1965), the dependent variables of volunteering and giving, which they titled yielding, to the person in need, which they termed the benefactor, were influenced by sex, cost of helping, and the level of dependence of the benefactor. The results of one experiment in their study indicated that females chose to help more in higher cost situations if they felt the benefactor was more dependent upon their help, and males helped more in higher cost situations when the benefactor was less dependent upon them for their help. In their second experiment, the same variables were being measured, however, the cost to the helper and the benefactor was potentially financial instead of physical. In this experiment, females gave more money in high-cost situations, while males gave more money in low-cost situations.

In the second study that indicated missed results of sex differences, the dependent variable of helping behavior, was influenced by the independent variables of sex and level of risk. In this study, the SRAS was used (Erdle et al., 1992). Females scored higher on helping behaviors that were low-risk, while males scored higher on high-risk helping behaviors. The final study indicating mixed sex differences, the dependent variable of altruism was impacted by sex and type of college program that participants were enrolled in. The researchers could not find any differences when they completed their quantitative analysis, but did find that in their qualitative analysis, females spoke more about the role of individual relationships have on their willingness to help other, while males spoke more often about contributing to society as a whole (Byrne, 2008).

Table 3
Reported Sex Differences

Year	Researcher(s)	Dependent Variable	Independent Variable(s)	Sex Difference Found?	Findings
1970	Grusec & Skubiski	Sharing	Model Nurturance, Presentation Method, Sex & Grade	Females	Model Nurturance Influences Sharing
1979	Austin	Helping	Cost of Helping & Sex	Females	Contradictory to Social Role Theory
1981	Shigetomi et al.	Altruism	Reputation & Behavioral Tasks	Females	Reputation and Behavioral Task Discrepancies
1970	Staub & Sherk	Sharing	Need for Approval, Reciprocal Sharing	Males	Sharing Influenced by Perceived Fairness
1989	Johnson et al.	*Helping	Sample, Sex & Sacrifice	Males	Type of Risk Impacts Helping
1965	Schopler & Bateson	Volunteering & Yielding to the Benefactor	Sex, Cost & Dependence	Mixed	Sex & Dependence Interaction Effects
1992	Erdle et al.	*Helping behavior	Sex & Risk	Mixed	Type of Risk Impacts Helping
2008	Byrne	*Altruism	Sex & Program	Mixed	Societal vs. Individual Motivations

**Rushton, Chrisjohn, & Fekken (1981) Self-Report Altruism Scale used*

Female sex differences study #1. Four of the eight studies presented findings that provided evidence of sex differences that favored females. In 1970, Grusec and Skubiski designed a study to measure the effects of model nurturance on sharing. In this study, 15 male and 15 female third grade students, and 25 male and 25 female fifth grade students participated in the study. The first independent variable was model nurturance. In order to create a high nurturance condition, the model interacted directly with the students through friendly play. In

the low model nurturance condition the model did not interact with the student and read his book while the child played. The second independent variable was the method of presentation. In the *performance* method, the experimenter played a bowling game and modeled the sharing behavior. As he won marbles, he placed one in a bowl for poor children who did not have toys and one token in a bowl for him. In the *verbalization* method, the experimenter explained the bowling game to students and indicated that it was expected to share marbles with the poor children by suggesting they donate one marble and keep the second. The number of marbles shared was tallied. After the researchers reviewed the analysis of variance, they concluded that there was a main effect for presentation method; indicating all students donated more when exposed to the *performance* method versus the *verbalization* method ($p < .02$). Grusec and Skubiski (1970) also found an interaction effect between nurturance, method of presentation, and sex ($p < .05$). Their analysis of the mean scores revealed that girls in a high nurturing, *verbalization* condition scored higher than all males or females in all other high nurturing conditions. The hypothesis that high nurturing conditions would decrease sharing behavior was not supported. There was, however, evidence in support of model nurturance, especially with girls.

Female sex differences study #2. Austin (1979) conducted two pilot studies and one field experiment to determine if the cost of helping and cost of not helping influence a person's willingness to help. In each of the studies the same procedure was used. College students sitting alone on campus were randomly selected. The students were asked to watch a stranger's belongings for a few minutes. If the person did not agree to watch their belongings, and the student came back to find their items had been stolen, this would create a high cost scenario of not helping, and the person would face personal guilt and anger from the stranger upon their

return. The cost for not helping was also varied by the type of items stolen; calculator versus notebooks and pencils. The costs of helping were varied by the perceived personal risk of physical injury and/or shunning from the thief if the items were not actually being stolen during the confrontation. These two variable manipulations created a high/high cost of helping and not helping scenario.

In a similar study conducted earlier by Austin and McGinn (1977), it was found that males considered cost avoidance most in helping situations; quite literally avoiding the situation was their first consideration. Women reported that relationship and interpersonal feelings were considered most. Based upon his previous study, Austin predicted more people would help in high cost situations, and that females specifically would help more in all situations because of their “greater sensitivity to interpersonal harmony,” (Austin, 1979, p. 2112).

In both of the pilot studies, no statistical sex difference for helping was found among the subjects, however females helped at a slightly higher rate in pilot #1 and males helped at a slightly higher rate when cost to the victim was high in pilot #2. The sex of the thief was altered in pilot #2, however this did not yield statistically significant differences in responses of male and female subjects. In the field experiment, it was hypothesized that all subjects would help more in high cost to victim situations, but females would strive to maintain interpersonal harmony, and therefore would help more in low cost situations.

There were 352 male and female college students who participated in the study. The two main hypotheses of the study were confirmed: all subjects helped more when the cost of not helping was high ($p < .001$). An interaction effect ($p < .001$) of sex and cost of not helping indicated that females helped most overall, but especially in low cost situations.

Female sex differences study #3. The final study that yielded statistically significant female sex differences of altruistic behavior was conducted in 1981 by researchers Shigetomi, Hartmann, and Gelfand (1981). Through their review of studies, they concluded females are thought of as being more altruistic than males (p. 434), but the researchers wanted to design a study to compare the actual helping behaviors of students with their altruistic ratings by teachers and peers. Shigetomi et al. (1981) replicated the 1929 study conducted by Hartshorne, May, and Maller (1929), which concluded no sex differences were found among helping behaviors, and concluded although females are more often thought of as being more altruistic, their behaviors do indicate an actual altruistic difference.

A total of 279 males and females from fifth and sixth grade classes from four elementary schools participated in the study. Teacher and peer ratings were collected for each student, along with data from six behavioral tasks. It was hypothesized that female students would have higher reputations for altruism, and if sex differences in altruistic behavior were found, they would favor females. Composite reputation and behavioral scores were calculated. Statistical sex differences were found for female reputations ($p < .0001$) and behavioral tasks ($p < .001$). Upon individual analysis of each behavioral measure, statistical significance in favor of females was found on two of the six tasks ($p < .0001$; $p < .004$). A third behavioral task approached significance in favor of girls ($p < .06$), while a fourth task was statistically significant in favor of males ($p < .05$). The final two behavioral tasks were not significant for either sex.

The results of Shigetomi et al. (1981) study were similar to those found by Hartshorne et al. (1929). Results of both studies conclude while sex differences in reputation and behavioral tasks of altruism are found in favor of females, reputations of a student's altruism do not

correspond with sex differences on all behavioral tasks. The discrepancy between altruistic reputation and behavioral task completion was left for further study.

Male sex differences study #1. In 1970, Staub and Sherk designed a study to evaluate the impact the need for approval and reciprocity has on a child's willingness to share. It was hypothesized that a child's need for approval would increase the amount of sharing, and that a child will have higher incidents of sharing after being the recipient of sharing behavior from a peer. In order to answer these hypotheses, 49 male and 47 female fourth grade students participated in the study.

In the first part of the experiment, all students completed questionnaires that evaluated the students' needs for approval, their choice of friends in the class, and their preferred candy choices (Staub, 1970). The information from the questionnaires was used in the second part of the study for the purpose of pairing students with a friend and providing the student with their favorite candy, which would potentially be shared with their friend. The information related to the student's need for approval would be used in the data analysis phase of the experiment.

Students were told they would be listening to a story, and were given a bag of candy that could be eaten while they were listening. Before the story began, the researcher explained that because time was limited, she would bring in a friend to listen to the story with them. The friend was brought in to listen to the story. The friend received no candy and neither child was asked to share. The researcher left the classroom to observe student behavior while they listened to a recording of the story. Data were collected on the number of pieces of candy shared and eaten by both the giver and receiver. At the end of the story the researcher came back in and asked each student to draw a scene from the story. Students were told they had only five minutes to complete the drawing, and would have to share a crayon because there was only one left. The

crayon was given to the receiver and data were collected on the length of time the receiver shared the crayon with the giver.

While overall all students ate more candy than they shared, a statistical sex difference was found among boys ($p < .02$). Boys shared more candy with their friends than girls did. A negative correlation was found between need for approval and sharing ($r = -.44, p < .01$). Sharing was categorized into *active* and *inactive* groups. Students in the *active* group either shared or ate their candy and students in the *inactive* group did not eat or share their candy in front of their friend. The researchers examined the negative correlation between the need for approval scores and rates of sharing, and determined that students with the highest need for approval scores fell into the *inactive* group. Staub and Sherk (1970) concluded that low incidents of sharing among girls was due to their higher need for approval.

In regards to reciprocity, receivers who were given more candy also shared the crayon more, but not at a significant level ($r = .22$). The sharing difference between the number of candies the giver ate versus the number they shared in front of the receiver was correlated with reciprocity. A significant, negative correlation between the variables was found ($r = -.39, p < .01$). These results indicated that givers who ate more in front of the receiver experienced less crayon sharing as a result. In order to measure the interaction effect of sharing candy and sharing difference on crayon sharing, the researchers conducted a two-way ANOVA. The results confirmed students who shared less had higher sharing difference scores, and in return, received the crayon for less time ($p < .01$). Sharing behavior was influenced by the perceived fairness of the giver (p. 251).

Male sex differences study #2. Johnson, Danko, Darvill, Bochner, Bowers, Huang, Park, Pecjak, Rahim, and Pennington (1989) designed a cross-cultural study to measure altruism among college students. The Rushton et al. (1981) SRAS was used and expanded upon in this study to include questions measuring the participants' willingness to give help, get help, and their view of the importance of each behavior (p. 856). Participants also completed the Dimensions of Conscience Questionnaire, the revised Eysenck Personality Questionnaire, Rest's Defining Issues Test, and the Intrinsic-Extrinsic Religiosity scale. For the purposes of this review, focus will be on the sex differences found with the expanded SRAS, as the SRAS is used in this proposed study, and the categorization of altruistic behaviors may prove useful in future coding and categorization of questions on the SRAS.

College students from six different countries completed the expanded SRAS. Of the 1,052 students who completed the expanded SRAS, 82 students were from Australia, 181 students were from Egypt, 264 students were from Korea, 224 students were from the Republic of China, 197 students were from the United States of America, and 104 students were from Yugoslavia. In addition to computing a composite SRAS score, the scale was broken into sub-scores for giving help, receiving help and importance of help. Test-retest reliability of the expanded SRAS for each category was calculated for each country. Coefficient alpha scores ranged 0.86 – 0.95, indicating strong support for reliability of the scale to measure each construct (p. 858).

The researchers computed analyses of variance, and interaction effects of sample (country) and sex were found for giving help and receiving help ($p < .001$). After they reviewed the means broken down by sex, and the Newman-Kuels test of the significant difference between means (p. 858), they concluded there was evidence in support of male sex differences in four

samples for giving help; Australia, Egypt, Korea, and United States ($p < .05$, $p < .0001$, $p < .0001$, and $p < .001$). Male differences were also found in three samples for receiving help; Egypt, Korea, and Taiwan ($p < .0001$, $p < .001$, and $p < .05$). No statistical significance was reported for sex differences related to the importance rating of helping.

After reviewing the data, the researchers felt sex differences were not surprising given what is known about the culture of each sample. A second round of analysis was conducted to examine how the type of sacrifice for each behavior might affect giving help. The questions related to giving help were broken into five categories: time, time/effort, money/goods, risk/harm, and loss of status. Overall, males gave help more frequently than females in all categories, but statistical significance was found especially in categories involving physical effort or physical/psychological pain ($p < .001$).

Johnson et al. (1989) concluded that males score higher overall on SRAS, as well as among all categories of helping behavior, but specifically when the behavior requires potential physical effort or physical/psychological pain. This finding was surprising, and while part of it aligns with social role theory that males will help in higher risk scenarios, my own hypothesis is that females are generally more altruistic overall. A final point of discussion that ties into social role theory is that the researchers' interpretations of the possible sex differences were found to favor males. All questions were phrased as either helping strangers or acquaintances. The authors proposed sex differences may have been attributed to the nature of the relationship with the person in need. The researchers cited Eagly and Crowley's (1986) social role theory that males help more in situations with strangers or acquaintances, but females help more in situations with close personal relationships. The lack of questions involving close personal relationships would be a point to consider for future study.

Mixed results of sex differences study #1. Three of the eight studies yielded results that provided evidence for both male and female sex differences. The first study, conducted by Schopler and Bateson (1965), consisted of three experiments designed to evaluate the effects that cost to the benefactor and dependence of the receiver would have on a students' willingness to volunteer and/or yield to the receiver. In the first experiment, 44 male and 54 female college students were given a letter telling them they would be participating in a study where they would have to spend 30 minutes in two separate rooms; one 75 degrees Fahrenheit and one 125 degrees Fahrenheit. The researcher told the students he needed many students to volunteer to be in the hotter room. Half of the students were told the researcher was desperate for their help so he could finish his dissertation, thus creating a high-dependence situation. The other half was told that the researcher was under no pressure to finish, establishing a low-dependency situation. The hypothesis was that a larger number of students would volunteer for the high-dependence situation because the researcher's dependence would trigger the norm of social responsibility. Chi-square results indicated males volunteered more than females ($p < .01$). When Schopler and Bateson (1965) analyzed the data for a sex-dependence interaction effect, two trends emerged: females volunteered more frequently for the hotter room in high-dependence situations, while men volunteered more frequently for the hotter room in low-dependence situations (p. 249).

The second and third experiments were designed to measure differences when the potential cost to the benefactor was increased and assigned randomly, and then when all benefactors were assigned to a low-cost situation respectively. In the second experiment 40 male and 48 female college students participated in the study. Students were told they would be assigned roles as either a supervisor or employee, although in reality all students were assigned the role of the supervisor. The cost to the benefactor was increased through potential financial

gain or loss in a numbers game. Potential gain or loss was increased in the high-cost situations and decreased in the low-cost situations. The experimenter, acting as the employee, sent random notes to the students. In order to create a high-dependency situation, the student was told his or her choice could determine high financial gain/loss for the employee. In the low-dependency situation, the student was given lower amounts of financial gain/loss and then told that no real money would actually be involved. The dependent variable was how much the student would yield to the employee. This was determined by scaling the level of financial sacrifice made by the student on a scale of 0-3. After the researchers analyzed the Chi-square results, all students yielded less when the cost to the benefactor was high ($p < 0.02$), than when the cost to benefactor was low. Next, they reviewed the results from the analysis of variance and found an interaction effect between sex, cost, and dependence that approached statistical significance ($p < 0.07$). Essentially, sex and partner dependence had a greater impact on results in low-cost situations than in high-cost situations. Females were still found to yield more frequently in high-cost situations, while males were found to yield more frequently in low-cost situations (p. 251).

Since sex and dependence interaction effects were found in the previous two experiments, the researchers controlled for the cost to benefactor variable in the final experiment. All students were presented low cost to benefactor situations, and all other procedures were the same as the second experiment. The chi-square results on partner dependence were significant for both males and females ($p < 0.01$), which the researchers used to confirm the hypothesis that students would yield in high-dependence situations. Schopler and Bateson (1965) were not able to confirm main effects for sex or dependence through variance analysis, but they were able to report a statistically significant interaction effect of sex and dependence ($p < 0.05$).

Mixed results of sex differences study #2. A 1992 study conducted by Erdle, Sansom, Cole, and Heapy looked at sex differences in different types of self-reported helping behavior. Erdle et al. (1992) used the Rushton et al. (1981) SRAS, along with the Emotional Empathy Scale and the Jackson Personality Inventory. In this study, 45 males and 66 females of college age participated in the study. Prior to analyzing the results, the researchers performed principal-components factor analysis and a scree test analysis that yielded two factor loadings. All but three items loaded >0.35 into one of the two factors. After Erdle et al. reviewed the questions from each factor, Factor 1 was categorized as a low-risk, low-physical-strength, helping behavior dimension and Factor 2 was categorized as a high-risk, high-physical-strength, helping behavior dimension, (p. 932). They next analyzed the data from the SRAS, and found sex differences for both men and women. Women scored significantly higher on the low-risk, low-physical-strength, helping behavior dimension ($p < 0.05$), while men scored significantly higher on the high-risk, high-physical-strength, helping behavior dimension ($p < 0.05$).

Additionally, the item analysis of questions by sex is also interesting, as it connects to the SRAS score analysis in my study. Women scored higher than men on the behaviors of donating to charity, volunteering to do charity work, purchasing charity Christmas cards, and looking after neighbors' pets or children. Men scored higher than women on the behaviors of pushing a car out of the snow, giving money to a stranger, giving a stranger a lift in a car, and helping an acquaintance to move households. The researchers reported that their results provided more evidence for the social role theory explanation of sex differences found in altruistic conditions (p. 935).

Mixed results of sex differences study #3. A mixed methods study by Byrne (2008) was conducted to explore quantitative differences of altruism scores between college programs and sexes, in an effort to apply possible results to future recruitment efforts. A second phase of the study focused on qualitative differences between sexes in relation to their altruistic reasons for enrolling in the college program. The programs were purposefully chosen for this study based upon their enrollment imbalance; females had predominantly higher enrollment in all programs. Participants consisted of 510 college students enrolled in one of the five programs: speech-language pathology, education, occupational therapy, physiotherapy, and social work. Participants completed a questionnaire consisting of demographic, interest, experience and SRAS questions. The researchers used five of the 20 questions from the SRAS in the questionnaire, citing a previous study by Brown, Palamenta, and Moore (2002), which concluded that the five questions selected would identify altruistic participants (Byrne, p. 23).

Byrne (2008) used exploratory factor analysis of the modified SRAS, and found that 4 out of the 5 questions loaded >0.45 onto the same factor. He chose to remove the question that did not load from the factor grouping, and then conducted an analysis of variance with the first four questions of the scale. He reported no statistically significant differences between programs and altruism scores. Byrne also reported the same results when comparing results from an independent samples t-test yielded related to male and female altruism scores. He concluded that the quantitative results were not surprising, given that all students enrolled in programs focused on helping others. The researcher then turned to qualitative methods to provide information that could be used to inform recruitment of men.

For the qualitative part of the study, Byrne (2008) used purposeful sampling methods to create a sample that was representative of all participant demographics from the original pool of

students who completed the modified SRAS. Twenty-four students agreed to participate in the second part of the study. Four males were included in this sample. All students were interviewed about their reasons for enrolling in the program. The researcher qualitatively coded the responses, resulting in the development of 16 initial codes and 151 subcategories. His coding was validated through inter-rater reliability by having another person code a sample of four interviews and comparing it with initial coding that he completed. Through this coding process, they were able to report 100% inter-rater reliability.

Byrne's (2008) analysis of all interviews resulted in the development of three categories of responses. General altruistic responses were non-specific in nature and focused on helping others, however, two more meaningful categories emerged. Individual altruistic responses focused on individual relationships as motivations to enroll. Societal altruistic responses focused on contributing to the world or society as motivations to enroll. The categories were analyzed for sex differences. All women talked about individual relationships and all men spoke of contributing to the world or society. The researcher determined that their results provided more evidence of the social role theory in explaining sex differences in altruism, citing that the theory predicts women will help more with those with whom they have long-term relationships, while men will help more in situations with strangers and acquaintances (Eagly & Crowley, 1986).

Age differences and altruism. The development of humans in moral, cognitive, psychological, empathic, and evolutionary ways have been developed by a variety of psychologists (Krebs & Van Hesteren, 1994, p. 113-115). Much like Piaget's (1932) stages of moral development, Bar-Tal and Raviv (1982), Reykowski and Karlyowski (1982), Oosterhuis, (1986), and Krebs and Van Hesteren (1994) have made similar attempts to describe the development of altruism. Each of the researchers developed these models through experimental

research. Their views of altruism development have helped served as another way to define an act as altruistic, relative to the developmental stage of the individual. In order to look for age differences in altruism among individuals, the developmental models helped validate the hypothesis that altruistic age differences could be measured. If altruism is developed throughout the life of the helper, then it is hypothesized that altruistic differences would appear across a variety of ages. In Table 4, I provide a visual representation of how the four different developmental models from Bar-Tal and Raviv, Reykowski and Karlyowski, Oosterhuis, and Krebs and Van Hesteren align with each other within three distinctive stages of altruistic development that takes place during a person's life. People move through altruistic developmental phases, much like they move through Piaget's stages of moral development. Individuals in the first stage of altruistic development are generally young children, who make altruistic choices in order to comply, or to receive external praise from others. Moving through childhood and into adolescence and young adulthood, individuals make altruistic choices with the expectation that others will reciprocate, or to align their choices with the social norms of their peers. As we become adults, we enter the third stage of altruistic enlightenment, where personal risks are set-aside for the sole purpose of helping another.

Specifically in the first stage, Bar-Tal and Raviv's (1982) compliance stage, Reykowski (1982) ipsocentric altruism stage, Oosterhuis' (1986) prealtruism, and Krebs and Van Hesteren's (1994) egocentric accommodation stage, are representative of behavior in children who served the ultimate goal of pleasing others or obtaining goals for self. Reykowski and Karlyowski's (1982) ipsocentric and Oosterhuis' prealtruism stages continue throughout Bar-Tal and Raviv's concrete award and Krebs & Van Hesteren's instrumental cooperation stages. Here, the ultimate

goal of pleasing others is replaced when rewards for helping are offered or there is the promise of a helping exchange between helper and the person in need.

Table 4
Alignment of Altruistic Models of Development

Bar-Tal & Raviv (1982)	Reykowski (1982)	Oosterhuis (1986)	Krebs & Van Hesteren (1994)
Compliance Concrete Award	Ipsocentric altruism	Prealtruism	Egocentric accommodation Instrumental cooperation
Normative behavior & Generalized reciprocity	Endocentric altruism	Reciprocal altruism Conventional altruism	Mutual altruism Conscientious altruism
Altruistic behavior	Exocentric altruism	Adolescent & Adult ideological altruism Creative altruism	Autonomous altruism Integrated altruism Universal self-sacrificial love

Adapted from Krebs & Van Hesteren (1994) Typologies of Altruism, p. 123 -125

In the second stage of altruistic development, the normative behavior and generalized reciprocity stages (Bar-Tal & Raviv, 1982), the endocentric altruism stage (Reykowski, 1982), the reciprocal altruism stage (Oosterhuis, 1986), and the mutual altruism stage (Krebs & Van Hesteren, 1994) all begin to shift focus from self to the attainment of established personal and social norms. The individual's ultimate goal in these stages is to align his/her actions with the expectations of society. Essentially, a person gives help in hopes of receiving help when he/she needs it in the future. Bar-Tal and Raviv's normative behavior and generalized reciprocity stages, and Reykowski's endocentric altruism stage continue while Oosterhuis's conventional altruism stage and Krebs & Van Hesteren's conscientious altruism stage begin to expand internal feelings of social responsibility. Helping others occurs because the helper understands the need of the other person and experiences feelings of guilt if they do not help.

Moving into the third, and final stage of altruistic development, Bar-Tal & Raviv's (1982) stage of altruistic behavior, Reykowski's (1982) exocentric altruism stage, Oosterhuis's (1986) adolescent/adult ideological altruism stage, and Krebs & Van Hesteren's (1994) autonomous altruism and integrated altruism stages advance towards the ultimate goal of aligning the helper's values with the values of those in need. A person's act of helping is committed solely to benefit the other person. Oosterhuis's creative altruism and Krebs & Van Hesteren's universal self-sacrificial love stages move altruism beyond the ultimate goal of benefitting others, into a religious or "cosmic," (Krebs & Van Hestern, p. 121) view of helping. Helping acts are not only selfless, but also require sacrifice on behalf of the helper without any regard to what was lost.

I proposed earlier in the chapter that the development of altruism occurs in various stages that occur throughout an individual's life (Bar-Tal & Raviv, 1982; Krebs & Van Hesten, 1994; Reykowski, 1982). If altruism develops throughout the life of the helper, then it is reasonable to hypothesize that age differences in altruism can be measured. The preponderance of research on age differences in altruistic individuals is inconsistent and difficult to generalize because of the varied settings, variables, measures, and participants of the study (Krebs, 1970), however, the general consensus among researchers is that altruism and altruistic behaviors increase with age (Baumann, Cialdini, & Kenrick, 1981; Chamber & Ascione, 1986; Chou, 1998; Elmer & Rushton, 1974; Green & Schneider 1974; Handlon & Gross, 1959; Krebs & Sturup, 1974; Midlarsky & Bryan, 1967; Piliavin & Charng, 1990; Rushton, 1975, 1976, 1980; Rushton & Wiener, 1975; Rushton et. al, 1989; Shure, 1968; Ugurel-Semin, 1952).

Krebs (1970), Rushton (1980), and Piliavin and Charng (1990) conducted a review of literature found altruistic behaviors increased as children got older. They use the developmental

view of altruism to support experimental findings related to age differences in altruism among individuals. Quite simply, as each person gets older, their view of helping, empathy towards others, personal experiences, and exposure to altruistic acts all contribute to their altruistic development (Piliavin & Charng, p. 38). In the next two sections, I will present research findings from studies conducted with children, adolescents, and adults. As was the case with studies related to sex differences in altruism, the preponderance of research has been conducted with students in elementary schools. However, three studies will be presented specifically focusing on adolescents and adults because adolescents are subject in my study.

Age differences among children. The studies, which have yielded results about age differences in children, measure altruism by observing their sharing, donating, and helping behaviors. One of the earlier studies conducted by Ugurel-Semin (1952) observed the sharing behavior of 291 students, ages four through 16, in Istanbul, Turkey. Two students were taken into a room and were instructed to divide a portion of nuts between them. Student B was taken out of the room while the researcher talked with student A about the strategy they would use for dividing the nuts. The most common strategy was to divide the nuts equally between the two students. Student B was brought back into the room, student A began dividing the nuts and soon discovered that there was an unequal amount of nuts.

Ugurel-Semin (1952) analyzed the data that was collected on how the students solved this dilemma. In all situations, student A either gave the extra nut to student B (generous), kept the extra nut for themselves (selfish), or refused to give either student the extra nut (equalitarian). The researchers reported that selfishness decreased as the age of the student increased. The youngest students (aged four to six) kept a higher percentage of the extra nuts for themselves. After age 10, students no longer kept any of the extra nuts, and either gave the extra nut to

student B or refused to distribute the extra nut. The researchers aligned their interpretation of these results with Piaget's (1932) theory of moral development. Students stopped keeping the nut for themselves at approximately the same point when the concepts of justice and goodness begin to develop (Ugurel-Semin, p. 465).

Handlon and Gross (1959) and Midlarsky and Bryan (1967) examined the altruistic behaviors of elementary students by observing and analyzing their sharing behaviors. Both studies used similar methods. Two students were paired together, and using a conveyor belt apparatus, the children worked cooperatively to accumulate pennies (Handlon & Gross) or candy (Midlarsky & Bryan) from the conveyor belt. At the end of this process, one student was asked to leave the room while the other student stayed in the room and divided the winnings. In both studies, the researchers found significant age differences were found between grades ($p < 0.02$, $p < 0.01$) respectively, indicating that as children got older, their sharing behaviors increased.

Rushton and Weiner (1975) measured altruism by observing the donating behavior of elementary students in a replicated method first conducted by Rosenhan (1968). Students played an electronic game and were awarded tokens that could be exchanged for prizes. Prior to exchanging their tokens, students were told a story of an orphan "Bobby" and were given the opportunity to donate a portion of their tokens to him. The students could exchange their remaining tokens for candy. The students were given another opportunity to share, this time by placing a portion of their candy in a bag for their friend. The researchers reported that the correlations between age and the two sharing behaviors were 0.36 and 0.68 ($p < 0.001$) respectively. Rushton and Weiner concluded that as the students' age increased so did their sharing behaviors, especially when sharing with a friend.

The final study presented in this section provides a unique interpretation of the results. Staub (1970) conducted a study to analyze age differences in the helping behavior of students in kindergarten, second, fourth, and sixth grades. There were 232 students who participated in the study. The students were taken into a room by themselves or with a partner, where the researchers observed and recorded their actions. The students were told that the researchers wanted to understand the types of pictures they enjoyed drawing. The researcher “forgot” the crayons and told them she would be right back. Before leaving the room, she told them that she had to check on the girl in the next room. The researcher left the room and turned on a tape recording of someone falling and crying out for help. The researcher came back to the room and told the students that the girl was fine, but she hoped the girl wouldn’t stand on her chair again. The researcher left the room again, this time to get the crayons, and once again turned on the tape recording.

Staub (1970) recorded the student behaviors and coded them into the categories of *active help*, when students left the room to look for the researcher or to help the girl; *volunteering*, when the students told the researcher what happened while they were gone; and *no helping*, when students did not leave the room or provide information when the researcher returned. While students in pairs actively helped or volunteered more often than students who were alone in the room, the smallest percentage of students with these responses occurred in kindergarten and sixth grade. The results for kindergarten students aligned with previous findings on age differences, however the results for sixth grade students were new. After the researcher reviewed the mean helping scores, he concluded that helping increased as a student grew older, until sixth grade when the helping responses decreased. Staub also reviewed analysis of variance data, and reported a significant main effect of age ($p < 0.05$). Staub conducted a test of

curvilinearity, and found that the curvilinear relationship between helping and age was significant among pairs of students ($p < 0.01$) and approached statistically significant levels for individual students ($p < 0.06$).

Age differences among adolescents and adults. While the preponderance of research on altruism has been conducted with young children, Lowe and Ritchey (1973) conducted a study to examine the relationship between age and altruism. Replicating the 1969 study by Milgram, the researchers dropped 800 unstamped, addressed letters at middle school, high school, college, and adult sites. Of the 800 letters that were dropped, 260 of the found letters were mailed and received. The largest percent of letters came from college and adult sites, 43.5% and 59% respectively. Lowe and Ritchey analyzed chi square results and indicated that helping behavior increased with age ($p < 0.001$).

Rushton et al. (1989) conducted a study of altruism and aggression with 573 pairs of adult twins from a London University. Subjects were given five different paper and pencil assessments measuring altruism, empathy, nurturance, aggressiveness, and assertiveness (p. 261). The Rushton et al. (1981) SRAS was used to measure altruism. He calculated correlations between and within assessments with age as an additional independent variable, reported that age and altruism results were significant ($p < 0.001$), and that they yielded a moderate, positive correlation ($r = 0.44$). The moderate correlations provide evidence in support of their interpretation that altruism increases with age.

Chou (1998) conducted another study with 1,105 Chinese students. Chou translated and validated the Rushton et al. (1981) SRAS into Chinese (C-SRAS). High school students completed the C-SRAS and results were correlated with age as one of the independent variables. Correlational results show a significant weak, positive correlation ($r = 0.12, p < 0.01$). Chou's

analysis of variance indicated a significant age effect ($p < 0.05$). His interpretation of these results was used to support the theory that altruism increases with age, however, it is important to point out that there may be cultural factors impacting the generalizability of these results to high school students. Western societies are seen as focusing more on the individual. This focus may impact altruistic, or citizenship behavior, in the United States differently than in China where more traditional emphases on family and collective good are emphasized (Farh, Early, & Lin, 1997).

Intelligence and altruism. There is a limited amount of research that has been conducted to evaluate the effect of intelligence on altruistic behavior. Making the connection between student grade point averages (GPAs) as a measure of intelligence is not supported in the literature. There has not been an analysis of altruism amongst high school students and GPA. Krebs (1970), Rushton (1980), and Piliavin and Charng (1990) present few, if any studies in this area, from their literature reviews, and all pertain to intelligence as measured by intelligence quotient (IQ) scores. In 1974, Krebs and Sturupp conducted a study to examine role-taking and altruistic behavior, in which intelligence was an independent variable. He calculated composite altruism scores after observing and coding the interactions of elementary second and third grade students. Observers coded the behaviors of students over a two-month period of time. The altruism composite was calculated from the total responses of *offer help, offers support, and suggests responsibility*. Next, they calculated correlations among all of the measures and variables. Intelligence (IQ scores) correlated at a significant moderate, positive level ($r = 0.39, p < 0.05$). Students who were more altruistic were also more intelligent, and researchers theorized their higher intelligence allowed them to better understand the other child's perspective, resulting in more altruistic behavior.

Eisenberg-Berg's 1979 study yields no intelligence differences related to altruism. In this study, 72 high school students completed several questionnaires to measure sociopolitical attitude, moral reasoning, and scholastic aptitude. The subjects were asked to volunteer to help the researcher with another task after they had completed their tasks and had been paid for their time. The responses for helping were used as a measure of their altruism. Significant main effects of intelligence and altruism were not found, however results indicated male intelligence and altruism in a strong, positive correlation ($r = .057, p < 0.001$).

The third, and final, study related to intelligence and altruism examined the hypotheses that unconditional altruism was a signal for intelligence. Millett and Dewitte (2007) used Wilson's 1976 definition of unconditional altruism as "benefiting others at a cost to oneself" (Millett & Dewitte, p. 317). To investigate their hypothesis, 176 college students from a European University were given 40 points with which to start. Each subject had to decide how much to keep for themselves and how much to invest in the "public good." Their performance in the game was based upon how much money they made at the end of the study. The subject's behaviors were coded into three categories: *cooperative decision*, *egoistic decision*, or *altruistic decision*. Once the game was finished, students completed an IQ test. More subjects acted egoistically than cooperatively, or altruistically, however altruists scored higher on intelligence than both egoists and cooperators.

In order to rule out the self-benefit from altruistic choices in the game, a second study was designed. A fourth option was added, which emphasized joint benefit that favored the other person, rather than the subject's own benefit. Subject responses in this category were considered to be more altruistic than those that simply contributed to the public good. 175 college students from the same University participated in the study. The altruistic options were totaled and

grouped into high, middle, and low altruism categories. The results from the high and low altruistic groups were analyzed. Mean IQ scores from the high altruistic group were greater than mean IQ scores from the low altruistic group ($M_{\text{HIGH}} = 30.90$, $SD_{\text{HIGH}} = 5.43$; $M_{\text{LOW}} = 28.36$, $SD_{\text{LOW}} = 5.57$; $F(1,74) = 4.34$, $p < 0.05$). The researchers reported this as evidence in support of a positive relationship between intelligence and altruism. They cited evolutionary evidence that those with higher intelligence are generally in a better position to sacrifice their own well-being to help others.

Altruism as a motivation for volunteering. Over 93 million adults volunteer annually, contributing 20.3 billion hours of service (Clary & Snyder, 1999). Volunteering has been defined as an altruistic act of contributing to others (Unger, 1991), but the functionalist perspective of motivation suggests that individuals often exhibit multiple motivations that are specific to the type of volunteering act, the personal goals, thoughts, and actions of the individual (Clary, Snyder, Ridge, Copeland, Stukas, Haugen, & Miene, 1998). Several studies examining the motivations of volunteers will be presented, and connections to altruism in each study will be highlighted.

Unger (1991) conducted a phone survey to investigate altruistic motivations of volunteering. Unger reported 326 participants responded to questions about their personal demographics of age, race, education, occupation, income, volunteering activities, and perceived community need. Community need has a positive impact on volunteering ($p < .05$), indicating individuals are more likely to volunteer when there is a perceived need for help (p. 89). Volunteering to help others when there is a perceived community need aligns with altruistic motives of helping which stem from a selfless desire to help others (p. 93).

Clary, Snyder, and various colleagues analyzed the motivations of volunteers through the functional approach. Six possible functions for volunteering, along with their definitions are presented in Table 5 (Clary et al., 1996; Clary, Snyder et al., 1998; Clary & Snyder, 1999).

Table 5
Functions Served by Volunteerism

Motivational Function	Definition
Values	Express values related to altruistic and humanitarian concerns
Understanding	Acquisition of new learning, practice, knowledge, skills, and abilities
Social	Engage with friends in an activity positively viewed by others
Career	Preparing for a new career or maintaining career-relevant skills
Protective	Ego defensive; reducing guilt or addressing personal problems
Enhancement	Developing positive feelings or maintaining positive feelings

Clary et al., 1998, p. 1517-1518

Clary et al. (1996, 1998, & 1999) developed the Volunteer Functions Inventory (VFI). The inventory contains items that address each of the motivational functions listed in Table 3. The inventory consists of 30 items (five items for each function) and was validated through exploratory factor analysis. Participants completing the inventory from a large metropolitan area consisted of 321 female and 144 male volunteers. The researchers conducted a principal components analysis, scree plot analysis and eigenvalue analysis all indicated the identification of six factors. When they conducted principal-axis factor analysis with oblique rotation, all items loaded into their intended factor. Internal consistency was analyzed by calculating Cronbach's alpha coefficients for each of the VFI factors: career, .089; enhancement .084; social, .083; understanding, .081; protective, .081; and values, .080. The results indicated the scale is measuring the six functions of volunteer motivations.

Clary, Snyder, and Stukas (1996) analyzed the Independent Sector's 1992 survey results, which included items from the VFI. A total of 2,671 individuals completed personal interviews by the Gallup organization in 1992. Volunteers reported higher levels of values, enhancement, social, and understanding functions than non-volunteers ($p < 0.0005$). Female-rated motivations were statistically higher ($p < 0.05$) than male-rated motivations in all areas, except the career function. Similar motivational functions were reported for all age groups, with the exception of the career, understanding, and protective functions. In these three areas, younger individuals (ages 18 – 24) reported these functions higher than the older respondents ($p < 0.05$). The most important motivational function reported by all groups was the values function ($p < 0.005$). The values function is directly connected to altruism. This evidence contributes to the body of literature in support of altruism as a motivation for volunteering.

Carlo, Okun, Knight, and de Guzman (2005) incorporated the values function questions of the VFI into their 2005 study exploring the role of agreeableness, extraversion and prosocial value motivation in the motivations for volunteering. College students totaling 796, participated in the study that analyzed responses to the frequency of volunteering, the values function questions of the VFI as a measure of prosocial values, and the Big Five Inventory (BFI) (John, Donahue, & Kentle, 1991) which measures agreeableness, extroversion, conscientiousness, neuroticism, and openness.

Prosocial value motives correlated highest with volunteer behavior (0.38, $p < 0.01$), followed by agreeableness (0.23, $p < 0.001$), and extroversion (0.14, $p < 0.01$). Females also reported higher levels of prosocial value motives and indicated a higher rate of volunteering. Regression analyses revealed that prosocial value motives had the highest predictive values on volunteering behavior (0.318, $p < 0.001$). Carlo et al. (2005) concluded that prosocial value

motives are the strongest predictor of volunteer behavior, and aligned this to the functional perspective that prosocial value functions (altruism) are a motivation for volunteering.

Burns, Reid, Toncar, Fawcett, and Anderson (2006) designed a study to examine the motivations of college students who volunteer, specifically focusing on the role of altruism as a motivation. The researchers collected responses from 480 students who completed the VFI, and correlated them with their volunteering behaviors. Once again, the values function of the VFI was used as a measure of altruism as a motivation for volunteering. Altruism was positively correlated with each of the six values functions of the VFI ($p < 0.05$). The researchers concluded this evidence adds to the body of literature that altruism plays a role in the motivations of young adults who volunteer.

CHAPTER III: METHODS

Research Design and Rationale

In this study, I utilized a mixed methods approach to understanding altruistic differences among high school student volunteers, the self-reported motivations, and benefits of volunteering. A mixed methods approach is both a methodology and a method. The philosophical assumptions guide the methods used to collect, analyze, and interpret data. Specifically, quantitative and qualitative data were used for the purposes of increasing the understanding of the problem being studied (Creswell & Clark, 2011). I chose to conduct a mixed methods study because I believe there was more to this story than just a statistical analysis of SRAS scores. I wanted to see what could be learned from analyzing the reported motivations and benefits from volunteering, because I believe both the quantitative and qualitative data will help increase what is understood about altruism among high school students.

A mixed methods approach is an emerging methodology that appeared in the early 1970s, but gained increased momentum and recognition in the 1980s. In 1975, Cronbach was an early advocate for including quantitative and qualitative data in studies, and in 1994, Creswell began to use mixed methods in educational research (Creswell & Clark, 2011, p. 20). I chose a mixed methods approach in this study to further understand, or provide possible explanations, for quantitative differences in altruism by analyzing written qualitative responses from high school students related to the self-reported motivations and benefits of volunteering. At the same time, I analyzed the qualitative results to support the generalization of quantitative findings.

A convergent parallel design was used in this *ex post factor* study (Figure 2).

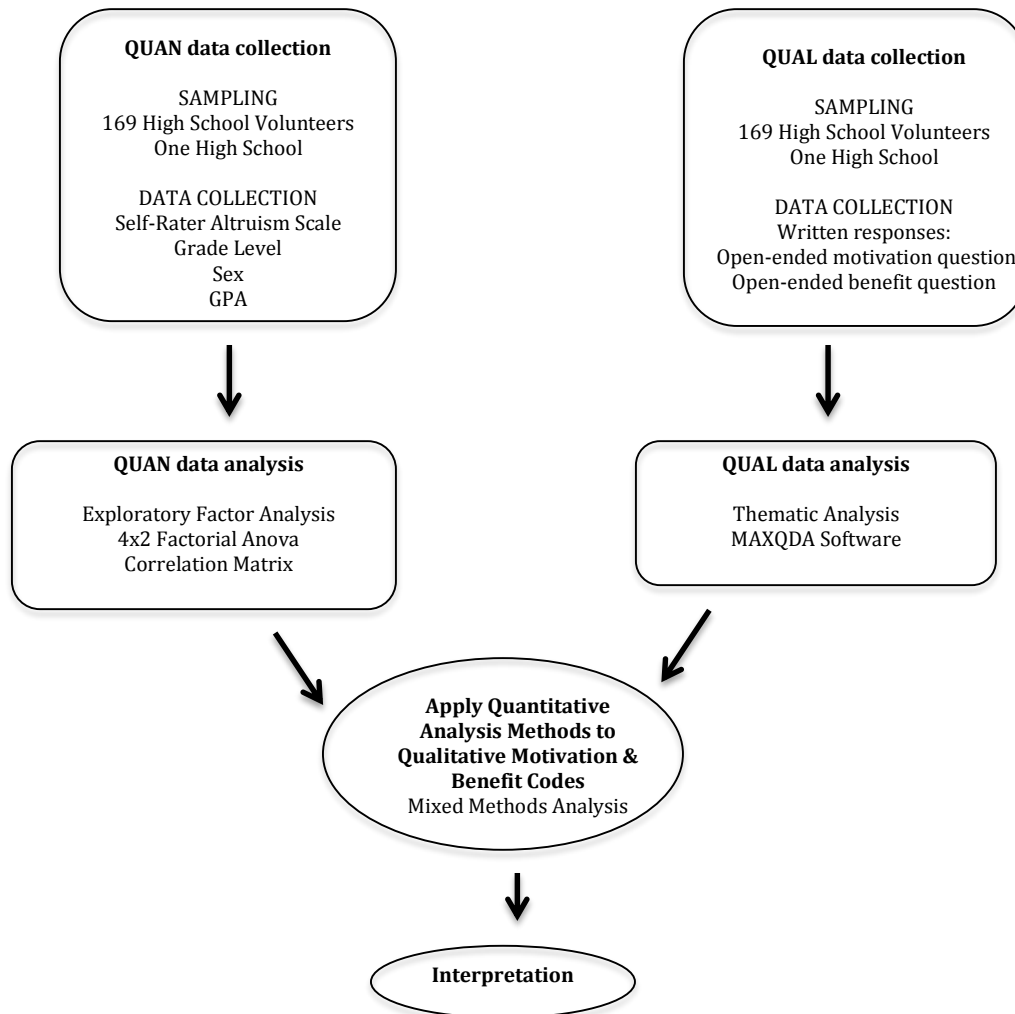


Figure 2. Mixed methods convergent parallel design of the study. Quantitative and qualitative results were analyzed separately, and then qualitative codes were assigned quantitative values and further analyzed. *Note: Diagram based on Wittink et al. (2006) from Creswell & Clark (2011, p. 118)*

This figure shows the convergent parallel design process of collecting quantitative and qualitative data at the same time. I prioritized both methods equally, but the data analysis occurred separately. In the first phase of analysis, I analyzed quantitative results and used them for interpretation of the quantitative research questions, followed by a qualitative analysis and interpretation of qualitative questions. Finally, I assigned the qualitative results a quantitative code, entered into SPSS, and analyzed for age and sex differences. This process will be described in further detail later in this chapter in relation to RQ4.

A pragmatic philosophical foundation was used to guide the overall design of the study. Pragmatism has been popular in mixed methods research because of its focus on using “what works” (Creswell & Clark, 2011, p. 43), however, Morgan (2014) cites Dewey’s work on advancing pragmatism to another level by “joining beliefs and actions in a process of inquiry” (p. 1051). A pragmatic foundation was chosen for this study because it aligns with my desire not only to identify what (if any) altruistic differences exist among high school students who volunteer, but also the reasons why students were motivated to volunteer, the benefits they received from volunteering, and how these reasons may further explain altruistic differences.

Aligning with a pragmatic foundation, the ontology (or view of reality) in this study consists of both singular and multiple perspectives. While the theory of altruism may guide the development of research questions in this study, the functionalist perspective views motivations to volunteer as being multiple and often varied among participants (Clary et al., 1996). From a practicality epistemology, multiple stances were revealed through the qualitative coding process. I chose an inductive coding methodology, and also compared my own developed codes with established theory and research related to volunteer motivations (Creswell & Clark, 2011).

Participants and Design

In this study, I used a purposeful, homogenous, sampling of student volunteers from an annual Special Olympics event at a Northern Colorado high school. While this may have been a limitation to the study, I chose this sampling method because the number of student volunteers increased annually over four years, which prompted me to analyze the applications. The research questions were designed to determine if there were altruistic differences among the volunteers, along with differences in reported motivations and benefits of volunteering. The results will be used to further enhance recruitment and possible expansion of altruistic

opportunities that would provide students with the opportunity to gain twenty-first century skills in selflessness and a concern for the greater community.

The sample consisted of 169 high school students selected from a high school in Northern Colorado that hosts the event annually. Volunteers helped run track and field events, distributed ribbons, and served as a peer buddy for each of the athletes. Interested students who wanted to volunteer were required to submit an application prior to being selected, obtain parent and teacher permissions, and complete a response question at the end of the event. General announcements for recruiting volunteers were read to the entire student body, along with written scrolling announcements on television screens in student locker bay areas. Volunteering was open to all students in the freshman, sophomore, junior, and senior grades. Student applications were required to be submitted prior to the deadline. Each student was required to complete the application, in addition to meeting minimum levels of student academic eligibility. The academic eligibility criteria aligned with school policy and Colorado High School Activities Association (CHSAA) guidelines, which state a student cannot participate in an event if they are failing two or more courses one week prior to the event. Students who submitted partially completed applications were contacted and asked to complete the missing pieces of information. There were 171 students, out of the student population of 1,950 at the school, who submitted applications to volunteer. Two students were not allowed to volunteer for the event due to academic ineligibility. These two applications were removed from the sample, resulting in 169 completed applications for analysis. Of the 169 volunteers, 48 (28.4%) were males and 121 (71.6%) were females. The grade level distribution of volunteers was 13 (7.7%) freshmen, 29 (23.1%) sophomores, 50 (29.6%) juniors, and 67 (39.6%) seniors. Prior to data analysis an application for IRB exempt status was submitted based upon the following criteria, established

by Colorado State University, “research involving the collection or study of existing data, documents, records, pathological specimens, or diagnostic specimens, if these sources are publicly available or if the information is recorded by the investigator in such a manner that subjects cannot be identified, directly or through identifiers linked to the subjects,” (45CFR46.10(b)(4)).

Consistent with a convergent design study (Creswell & Clark, 2011, p. 180), I used the same sample and size for both the quantitative and qualitative parts of analysis. The research questions were non-parallel in design because different concepts were being measured. Altruism was measured in the quantitative data collection and analysis phase. The motivations and benefits of volunteering were measured in the qualitative portion of the study through volunteers’ written responses to two open-ended questions. In this mixed methods analysis, the qualitative codes that were developed through the process of thematic coding were assigned quantitative values, entered into SPSS, and analyzed to determine sex or grade level differences in the reported motivations and benefits. I used this information to examine any statistical differences from what the students reported in their open-ended response questions.

Data Collection

The data collection window for this study occurred during a three-week period in April of 2014, when students were given an opportunity to submit applications to volunteer for the event, held in May of 2014. Students listed their grade level and were asked to select either male or female on the application. As mentioned earlier, it is assumed that students listed either male or female in relation to the sex with which they identify, and I did not question this identification in the application process. In addition to completing the quantitative SRAS, students also answered one open-ended question asking about their motivations for volunteering. The application can be

found in Appendix A. Academic eligibility was determined one week prior to the event. An academic report of GPA and failing grades for all student volunteers was generated from the school's student information system. GPAs were added to each student's application, and all students who were failing two or more classes were contacted individually and given one week to raise their grade(s). Students were not allowed to participate if they were unable to do so.

At the end of the event in May, selected volunteers answered an open-ended exit question that asked about the benefits they received from volunteering. The exit question was incorporated in year three of the event, to be sure all volunteers stayed for the entire day. This question can be found in Appendix B.

I have chosen to discuss threats to external and internal validity using Onwuegbuzie's (2000) framework because of its application to non-experimental research designs. I reviewed the threats to validity in each process of this study: the research/data collection process, the data analysis process, and data interpretation process. Prior to the data collection process, I made adjustments to the SRAS in order to improve the face validity. Specifics about this process are presented in the *Quantitative Measures* section.

External Validity

During the data collection process, to address potential concerns of validity, I focused on external population and ecological validity. While the ultimate goal of controlling threats to external validity was to increase applicability of results to other groups (Onwuegbuzie, 2000), it is important to clarify the results of this study were intended to enhance volunteer opportunities for students at the school site which hosts the annual volunteer event. This study utilized a convenience sample of students who volunteered for the annual Special Olympics event,

therefore the population validity was deemed low because it was not representative of all high school students.

The ecological validity was deemed low to moderate. While volunteers from this sample attended a high school with lower economic and ethnic diversity than other high schools in the same community, I controlled for ecological threats by standardizing the recruitment, application, and selection processes. Applicants were committed to volunteer for the event, as demonstrated by their completion of the SRAS, open responses questions, and permission slips. Volunteers also completed all work they missed in each class. This work was completed outside of class, and students were required to obtain teacher permissions prior to the event. During data analysis, I was careful not to over-generalize my findings, by reporting them within the context of existing literature.

Quantitative Measures

The Rushton et al. (1981) SRAS was used to measure altruism among the volunteers. The volunteer application required students to complete the SRAS, which consists of 20 items shown in Table 6, and also included in Appendix A of the dissertation. Respondents were asked to rate the frequency they have engaged (or would have engaged) in a variety of altruistic behaviors. The response options were: *Never, Once, More Than Once, Often, and Very Often*. The SRAS has been shown to have comparable means and standard deviations. Rushton et al. validated the scale as a measure of altruism by correlating the SRAS scores with peer ratings of altruism. The researchers also validated the results by correlating the SRAS with a social desirability measure. This correlation suggested the SRAS was more than a measure of answering the questions based on their perceptions of socially desirable responses.

To improve the face validity of the questionnaire's use with high school students, I modified the wording to include *willingness* to participate in the altruistic behavior. This decision addressed concerns that "By requiring our respondents to make highly specific statements as to their past behavior...we constrained their answers," (Rushton et al., 1981, p. 301). Methodologist Dr. Andrea Weinberg, from Colorado State University, was also consulted prior to using the SRAS. Together, we decided that allowing high school students to report about their willingness, as well as past behavior, would yield responses that might be less skewed due to their young age and limited experiences. A specific example of such a question is illustrated in blood donation. Individuals must be 17 years of age (the typical age of a senior) to donate blood, but 102 of the student volunteers are in the freshman, sophomore, and junior grade levels. The original question was "*I have donated blood.*" Students under the age of 17 would have no option but to select "*Never*" as their response. Changing the question to read, "*I have (or would) donate blood,*" allows the student to report their altruistic intentions if they could participate or were presented with the opportunity to participate in the altruistic act. Student names were removed from the completed SRAS and were assigned a random identification number. The same identification number was assigned to the qualitative response questions, so I could compare quantitative SRAS-scores with qualitative responses of volunteers during the mixed methods data analysis phase.

During the data analysis stage, I cleaned and scrubbed the data sets to ensure all questions were answered and entered accurately. The quantitative and qualitative responses were checked for accuracy by both a hired transcriptionist and myself. We checked each entry two times to make sure that all of the scores were calculated accurately, and that each ID number correlated with each of the SRAS scores. I converted the item responses to numerical values; *Never* = 1,

Once = 2, More Than Once = 3, Often = 4, Very Often = 5. After ensuring the data was entered accurately into a Microsoft Excel spreadsheet, I transferred the data into SPSS, version 24.

Table 6

The Rushton Self-Report Altruism Scale (Adapted)

Directions: Check the category on the right that conforms to the frequency with which you have (or would have) carried out the following acts	Never	Once	More Than Once	Often	Very Often
1. I have helped (or would help) push a stranger's car out of the snow					
2. I have given (or would give) directions to a stranger.					
3. I have made (or would make) change for a stranger.					
4. I have given (or would give) money to a charity.					
5. I have given (or would give) money to a stranger who needed it (or asked me for it).					
6. I have donated (or would donate) goods or clothes to charity.					
7. I have done (or would do) volunteer work for charity.					
8. I have donated (or would donate) blood.					
9. I have (or would) carried a stranger's belongings.					
10. I have delayed (or would delay) an elevator and hold the door open for a stranger.					
11. I have allowed (or would allow) someone to go ahead of me in a lineup (at Xerox machine, in the supermarket).					
12. I have given (or would give) a stranger a lift in my car.					
13. I have pointed out (or would point out) a clerk's error (in a bank, at the supermarket) in undercharging me for an item.					
14. I have let (or would let) a neighbor, whom I didn't know too well, borrow an item of some value to me (a dish, tools).					
15. I have bought (or would buy) 'charity' Christmas cards deliberately because I knew it was a good cause.					
16. I have helped (or would help) a classmate who I did not know that well with a homework assignment when my knowledge was greater than his or hers.					
17. I have (or would have) before being asked, voluntarily looked after a neighbor's pets or children without being paid for it.					
18. I have offered (or would offer) to help a disabled or elderly stranger across the street.					
19. I have offered (or would offer) my seat on a bus or train to a stranger who was standing.					
20. I have helped (or would help) an acquaintance to move into a new home.					

Descriptive statistics of the SRAS were presented to illustrate the characteristics of the participants in the study. The dependent variable was checked for normal distributions and care was taken to ensure all assumptions of normality were met for each measurement statistic. An exploratory factor analysis (EFA) was conducted in order to validate the instrument and determine if there were additional factors—or constructs—being measured by the SRAS. Inferential statistics were used to identify differences in the second research question, and associations between the variables in the third question.

RQ 1. What factors will emerge after validating the Rushton SRAS through exploratory factor analysis?

This difference question involves a normal/continuous dependent variable. I chose to conduct an EFA to determine if any of the questions measuring altruism on the SRAS align under similar, smaller factors. All questions aligned with the identified factors, so I chose keep them all for further analysis. The overall construct validity of the instrument is in tact (Morgan, Leech, Gloekner, & Barrett, 2015, p. 68). I hypothesized the SRAS is measuring more than one construct, and responses would load onto two or three factors.

RQ2. What are the altruistic differences across high school student volunteer demographics, as measured by the SRAS?

RQ 2.1 What is the difference in the total altruism and summated altruism factor scores between males and females?

RQ 2.2 What is the difference in the total altruism scores and summated altruism factor scores between freshmen, sophomores, juniors, and seniors?

RQ 2.3 What is the interaction between sex and grade level on total altruism and summated factor scores?

RQ 2.4 What is the Strength of the Relationship Between GPA and Total Altruism and Summated Factor Scores?

This difference question involves a normal/continuous dependent variable. I analyzed two independent variables, sex and grade level, to determine differences among total altruism scores and summated altruism factor scores. The participation rates of females to males who volunteered for Special Olympics was 3:1, and I hypothesized that sex and grade level, differences in altruism scores would be found amongst the volunteers. I computed an ANOVA to compare the groups and test for statistically significant differences in sex and grade level. In order to determine whether there is an association between GPA and altruism scores, I conducted a Spearman Rho correlation matrix. Table 7 highlights the variables, levels, and measurement statistics for each research question that were explained previously.

Table 7
Research Questions, Variables, and Measurement Statistic

Research Question	DV	# of Levels	IV	# of Levels	Measurement Statistic
RQ 1	Altruism	Continuous			EFA
RQ 2.1	Altruism	Continuous	Sex	2, Dichotomous	ANOVA
RQ 2.2	Altruism	Continuous	Grade Level	4, Ordinal	ANOVA
RQ 2.3	Altruism	Continuous	Sex & Grade Level		2x4 Factorial ANOVA
RQ 2.4	Altruism	Continuous	GPA	3, Interval	Spearman Rho

Qualitative Measures

Student volunteers were asked to provide written responses related to their motivations for volunteering. This question read: *Explain briefly why you would like to help with this year's event. Specifically what do you hope to gain from your volunteer experience?* At the end of the event, students were asked to provide a written response about the perceived benefits they gained

from their volunteer experience. This question read: *Please take a moment to reflect upon your experience. What did you gain from your volunteer experience today?*

Student names were removed; responses were transcribed into electronic format, assigned an identification number, sex, and grade level designation. A hired transcriptionist and myself transcribed the responses and checked for accuracy of the transcription. Once I was confident that responses were accurate, they were imported into MAXQDA software for qualitative analysis. Consistent with Clary et. al. (1996) I hypothesized that multiple motivations would be identified from the responses. The specific research questions of this qualitative analysis are:

RQ3. What are the reported motivations and benefits of high school students who volunteer?

RQ 3.1 What are the reported motivations for volunteering?

RQ 3.2 What are the reported benefits from volunteering?

The thematic analysis process presented by Braun and Clarke (2006) was used to answer the fourth research question. Thematic analysis is a flexible tool for qualitative coding because thematic analysis is a “method for identifying, analyzing, and reporting patterns (themes) within data,” (Braun & Clarke, p. 6). Within thematic analysis, I used a deductive, essentialist (or realist) approach of looking for and reporting experiences, meanings, and realities of the volunteers. During the coding process, I completed the coding with altruistic, volunteering, and prosocial behavioral theories in mind. I then coded the responses at the semantic (or explicit) level. I did not make interpretations beyond what was directly written in the responses, which is consistent with the essential approach epistemology. Themes were developed utilizing the six steps outlined by Braun and Clarke.

Reading the responses the first time allowed me to familiarize myself with the data and begin initial coding of responses. During the second reading, I reviewed initial codes and formalized them. The third reading allowed me to identify each code that could be found within all of the responses. During this reading, I coded responses that had multiple codes appropriately. I read the responses a fourth time and reviewed thematic coding to ensure there were not any outlying responses that did not align with the codes. Alissa McEachern, a fellow researcher and doctoral candidate, also read the final responses that were coded under each motivational and behavioral coding group. She looked for any responses that did not seem to fit under each code. If she had a question about a response code, then we would discuss my rationale for the decision that I made, and then review the entire written response from the volunteer to ensure accuracy. This occurred two times when determining whether a response fit under “gaining perspective/understanding,” or “gain skills/experience.” After I completed thematic analysis, quantitative and qualitative results were compared. Data correlation, comparison, and integration stages were conducted to aid reporting of results related to the final research question (Creswell & Clark, 2011, p. 212).

Mixed Methods

RQ4. To what extent does the explanatory qualitative data about high school students’ reported motivations and benefits of volunteering explain the quantitative altruistic differences reported on the SRAS?

To help answer this research question, I reviewed each motivation and benefit code that was developed as a result of the thematic coding process, and entered them into SPSS. I used a 1 to indicate the volunteer’s response aligned with the code and a 0 to indicate the response did not align with the response. Once all of the data were entered, I chose to conduct a Fisher’s Exact

Test for each motivation and benefit code to determine if there was a statistically significant difference between sex and grade level. I chose to use the Fisher's Exact results because my variables were nominal and/or dichotomous, and many of the cells contained expected counts of less than 5 (Morgan, et al., 2015, p. 110). I added four sub questions to my mixed methods questions:

RQ4.1 What is the difference in reported motivations between males and females?

RQ4.2 What is the difference in reported motivations between Freshmen, Sophomores, Juniors, and Seniors?

RQ4.3 What is the difference in reported benefits between males and females?

RQ4.4 What is the difference in reported motivations between Freshmen, Sophomores, Juniors, and Seniors?

CHAPTER IV: RESULTS

Descriptive Statistics

In total, 169 high school students completed applications to volunteer for the Special Olympics event. There were 48 males (28.4%) and 121 females (71.6%). The student grade level frequencies consisted of 13 freshmen (7.7%), 39 sophomores (23.1%), 50 juniors (29.6%), and 67 seniors (39.6%). The following descriptive statistics, shown in Table 8, indicate there was moderate negative skewness of the dependent variable (SRA-score) of -0.485 and moderate negative skewness of the independent variables (sex and grade level) of -0.966 and -0.539 respectively. The independent variable of GPA had a considerable negative skewness of -1.147. To account for this negative skewness, I chose to run a Spearman Rho correlation matrix that is used with nonparametric statistics. Negative kurtosis was found in the dependent variable and independent variables of sex and grade level, indicating the distribution of scores is “relatively flat with heavy tails...and is called platykurtic,” (Morgan et al., 2011, p. 51). Negative kurtosis is generally not a factor when running statistical analyses (p. 51), so I ran parametric statistics (ANOVA) in answering the difference research questions related to sex and grade level. A large positive kurtosis was found in GPA (1.938), so I chose to run nonparametric statistics for the correlation matrix.

Table 8

Descriptive Statistics of Total SRA-score, Sex, Grade Level, and GPA

	N	Min.	Max.	Mean	Std. Deviation	Skewness		Kurtosis	
						Statistic	Std. Error	Statistic	Std. Error
Total SRA-score	169	38	100	78.68	12.557	-.485	.187	-.189	.371
Sex	169	0	1	.72	.452	-.966	.187	-1.079	.371
Grade	169	9	12	11.01	.970	-.539	.187	-.838	.371
GPA	169	1.55 4	4.120	3.41650	.482595	-1.147	.187	1.938	.371

RQ 1. What factors will emerge within the Rushton SRAS after completing Exploratory Factor Analysis?

After determining that the SRAS total composite scores were normally distributed and the assumptions of linearity were not violated, I chose to run a Pearson correlation to examine the intercorrelations of the 20 SRAS questions. This step was important in helping me determine the appropriate rotation I would select when completing the exploratory factor analysis (EFA). The varimax rotation is most commonly used because of its ease of interpretation, however, the direct oblimin rotation is better suited when factors are correlated (Morgan et al., 2015, p. 71). In my review of the results from the Pearson correlation matrix, the questions on the SRAS all correlated with each other at less than the .05 significance level, except for questions 6, 7, 12, 16, and 20. Table 9 illustrates the questions that did not correlate at <.05. While this revealed an interesting result, I chose to use the direct oblimin rotation because of the preponderance of questions that correlated with each other on the SRAS.

Table 9

SRAS Questions That Did Not Correlate with Each Other <.05

#	Question Subject	# Not Correlated	Question Subject Not Correlated
6	Donating clothes/goods to charity	12 & 20	Giving a stranger a lift in your car & Helping acquaintance move
7	Volunteering to work for a charity	12	Giving a stranger a lift in your car
12	Giving a stranger a lift in your car	6 & 16	Donating clothes/goods to charity & Helping classmate with homework
16	Helping classmate with homework	12	Volunteering to work for a charity
20	Helping acquaintance move	6	Donating clothes/goods to charity

My next step was to determine if there were enough significant correlations to support the completion of an EFA, by confirming an identity matrix did not exist and there was sampling adequacy, by executing Bartlett's test of sphericity and the Kaiser-Meyer-Olkin (KMO) test. For the SRAS, Bartlett's test of sphericity was 1495.675, $p < 0.001$, indicating I would reject the null hypothesis that there was not a relationship among the variables. I found a correlation among the variables and decided that an exploratory factor analysis was an appropriate statistic to run. The KMO measure of sampling adequacy was 0.926. This was an indication of a "marvelous" (Pett, Lackey, & Sullivan, 2003, p. 77, 78) strength of the relationship among the items, and I concluded there are a sufficient number of items for each factor (Morgan, Leech, Gloeckner, & Barrett, 2015, p. 73).

I used EFA and principal axis factoring, and although the results from the Pearson correlation matrix showed that the SRAS questions correlated with each other, I ran varimax and direct oblimin rotations separately and analyzed the differences in the results. Item 17 loaded into factor 2 in the varimax rotation, and factor 1 in the oblimin rotation. I chose to keep question 17 in factor 1 because it was a better conceptual fit with the other questions that loaded in factor 1. This was another confirmation for ultimately using the oblimin rotations in the EFA, along with Pett et al. (2003), who state it should not be assumed the factors are independent of each

other (p.134). The scree plot analysis indicated three factors, and eigenvalues indicated three factors > 1.0 , explaining 55.04% of the variance among them. Review of pattern and structure matrices also indicated that items loaded onto three factors.

I specified three factors, and ran the EFA two separate times, once suppressing factor loadings $< .30$, and then again at $< .40$. All items loaded exactly the same on both loadings, so I ultimately chose to suppress factor loading $< .30$. I ran the loadings once more, specifying two factors. When I specified two factors, I analyzed the questions as they loaded, and determined that the questions aligned with each other more logically in three factors, rather than two. Using two factor loadings also weakened the internal consistency, and yielded lower coefficient alphas. I reviewed all of this information and chose to use the three factor loadings for interpretation and additional statistical analysis. Factor loadings are presented in Table 10. The first factor included items that involve low personal risk to the volunteer, such as donating to charities, holding an elevator door, helping acquaintances, or classmates, and watching a neighbor's pet or child. The second factor included items that involve high personal risk to the volunteer and are all associated with strangers; such as giving directions, carrying and loaning items, making change, giving money, or giving them a ride in the car. The third factor included items that involve moderate personal risk to the volunteer such as donating blood, pushing a car out of the snow, letting someone go ahead in a line, offering a seat on a bus, or helping an acquaintance move.

Table 10

Factor Loading for Exploratory Factor Analysis: Principal Axis Factoring With Oblimin Rotation of Rushton Self-Rater Altruism (SRA) Scale Items

SRA-Scale Items	Factor 1 (Low Risk Behaviors)	Factor 2 (High Risk Behaviors)	Factor 3 (Mod. Risk Behaviors)
7	.751		-.373
6	.740		
18	.706	.468	-.606
15	.674	.417	-.395
4	.664	.409	-.343
10	.652	.377	-.463
13	.630	.437	-.468
16	.592	.366	-.478
17	.558	.451	-.531
5	.466	.791	-.314
3	.483	.725	-.412
12		.719	-.385
9	.461	.638	-.573
14	.493	.573	-.523
2	.359	.565	-.429
20	.396	.428	-.740
19	.693	.506	-.698
1	.389	.478	-.604
11	.475	.395	-.504
8	.425	.365	-.441

Note. Factor loadings in bold indicate the factor placement of each item. Eigenvalues > 1.0 was selected. Coefficients < .30 were suppressed

I calculated a Pearson correlation matrix and Cronbach's Alpha for each set of factor loadings (refer to Table 11). Coefficient alpha scores above .70 indicate good internal consistency reliability of the factor items, and correlations below .30 indicate weak relationships between the items (Morgan, Leech, Gloeckner, & Barrett, 2011). Correlations for low risk factor items ranged from .324 to .569 and were significant at the <.05 level, indicating a moderate to strong positive relationships between the items. The correlation alpha for low risk factor items was .872, suggesting the items had relatively high internal consistency.

Correlations for moderate risk factors ranged from .242 to .543 and were significant at the $<.05$ level, indicating weak to strong relationships among the items. The coefficient alpha for moderate risk factor items was .759, suggesting the items had relatively high internal consistency. Items 8 and 11 from the moderate risk factor grouping were correlated at .242, however, the decision to retain these items was made in order to maintain a minimum number of five items in each factor. When I removed these items, it lowered the overall internal consistency reliability alpha of the moderate risk factors. Correlations for high risk items ranged from .327 to .575 and were significant at the $<.05$ level, indicating moderate to strong positive relationships between the items. The coefficient alpha for high risk factor items was .830, again suggesting the items had relatively high internal consistency. I chose to keep all items in order to maintain high levels of internal consistency, conceptual fit, and a minimum number of 5 items in each factor.

Table 11

Pearson Correlation Matrix and Cronbach's Alpha Score for SRAS Low, Moderate and High Risk Factor Items

Low Risk Items	6	7	4	15	10	18	13	16	17	Cronbach's Alpha
6	1.00									.872
7	.569	1.00								
4	.497	.550	1.00							
15	.456	.528	.465	1.00						
10	.490	.463	.388	.433	1.00					
18	.487	.540	.497	.526	.479	1.00				
13	.390	.461	.437	.450	.432	.476	1.00			
16	.404	.398	.342	.391	.490	.406	.449	1.00		
17	.324	.364	.369	.433	.372	.496	.459	.489	1.00	
Moderate Risk Items	20	1	19	11	8					Cronbach's Alpha
20	1.00									.759
1	.426	1.00								
19	.543	.475	1.00							
11	.407	.314	.424	1.00						
8	.320	.388	.416	.242	1.00					
High Risk Items	12	5	3	2	9	14				Cronbach's Alpha
12	1.00									.830
5	.547	1.00								
3	.483	.575	1.00							
2	.378	.394	.532	1.00						
9	.451	.531	.451	.376	1.00					
14	.419	.456	.422	.327	.435	1.00				

RQ 2. What are the Altruistic Differences Among High School Student Volunteer

Demographics, as Measured by the SRAS?

This section will focus on answering the four sub-research questions that examine the relationships and correlations amongst the independent variables of sex, grade level, and GPA. I used inferential statistics to answer these questions and will discuss the analysis methods and results of each sub-question.

RQ 2.1 What is the Difference in the Total Altruism and Summated Factor Scores Between Males & Females?

To determine statistical differences of total altruism, low risk factor, moderate risk factor, and high risk factor altruism scores between females and males, I compared the means and each score so that if I found statistically significant results, I would be able to determine whether males or females would have higher altruism scores overall. Results are shown in Table 12. Females had higher mean scores on all SRAS scores, so I would conclude that any statistically significant differences would favor females. Levene’s test for equality of variances for each of the altruism scores was $>.05$, indicating the assumptions were not violated and the variances were equal amongst each of the independent variables.

Table 12
Means and Standard Deviations Comparing SRAS Total, Low Risk, Moderate Risk, and High Risk Factor Scores

Sex	<i>n</i>	Total SRAS		Low Risk Factor		Moderate Risk Factor		High Risk Factor	
		<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Females	121	80.84	11.823	39.76	5.130	19.44	3.812	21.64	4.579
Males	48	73.23	12.820	35.06	6.183	18.42	3.678	19.75	4.702

When I analyzed the results of the ANOVA, there was a statistical difference on three of the four dependent variables being measured. Total altruism scores $F(1,167) = 13.581, p = .001$, with an effect size, which according to Cohen (1988) is medium ($p = .001, d = .618$), low risk factor scores $F(1,167) = 25.563, p = .001$, with a large effect size ($p = .001, d = .831$) and high risk factor scores $F(1,167) = 5.796, p = .017$, with a small effect size ($p = .017, d = .407$). When I compared the means (Table 13), I was able to determine females had statistically significant higher altruism scores on each of these three SRAS scores. The results on moderate risk factor

scores indicated there was not a statistical difference between females and males; $F(1,167) = 2.516, p = .115$.

Table 13
One-Way Analysis of Variance Summary Table Comparing SRAS Total, Low Risk Factor, Moderate Risk Factor, and High Risk Factor Scores

SRAS Score	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>p</i>
Total Score					
Between groups	1	1992.250	1992.250	13.581	.001
Within groups	167	24498.496	146.698		
Total	168	26490.743			
Low Risk Factor					
Between groups	1	758.463	758.463	25.563	.001
Within groups	167	4954.862	29.670		
Total	168	5713.325			
Moderate Risk Factor					
Between groups	1	35.850	35.850	2.517	.115
Within groups	167	2379.452	14.298		
Total	168	2415.302			
High Risk Factor					
Between groups	1	123.364	123.364	5.796	.017
Within groups	167	3554.719	21.286		
Total	168	3678.083			

RQ 2.2 What is the Difference in the Total Altruism and Summated Factor Scores Between Freshmen, Sophomores, Juniors, and Seniors?

I ran an ANOVA for each dependent variable in order to determine statistical differences of total altruism, low risk factor, moderate risk factor, and high risk factor altruism scores between freshmen, sophomores, juniors, and seniors. Levene’s test for equality of variances was $> .05$, therefore equal variances were assumed among the independent variables. The four scores were not statistically significant between grade levels. Total scores, low risk summated factor scores, moderate risk summated factor scores and high risk summated factor scores were $F(3,$

165) = .725, $p = .538$; $F(3, 165) = 1.23$, $p = .301$; $F(3, 165) = .286$, $p = .836$; $F(3, 165) = 1.521$, $p = .211$ respectively. I chose to retain the null hypothesis and concluded there were not any statistical differences between grade levels on the total score and each summated factor score.

RQ. 2.3 What is the interaction between sex and grade level on total altruism and summated factor scores?

To determine if sex and grade level had an interaction effect on total altruism and summated factor scores, I ran a 2 x 4 factorial ANOVA. There was not a significant interaction between sex and grade level on total altruism and summated factor scores. Total altruism scores, low risk summated factor scores, moderate risk summated factor scores and high risk summated factor scores were $F(3, 161) = .374$, $p = .772$; $F(3, 161) = .630$, $p = .596$; $F(3, 161) = .491$, $p = .689$; $F(3, 161) = .043$, $p = .988$ respectively. There was also not a significant main effect of sex on total altruism scores, low risk summated factor scores, moderate risk summated factor scores and high risk summated factor scores; $F(1, 167) = 1.538$, $p = .217$, $F(1, 167) = 2.494$, $p = .116$, $F(1, 167) = .104$, $p = .748$, and $F(1, 167) = 1.267$, $p = .260$ respectively. Likewise, there was not a significant main effect of grade level on total altruism scores, low risk summated factor scores, moderate risk summated factor scores and high risk summated factor scores; $F(3, 163) = .117$, $p = .950$, $F(3, 163) = .293$, $p = .830$, $F(3, 163) = .203$, $p = .894$, and $F(3, 163) = .594$, $p = .620$ respectively. If I had found any statistically significant results, I would use the Eta squared results to help determine the effect sizes. Results can be found in Table 14. Given the lack of statistical significance that grade levels had on the scores by themselves, I was not surprised that no statistical significance of the combined interaction between sex and grade level was found.

Table 14

Two-Way Analysis of Variance of the Effects of Gender and Grade Level on Total Factor Scores, Low Risk Factors Scores, Moderate Risk Factor Scores, and High-Risk Factor Scores

Source	df	SS	MS	F	<i>p</i>	Eta Squared
Total Factor Score						
Gender	1	229.593	229.593	1.538	.217	.009
Grade Level	3	52.229	17.410	.117	.950	.002
Gender x Grade Level	3	167.623	55.874	.374	.772	.007
Low Risk Factor Score						
Gender	1	75.630	75.630	2.494	.116	.015
Grade Level	3	26.680	8.893	.293	.830	.005
Gender x Grade Level	3	57.361	19.120	.630	.596	.012
Moderate Risk Factor						
Gender	1	1.497	1.497	.104	.116	.001
Grade Level	3	8.798	2.933	.203	.894	.004
Gender x Grade Level	3	21.273	7.091	.491	.689	.009
High-Risk Factor Score						
Gender	1	27.377	27.377	1.276	.260	.008
Grade Level	3	38.241	12.747	.594	.620	.001
Gender x Grade Level	3	2.798	.933	.043	.988	.001

RQ 2.4 What is the Strength of the Relationship Between GPA and Total Altruism and Summated Factor Scores?

To answer this question I ran a correlation matrix, and because of the considerable negative skewness of -1.147 on GPA, I ran a Spearman Rho correlation matrix that is used nonparametric statistics. There was not a statistically significant relationship between GPA and total altruism scores ($p = .877$), GPA and low risk summated altruism factor scores ($p = .745$), GPA and moderate risk altruism summated factor scores ($p = .826$), or GPA and high-risk altruism summated factor scores ($p = .575$). There was no relationship between GPA and altruism. I rejected the null hypothesis and concluded that students with higher GPAs are not more altruistic than their peers with lower GPAs.

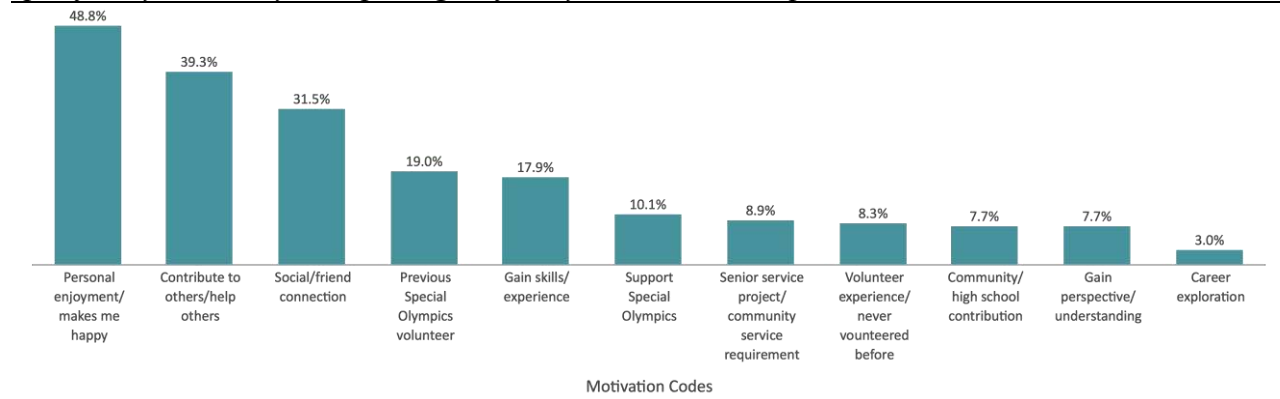
RQ3. What are the reported motivations and benefits of high school students who volunteer?

This section will focus on answering the two sub-research questions that examine the volunteer’s reported motivation for volunteering, and the reported benefits from volunteering. I chose to analyze this data through the deductive qualitative analysis process of thematic coding.

RQ 3.1 What are the reported motivations for volunteering?

Volunteer responses were thematically coded, using the process outlined in chapter four. One volunteer did not respond to the question, however, the remaining 168 responses fell within 11 thematic codes. The codes are: Gain perspective/understanding; Gain volunteer experience/never volunteered; Personal enjoyment/makes me happy; Previous Special Olympics volunteer; Senior service project/community service project; Community/high school contribution; Social/friend connection; Contribute to others/help others; Gain skills/experience; Career exploration. Of the volunteers, 118 reported more than one motivation for volunteering. Table 15 illustrates the percentage of volunteer responses that fell within each code. The codes of Personal enjoyment/makes me happy was reported by almost half of the volunteers.

Table 15
Coded Responses to Question: ‘Explain briefly why you would like to help with this year’s event. Specifically what do you hope to gain from your volunteer experience?’

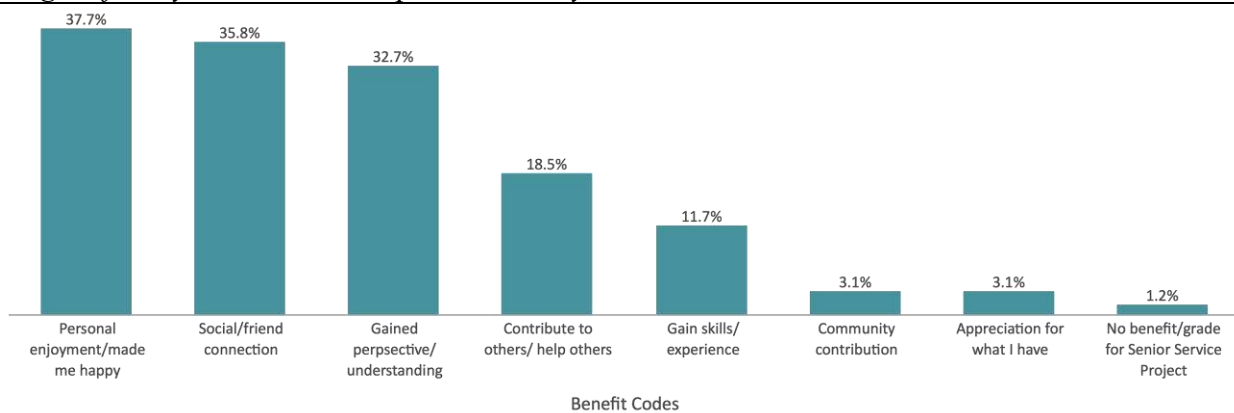


RQ 3.2 What are the reported benefits from volunteering?

Volunteer responses were thematically coded, using the same process outlined in chapter four. Seven volunteers did not respond to the question, however, the remaining 162 responses fell within eight thematic codes. The codes are: No benefit/grade for senior service project; Gained appreciation for what I have; Gain skills/experience; Contribute to others/help others; Community contribution; Social/friend connection; Gained perspective/understanding; Personal enjoyment/made me happy. Of the volunteers, 64 reported more than one benefit from volunteering. Table 16 illustrates the percentage of volunteer responses that fell within each code. The top two codes of Personal enjoyment/made me happy, and Social/friend connection were reported by more than one-third of all volunteers.

Table 16

Coded Responses to Question: 'Please take a moment to reflect upon your experience. What did you gain from your volunteer experience today?'



RQ 4. To what extent does the explanatory qualitative data about high school students' reported motivations and benefits of volunteering explain the quantitative altruistic differences reported on the SRAS?

This section will focus on answering the four sub-research questions that examine the relationships amongst the independent variables of sex and grade level, in relation to the

dependent variables of motivation and benefit codes that were developed as a result of the thematic coding process.

RQ4.1 What is the difference in reported motivations between males and females?

To determine statistical differences of reported motivations between males and females, I ran a Fisher's Exact for each dependent variable. I chose Fisher's exact because both the independent and dependent variables were nominal and dichotomous, and there were several cells with counts less than five. Upon reviewing the results, I was looking for a Fisher's exact test score of $<.05$, which is the same as the p value, and indicates a statistically significant relationship. Additionally, the Phi values are the effects size of the statistic, and indicate the strength of the relationship between the variables (Morgan et al., 2015). Two of the 11 motivation codes were statistically significant between males and females, and are presented in Table 17. I rejected the null hypothesis and concluded there was a statistical difference between males and females for the motivation code of completing a required senior service/community service project ($p = .035$) and volunteering for social/friend connections ($p = .010$). I analyzed the strength of the relationship for both motivation and concluded that they each have small to medium and small effect sizes (Phi = .173, $p = .025$) and (Phi = .010, $p = -.010$) respectively. My review of counts indicated more males volunteered to fulfill a senior service/community service project, while more females volunteered to fulfill a social/friend connection motivation.

Table 17

Fisher's Exact Table of Statistically Significant Motivation Codes Between Males and Females

Motivation Code	Males		Females		<i>p</i>	Phi
	n	%	n	%		
Senior service/community service requirement					.035	.173
Yes	8	16.7	7	5.8		
No	40	83.3	114	94.2		
Social/friend connection					.010	-.199
Yes	8	16.7	45	37.2		
No	40	83.3	76	62.8		

RQ4.2 What is the difference in reported motivations between Freshmen, Sophomores, Juniors, and Seniors?

To determine statistical differences of reported motivations between freshmen, sophomores, juniors, and seniors, I conducted a chi-square for each dependent variable. I selected the chi-square because the dependent variables were nominal and dichotomous, while the independent variable was ordinal. Two of the 11 motivation codes were statistically significant between grade levels, and are presented in Table 18. I rejected the null hypothesis and concluded there was a statistical difference between grade levels for the motivation of volunteering to complete a senior service/community service project requirement ($\chi^2 = 19.956$, $df = 3$, $N = 169$, $p = .001$), and for volunteering for career exploration motivations ($\chi^2 = 9.657$, $df = 3$, $N = 169$, $p = .022$). I reviewed the counts and conclude that seniors volunteered to fulfill a senior service/community service project, while sophomores volunteered to fulfill the career exploration motivation. I evaluated the strength of the relationship with the Phi statistic, and determined there is a medium effect size (Phi = .344, $p = .001$) for the senior service/community service requirement motivation, and a small to medium effect size (Phi = .239, $p = .022$) for the career exploration motivation.

Table 18

Chi Square Table of Statistically Significant Motivation Codes Between Freshmen, Sophomores, Juniors, and Seniors.

Motivation Code	Freshmen		Sophomores		Juniors		Seniors		χ^2	p
	n	%	n	%	n	%	n	%		
Senior service/community service requirement									19.956	.001
Yes	0	0	0	0	1	2	14	20.9		
No	13	100	39	100	49	98	53	79.1		
Career Exploration									9.657	.022
Yes	0	0	4	10.3	0	0	1	1.5		
No	13	12.6	35	37.8	50	48.5	66	65		

RQ4.3 What is the difference in reported benefits between males and females?

To determine statistical differences of reported benefits between males and females, I ran a Fisher’s Exact for each dependent variable. Fisher’s exact was used again, because both the independent and dependent variables were nominal and dichotomous, and there were several cells with counts less than five. No statistically significant differences between males and females were found amongst any of the eight reported benefit codes. No benefit/grade for senior service project (FET = .079); Gained appreciation for what I have (FET = 1.000); Gained skills/experience (FET = .102); Contribute to others/help others (FET = .272); Community connection (FET = .323); Social/friend connection (FET = .281); Gained perspective/understanding (FET = .469); Personal enjoyment/made me happy (FET = .373). I decided to retain the null hypothesis and found no evidence to support a statistical significance between males and females.

RQ4.4 What is the difference in reported benefits between Freshmen, Sophomores, Juniors, and Seniors?

To determine statistical differences of reported benefits between freshmen, sophomores, juniors, and seniors, I once again conducted a chi-square for each dependent variable. Three of

the eight benefit codes were statistically significant between grade levels, and are presented in Table 19. I once again rejected the null hypothesis and concluded there was a statistical difference between grade levels for the reported benefit of gain skills/experience ($\chi^2 = 15.009$, $df = 3$, $N = 169$, $p = .002$), for the community connection benefit ($\chi^2 = 11.816$, $df = 3$, $N = 169$, $p = .008$), and for the social/friend connection benefit ($\chi^2 = 11.723$, $df = 3$, $N = 169$, $p = .008$). My review of counts indicated sophomores reported a benefit from gaining skills/experience and a community connection. I analyzed the Phi statistic and conclude there is a small to medium effect size ($\Phi = .298$, $p = .002$) and ($\Phi = .264$, $p = .008$) respectively. For the third statistically significant difference, juniors reported a social/friend connection as a benefit from volunteering, with a small effect size ($\Phi = .263$, $p = .008$).

Table 19
Chi Square Table of Statistically Significant Benefit Codes Between Freshmen, Sophomores, Juniors, and Seniors.

Motivation Code	Freshmen		Sophomores		Juniors		Seniors		χ^2	p
	n	%	n	%	n	%	n	%		
Gain skills/experience									15.009	.002
Yes	1	1.5	11	4.4	4	5.6	3	7.5		
No	13	100	39	100	49	98	53	79.1		
Community connection									11.816	.008
Yes	1	7.7	4	10.3	0	0	0	0		
No	12	92.3	35	89.7	100	100	67	100		
Social/friend connection									11.723	.008
Yes	7	53.8	13	33.3	24	48.0	14	29.9		
No	6	46.2	26	66.7	26	52.0	53	79.1		

CHAPTER V: DISCUSSION, RECOMMENDATIONS, & CONCLUSION

Emergence of Factors Within the Rushton SRAS After Completing Exploratory Factor

Analysis (RQ 1)

As stated in chapter four, I conducted an exploratory factor analysis (EFA) of the SRAS to determine if any of the questions measuring altruism aligned under similar, smaller constructs. I hypothesized the questions from the SRAS would load onto more than one factor. The results from the EFA indicated the 20 questions loaded onto three separate factors. Scree plot analysis confirmed the loading onto three factors as well. When I compared the questions that loaded onto three factors versus two factors, not only was the internal consistency stronger with three factor loadings, but the questions aligned with low, moderate, and high-risk factors that just on low or high-risk alone. When I conducted t-test analysis on two summated factor scores, there was not evidence to support a statistically significant difference between sex. I believe that keeping three factors allowed for the low and high-risk summated factor score to show a statistically significant relationship because the moderate risk questions did not align with low and high-risk questions, therefore minimizing the effect if two factors were analyzed. I analyzed the questions that loaded onto each factor, and determined that the questions aligned based on the level of personal risk to the volunteer. This information adds to the body of literature related to the SRAS. Erdle, Sansom, Cole, and Heapy (1992) conducted an EFA on the SRAS with 111 undergraduate university students who were taking a course in psychology. While they concluded the questions loaded onto two factors, they concluded similarly that questions aligned together based upon personal risk (p. 932). Additionally, the levels of risk align with findings from Schopler and Batson (1965) and Austin (1979) that report risk, potential harm, and solicitor dependency are factors that influence a person's willingness to volunteer.

Altruistic Differences Among High School Student Volunteer Demographics, as Measured by the SRAS (RQ 2)

I hypothesized sex and grade level differences in altruism scores would be found amongst the volunteers. I also hypothesized that there would be a positive relationship between GPA and altruism scores, indicating that students with higher GPAs were more altruistic. Statistical differences in altruism scores were found between males and females, but there was no statistical difference between freshmen, sophomores, juniors or seniors. Additionally, there was not a significant interaction between sex and grade level, nor was there a statistically significant relationship between GPA and altruism scores. I will expand upon each of the results and my findings in the next sections.

Differences in the Total Altruism and Summated Factor Scores Between Males & Females (RQ 2.1)

I conducted an ANOVA between sex and total altruism scores, low risk summated factor scores, moderate risk summated factor scores, and high risk summated factor scores. Females had statistically significant higher scores than males on total altruism, low risk, and high-risk summated factor scores. It is important to note the effect sizes varied among the results. Differences found in total altruism scores had a medium effect size and the low risk summated factor scores had a large effect size. These effect sizes are an indicator of the size of the difference, or importance of the effect of sex on the dependent variables (Morgan, et al., 2015). In these cases, I am comfortable in reporting a statistical significance amongst these two altruism scores. In the case high-risk summated altruism scores, the effect size is small, which means the size of the sex effect on the scores is weak. I would want to conduct further analysis with another data set, if possible, before confidently reporting these results. There is a greater chance

I could make a Type I error, and make a false positive conclusion of statistically significant results (Morgan, et al., 2015).

Overall, I was not surprised by these results, and much of the literature on sex differences indicates when statistical difference are found, they favor females as being more altruistic than males (Austin, 1979; Grusec & Skubiski, 1970; Shigetomi et al., 1981). I would note however, the findings are also contradictory to the social role theory and findings from Erdle et al. (1992) indicate females favor helping in low risk situations, while males are more likely to help in higher risk situations. However, when I overlay findings from Schopler and Bateson (1965) indicate an increase in females' willingness to help in higher risk situations when the solicitor is perceived to have a higher level of dependence, this helps support my results. Findings from Byrne (2008) also indicate females are more likely to help in situations at the micro level, or 1:1 situations, while males are more likely to help at the micro, or societal/world level. Together, these results align with my findings because all of the high-risk situations presented in each of the questions on the SRAS involved a high level of dependence at the individual level. In addition, all of the athletes (or solicitors) were disabled, therefore increasing the perceived level of dependence upon the volunteer.

Grade Level Differences, Interactions Between Sex and Grade Level, and Relationships Between GPA & Altruism (RQ 2.2, RQ 2.3, & RQ 2.4)

After conducting a two-way, factorial ANOVA between each grade level and total altruism scores, low risk summated factor scores, moderate risk summated factor scores, and high risk summated factor scores, I was not able to find any evidence supporting a statistical significance between the grade levels. I was surprised by the results because the current body of literature related to altruism and age indicates that individuals become more altruistic throughout

their lives (Chambers & Ascione, 1987; Chou, 1998; Green & Schneider, 1974; Handlon & Gross, 1959; Harris, 1967; Krebs, 1970; Lowe & Ritche, 1973; Midlarsky & Bryan, 1967; Fulkner et al., 1989; Rushton & Wiener, 1975; Shure, 1968; Uguel-Semin, 1952). In an effort to make sense of my findings, I hypothesize that the volunteers, whose ages fell between 14 and 18 years of age, did not span different developmental levels, which may have contributed to the findings. This hypothesis is consistent with results from Staub (1970), and Piliavian and Charng (1990), whose studies indicated that during adolescence, altruism and helping behavior may actually plateau or contribute to a curvilinear development due to a fear of peer disapproval and underdeveloped empathic sensitivity, perspective-taking, social responsibility, moral reasoning, and knowledge of cultural norms (Piliavin & Charng).

After analyzing the results from the 2x4 factorial, I found no interaction effect between sex and grade level on total altruism, low total altruism scores, low risk summated factor scores, moderate risk summated factor scores, and high risk summated factor scores. In addition, there was also no significant main effect on sex or grade level. I was not surprised by these results, especially since there was not a statistically significant difference between freshmen, sophomores, juniors and seniors on total altruism, low risk summated factor scores, moderate risk summated factor scores, and high risk summated factor scores. There is also no evidence in the current body of literature that indicates otherwise.

Finally, in order to analyze the relationship between GPA and altruism, I conducted Spearman Rho correlation matrix, due to the high negative skewness of the data set. I found no statistical relationship found between GPA and total altruism, low total altruism scores, low risk summated factor scores, moderate risk summated factor scores, and high risk summated factor scores. This is consistent with findings from Eisenberg-Berg's 1979 study that also found no

intelligence differences related to altruism. I have also determined that using GPA as a measure of intelligence has not been supported in research. I could not find any research related to altruism and GPA scores, and without additional data, such as IQ scores, I will only report that high school students who have higher GPAs are not more altruistic than their peers who have lower GPAs, and will not make any interpretations about the intelligence levels of the volunteers. Krebs and Sturupp (1974) and Millet and Dewitte (2007) found that individuals who have higher IQ's are more altruistic, so I was delighted to find that GPA did not correlate with altruism scores in my study. I have seen students with lower GPAs struggle in school, not only academically, but also in connecting to school and finding a reason to attend. I have worked with many of these students who find meaning in attending school by working with students who have cognitive and social disabilities. They find personal satisfaction in helping others, and many times are able to teach lead students who have because they are proficient in the academic content and are able to help model socially appropriate communication skills.

RQ3. What are the reported motivations and benefits of high school students who volunteer?

While the quantitative differences among volunteers tell part of the story, I wanted to analyze their written responses related to their motivations for volunteering and their reported benefits after the event. One of the major problems in reporting motivations is in determining themes, or categories, of motivations that are reported from individuals (Kleinginna & Kleinginna, 1981). In order to address this concern, I used the qualitative thematic analysis method to analyze the student responses, and ended up with 11 codes related to student volunteer motivations, and eight responses related to reported benefits from the volunteers. Six of the codes were the same for volunteer motivations and reported benefits, however, the percentage of

student responses that fell under each code differed, as seen in Table 20. The code of Personal enjoyment/makes me happy was ranked as the top code for both reported motivations and benefits. Additionally, volunteers reported Gain perspective/understanding as the tenth most frequently reported motivation, but as the fifth most frequently reported benefit. I will report all motivations and benefits in the next sections, but wanted to highlight the overlap between the coded responses. This overlap would be an area that could be analyzed in future studies, and I will expand on this concept later in this chapter.

Table 20
Codes Reported from Volunteer Motivations and Benefits from Volunteering; Listed by Response Code Ranking

Code	Motivation Code Ranking (Out of 11)	Benefit Code Ranking (Out of 8)
Personal Enjoyment/Makes Me Happy	1	1
Contribute to Others/Help Others	2	4
Social/Friend Connection	3	2
Gain Skills/Experience	5	3
Community/High School Contribution	9	6
Gain Perspective/Understanding	10	5

(Chaplain, 2017)

What are the reported motivations and benefits from volunteering (RQ 3.1, RQ 3.2)?

I used the thematic analysis coding process to take all of the written responses from the 169 volunteers and came up with 11 different codes that represent the essential themes of their reported motivations. In ranking order, by the number of responses that fell within each code they are: Personal enjoyment/makes me happy; Contribute to others/help others; Social/friend connection; Previous Special Olympics volunteer; Gain skills/experience; Support Special Olympics; Senior service/community service requirement; Volunteer experience/never volunteered before; Community/high school contribution; Gain perspective/understanding; Career exploration. Understanding the motivations of student volunteers will help me increase volunteer recruitment. Volunteer recruitment messages that are aligned with the specific

motivations of volunteers have been shown to increase the likelihood that individuals will volunteer (Clary & Snyder, 1999).

Clary, Snyder, and Stukas (1996) reported six functions of volunteering from their study with adults. These functions are used to describe the adult motivations for volunteering across the nation. I have been able to align 10 out of the 11 codes I developed, with five out of the six functions reported by Clary, Snyder, and Stukas. This alignment can be seen in Table 21. I was not able to align the motivation of fulfilling a mandated senior service or community service requirement with any of Clary, Snyder & Stukas's functions; however, I believe this is because those students were not volunteering to fulfill an internal motivation. The students were fulfilling an external expectation, put upon them by someone else. I also did not have any codes that could match with Clary, Snyder & Stukas's protective function, which states individuals volunteer in order to reduce personal guilt, or feelings of inferiority for not volunteering. No students in my study reported any motivations that would align with this function.

Table 21

Motivation Thematic Coding Alignment with Clary, Snyder, & Stukas Six Volunteer Functions

Motivation Thematic Coding (Chaplain, 2017) Six Volunteer Functions	
Personal Enjoyment/Makes Me Happy	Enhancement Function (Enhance Self- Esteem)
Contribute to Others/Help Others	Values Function (Volunteering Important for Personal Values)
Social/Friend Connections	Social Function (Fit & Get Along with Others)
Previous Special Olympics Volunteer	Values Function (Volunteering Important for Personal Values)
Gain Skills/Experience	Understanding Function (Increase Knowledge of World/Practice New Skills)
Support Special Olympics	Values Function (Volunteering Important for Personal Values)
Senior Service/Community Service Requirement	*No Alignment
Volunteer Experience/Never Volunteered Before	Understanding Function (Increase Knowledge of World/Practice New Skills)
Community/High School Contribution	Values Function (Volunteering Important for Personal Values)
Gain Perspective/Understanding	Understanding Function (Increase Knowledge of World/Practice New Skills)
Career Exploration	Career Function (Gain Experience for Career)

**The Six Volunteer Functions are taken from “Volunteers’ Motivation: Findings from a National Survey (Clary, Snyder, & Stukas, 1996).*

After analyzing the written responses from the volunteers regarding the reported benefits, I created eight codes. In ranking order, by the number of responses that fell within each code they are: Personal enjoyment/made me happy; Social/friend connection; Gain perspective/understanding; Contribute to others/help others; Gain skills/experience; Community contribution; Appreciation for what I have; No benefit/grade for senior service project. Once again, Table 22 illustrates the seven out of the eight benefit codes that I have been able to align with the volunteer functions from Clary, Snyder, and Stukas (1996).

Table 22

Benefit Thematic Coding Alignment with Clary, Snyder, & Stukas Six Volunteer Functions

Benefit Thematic Coding (Chaplain, 2017)	Six Volunteer Functions
Personal Enjoyment/Makes Me Happy	Enhancement Function (Enhance Self- Esteem)
Social/Friend Connections	Social Function (Fit & Get Along with Others)
Gain Perspective/Understanding	Understanding Function (Increase Knowledge of World/Practice New Skills)
Contribute to Others/Help Others	Values Function (Volunteering Important for Personal Values)
Gain Skills/Experience	Understanding Function (Increase Knowledge of World/Practice New Skills)
Community/High School Contribution	Values Function (Volunteering Important for Personal Values)
Appreciation for What I Have	Understanding Function (Increase Knowledge of World/Practice New Skills)
No Benefit/Grade for Senior Service Project	*No Alignment

**The Six Volunteer Functions are taken from “Volunteers’ Motivation: Findings from a National Survey (Clary, Snyder, & Stukas, 1996).*

The motivation and benefit codes I have established will be used as a recruiting tool for future Special Olympics events, which aligns with a functionalist approach. According to Katz (1960) individuals are motivated to fulfill psychological and social needs by their actions. My findings align with the previous studies and indicate high school students have similar needs as adults. Students also perform the same actions, but for different reasons, and to fulfill different emotional or behavioral functions (Clary, Snyder, Ridge, et. al, 1988). When I analyzed each response, I documented 118 of the volunteers reported multiple motivations for volunteering. My results also align with the functionalist perspective that people have multiple motivations for volunteering. If I can determine the multiple motivations of volunteers and advertise these in my recruiting efforts, I hope to increase and sustain volunteering (Stukas, Worth, Clary, & Snyder, 2009). I have evidence from the responses that support this, as there were 30 out of 169 volunteers who reported they were a previous Special Olympics volunteer. I have used the

reported motivations and benefits in my direct advertisements, fliers, and announcements for volunteers for the 2017 May event.

RQ 4. To what extent does the explanatory qualitative data about high school students' reported motivations and benefits of volunteering explain the quantitative altruistic differences reported on the SRAS?

When I first set out to conduct mixed methods research, I wanted to explore ways to take some of the qualitative coding and conduct quantitative analyses to determine if there were statistically significant differences between sex and grade level in regard to what volunteers reported. In my mixed methods data analysis, I was able to find evidence in support of grade level differences that did not appear on altruism scores by themselves. Without this information, I may have concluded there was not a need for differentiating the recruitment messages for volunteers between the grade levels.

RQ4.1 What is the difference in reported motivations between males and females?

As reported in the data analysis section, I found statistically significant differences between males and females on two motivation codes. The first, favoring males, was for the motivation of volunteering solely to fulfill a senior service or community service requirement that place upon them. The second difference indicated female motivations were higher when volunteering to fulfill a social or friend connection. While both of these findings align with the social role theory that suggests the closeness of the relationship with the recipient will influence helping behavior (Erdle et al., 1992), and Byrne's study in 2008 that showed evidence that women help in micro level situations involving 1:1 relationships, once again it is important to note that both sets of results yield small effect sizes, so I am cautious about the results in light of

making a Type I error. I would like to conduct future studies with additional cohorts of volunteers, and determine if they yield similar results.

RQ4.2 What is the difference in reported motivations between Freshmen, Sophomores, Juniors, and Seniors?

After analyzing the data, I found statistically significant results amongst two grade levels; seniors and sophomores. There was a medium effect size for the motivation of completing a senior service of community service requirement that was statistically significant for seniors. In this situation, the numbers might indicate information that would add to the existing body of literature, however, seniors are the only grade level who are assigned senior service projects. In addition, when students are assigned community service, they are required to serve this before they are allowed to participate in graduation. My review of the students who reported this motivation confirms that 14 of out the 15 students were seniors. One junior reported volunteering to fulfill community service hours for National Technical Honor Society.

In regards to the sophomore results, the career exploration motivation code was statistically significant, but with a small effect size. As a practitioner who has worked with high school students for over 14 years, I know the sophomore year is a pivotal year for students because many begin exploring colleges and taking college preparatory exams in their junior year. The sophomores have “survived” their freshman transition year into high school and begin to think about life after graduation. I believe these results could add to the existing body of literature, and possibly indicate an area of future study that seeks to learn more about the career exploration phases of high school students.

RQ4.3 What is the difference in reported benefits between males and females?

I did not find any statistically significant sex differences in relation to the coded reported benefits. These results from RQ4.1 indicated a statistically significant difference, favoring females, in relation to the social/friend connection motivation. Since this same code was also developed when analyzing the reported benefits, finding a statistically significant sex difference for reported benefit would have aligned nicely with my previous findings. However, no sex difference was found between males and female reported benefits.

RQ4.4 What is the difference in reported motivations between Freshmen, Sophomores, Juniors, and Seniors?

In my final research question, statistically significant results are found among sophomores and the benefit code of gaining skills/experiences, and among juniors and the benefit code of social/friend connection. I am delighted to find statistically significant results amongst sophomores, with a small to medium effect size, in relation to the benefit code of gaining skills/experience. This aligns with the results in RQ4.2. Gaining skills and experiences supports the process of career exploration, and is one of the goals of our school district. There is a heavy emphasis on helping students explore careers by engaging in a variety of experiences and enrolling in various curricular, athletic, and social/club opportunities.

The social/friend connection benefit code is statistically significant among juniors, but yields a small effect size. This may contribute to the existing body of literature on age differences in relation to the benefits students report from volunteering in high school, but once again I would like to confirm these findings with futures studies.

Implications for Practice

I met the intended goals of my study. I can report that the SRAS does, is not only measuring altruism overall, but how respondents respond in low risk, moderate risk, and high-risk situation. Females overall, are more altruistic, especially in low and high-risk situations. I have developed 11 motivation and benefit codes that will add to what we know about why high school students volunteer for the Special Olympics track and field event, and what they benefit from after volunteering. The mixed methods analysis, allowed me to understand motivation not just holistically, helped me highlight differences between genders and grade levels. Gender differences were found in reported motivations, but they did not differ in the benefits they received from volunteering. Females volunteered to fulfill a social/friend connection, while males volunteered to complete senior service/community service requirements. The grade level differences were not surprising for seniors because they were the only grade level with a senior service requirement, but the fact that sophomores were more likely to volunteer for career exploration. In addition, sophomores reported gaining skills/experience and community connections as benefits from the experience, and juniors reported a social/friend connection.

I will use the information that I have learned about student motivations for volunteering to support the recruitment efforts for future Special Olympics events. The need for volunteers is constant, and continues to grow as the number of students with disabilities who participate in Special Olympics increases annually. This spring, I am running announcements within the school, and highlighting the motivation and benefit codes from my study. I am directly connecting the relationship between volunteering and altruism, defined as doing good for others. In my messaging, the twenty-first century skills of acting with selflessness and a concern for the larger community interests at heart are also reinforced as reasons for students to volunteer, and

hopefully these messages will entice students who are looking to receive these benefits, to volunteer for the event. Fliers posted around the school read: “Volunteer for Special Olympics! Looking for new experiences? Would you like to gain new skills and explore ways to help others? Applications are due April 5th.” Announcements that are being read throughout the week read: “Would you like to make connections with other students? Make new friends and see lots of smiles? Create a special memory from your high school years! Volunteer for Special Olympics. Pick up your application in the front office today.” A second announcement reads: “Special Olympics is coming May 5th and we need you! Give back to the greater community by volunteering to be a peer buddy or run an athletic event. This is a great way to gain new skills, meet new friends, and do good for others! Applications are due April 5th and can be picked up in the front office today.”

Volunteering is a selfless act, and volunteering for Special Olympics serves several larger communities; students with disabilities in grades 6 through age 21, and Poudre School District middle schools, high schools, and transition programs of students ages 18-21. As I continue to work with Special Olympics Colorado, I would also like to share my results with the organization in hopes that it may be useful to them as well.

One of the results that I was pleased to find, was that GPA and altruism had no connection, so while I will still encourage students to have passing grades in order to miss school for the event, I believe that I will explore options for students who have a hard time connection to school. Discussions with the teacher and student, may help us keep struggling students connected to the school if we make exceptions, and gain student buy-in to work 1:1 with the teacher before the event.

Recommendations for Future Research

Possible areas of future study may include a collaborative study with the Special Olympics organization, which is continually seeking funding to increase their programming within Colorado and across the nation. In relation to my own study, I think there are many opportunities to continue learning about altruism amongst high school students. There are multiple volunteer opportunities within our high school, and it would be interesting to collect SRAS surveys from all volunteers in order to either compare the differences in altruism across various volunteer opportunities, or to capture a larger data set to determine altruism of all volunteers in high school.

There is also an opportunity to conduct a longitudinal study, by collecting the same data from future cohorts of volunteers. The application system has not changed for applying to volunteer for our Special Olympics Track and Field event, so the data is available for future analysis. In addition, middle schools have started bringing volunteers from their own schools. At this point, the middle school students do not complete the same application process, but it is feasible that the SRAS survey could be implemented for the purposes of future research. A study of this nature would include students from 6th through 12th grade, and if the body of literature is correct, age differences may be determined when comparing students who are entering their adolescence against students who are entering adulthood.

Finally, I think it would be feasible to take a closer examination of the reported motivations and benefits of the volunteers. Specially, I wonder how closely the reported motivations of individual volunteers aligned with the specific reported benefits. There were six motivation and benefit codes that were the same, and this could be an area to review more closely, to determine how many of the volunteer responses fell within the same motivation and

benefit code. It would also be interesting to determine the extent that volunteers reported unintended benefits that they did not predict when reporting their motivations for volunteering.

Limitations of the Study

I should stress that my study has been primarily concerned with understanding altruism amongst high school students who volunteer for an annual, dual-district Special Olympics Track and Field Event. In addition to adding to the existing body of research on altruistic gender differences and grade level differences, codes were developed to aid in reporting of student motivations for volunteering and benefits received from volunteering. My findings should not be taken and applied to all volunteering opportunities, all high school students, or all high schools throughout the country. The processes outlined in this study should be duplicated with other volunteer activities, districts, and states before using the results to conduct volunteer recruitment efforts in a generalized nature. The study focused on a specific event, for the purposes of recruiting future volunteers.

Conclusion

When I first began my studies in my doctoral program, I remember my advisor telling me that I should choose something that I am completely passionate about for my dissertation. Passion would be the key to my success, and help me persevere through hours of research, writing, and revisions that are required to finish my doctoral work. I instantly knew that Special Olympics was my passion area, but what I came to learn is that altruism and doing good for others has become the central core philosophy of who I am as a person, a friend, a family member, and a school leader.

Altruism, doing good for others, acting with selflessness, and a concern for the greater community have become the core beliefs that I believe all schools should embrace. Within these

values, are messages that we can use to address the challenges associated with bullying, violence, and conflict. As I move forward in my career, and become the principal of my own school, these are the core beliefs that I will bring with me and infuse into school programming. If we see someone in need, how do we respond? Do we turn a blind eye and walk away, or do we stand up with selflessness and ask ourselves, “How are we living our lives to do good for others?” I believe the key to building a strong community lies within my core beliefs, and that this study has not only helped expand upon what we know about altruism amongst high school students, but has helped expand upon what I know about myself.

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APPENDIX A

Applications Due: **April 12th**



VOLUNTEER APPLICATION

Event Date: Friday May 2, 2014 @ Fossil Ridge Track

ALL Volunteers must be able to volunteer for the entire school day 7:30am – 2:50pm

Name: _____ Grade: _____ Male:___ Female: ___

Volunteer Experience: _____

FRHS Staff Member who would RECOMMEND You: _____

Explain briefly why you would like to help with this year’s event. Specifically what do hope to gain from your volunteer experience?

Please list your previous volunteer experience and/or skills that you have to offer as a volunteer.

You will miss school for the entire day on Friday May 2, 2014. Therefore, you must be in good academic and attendance standing. Your grades and attendance will be reviewed PRIOR to you being accepted for service on this day.

To be completed by FRHS Staff:

___Grade Check: NO more than 1 F

___Attendance Check: No Truancy Concerns (Dean Approval)

___PSD Permission Slip Submitted

___Pre-Arranged Absence Form Submitted

Self-Report Altruism Scale: Please mark the box on the right that conforms to the frequency with which you have carried out the following acts (or would if you had the opportunity).

	Never	Once	More than once	Often	Very often
1. I have helped (or would help) push a stranger's car out of the snow.					
2. I have given (or would give) directions to a stranger.					
3. I have made (or would make) change for a stranger.					
4. I have given (or would give) money to a charity.					
5. I have given (or would give) money to a stranger who needed it (or asked me for it)					
6. I have donated (or would donate) goods or clothes to a charity					
7. I have done (or would do) volunteer work for a charity					
8. I have (or would) donate blood					
9. I have helped (or would help) carry a stranger's belongings.					
10. I have delayed (or would delay) an elevator and hold the door open for a stranger.					
11. I have allowed (or would allow) someone to go ahead of me in a lineup (at Xerox machine, in the supermarket).					
12. I have given (or would give) a stranger a lift in my car.					
13. I have pointed out (or would point out) a clerk's error (in a bank, at the supermarket) in undercharging me for an item.					
14. I have let (or would let) a neighbor, whom I didn't know too well, borrow an item of some value to me (a dish, tools).					
15. I have bought (or would buy) 'charity' Christmas cards deliberately because I knew it was a good cause.					
16. I have helped (or would help) a classmate who I did not know that well with a homework assignment when my knowledge was greater than his or hers.					
17. I have (or would) before being asked, voluntarily looked after a neighbor's pets or children without being paid for it.					
18. I have offered (or would offer) to help a disabled or elderly stranger across the street.					
19. I have offered (or would offer) my seat on a bus or train to a stranger who was standing.					
20. I have helped (or would help) an acquaintance to move into a new home.					

T-Shirt Size: _____

Volunteer Preference: ___ Peer buddy with an athlete

___ Run an athletic event

**Preferences are not guaranteed

APPENDIX B

Volunteer Exit Ticket

Name _____

Special Olympics 2014

Thank you for volunteering today! Please take a moment to reflect upon your experience.

What did you gain from your volunteer experience today?

What suggestions do you have for next year's event?

Thanks again! Ms. Chaplain ☺