

Adolescent girls' leadership in Honduras: CARE's Girls' Leadership Index survey

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## **Chapter 1: Introduction**

### **Education Goals and Girls**

In 2000, leaders from around the world adopted the United Nations Millennium Declaration in a commitment to reduce extreme poverty through eight Millennium Development Goals (United Nations, 2009). The second goal, achieving universal primary education, seeks to ensure that both boys and girls have access to schooling around the world. Because of the positive effects of girls' education, such as delaying marriage and pregnancy, improving child health, and empowering girls to contribute to family income and national productivity, this development goal has been a major focus over the last decade (Herz & Sperling, 2004; United States Agency for International Development [USAID], 2008a). Yet, it has been estimated that 16 percent of the world's population lacks basic literacy skills, two-thirds of whom are women (United Nations Educational, Scientific and Cultural Organization [UNESCO], 2008). In addition, females accounted for 55% of the out-of-school population in 2007, and girls from the poorest households in rural areas were more likely to be excluded from primary education (United Nations, 2009).

Because, it is argued, female education is critical to a nation's success, many countries have implemented a variety of well-intended interventions to reduce or eliminate gender differences and increase access, quality, and equality in education. Yet, many of these interventions have had mixed results and have caused unintended negative cross-impacts. For example, eliminating the cost of primary education has increased access, but also resulted in large class sizes and decreased quality of schooling (Deininger, 2003). In addition, stipend programs for females in secondary school (to

ensure equal gender representation in school) have been implemented, but without additional academic support, some females were unable to succeed in school (Khandker, Pitt, & Fuwa, 2003). Other governments have implemented a re-admission policy to allow school-aged mothers to return to the classroom, but without structural changes within schools, many females were victims of prejudice by staff and other pupils and thus felt too stigmatized to continue in school (Swainson, 2000).

One strategy that is being pursued around the world is the development and implementation of girls' leadership programming. With the ability to think for oneself, to communicate feelings and ideas to others, and to mobilize others to act on their own beliefs, female leaders can become active change agents (Fertman & van Linden, 1999). Many leadership theories have been adapted and used to create a variety of leadership programs that aim to support the development of female adolescents, enhance their educational experiences, and promote their empowerment. Although these programs differ widely in terms of context, structure, and setting, three themes emerge as benefits of girls' leadership programs to education and development: they increase girls' confidence, assertiveness, and relationships (Hoyt & Kennedy, 2008; Muno & Keenan, 2000; Peace Corps, 2001); they improve girls' connection to school (Bemak, Chi-Ying Chung, & Siroskey-Sabdo, 2005; Denner, Meyer, & Bean, 2005; "Partnerships for Success", 2005); and they foster civic participation (Bosworth, 2002; Osberg Conner & Strobel, 2007; Sonnenblick, 1997). This research suggests that, through the implementation of leadership programs, girls are able to succeed academically, develop personally, and contribute positively to their communities and nations.

## **CARE**

### **History of CARE.**

One independent, international relief and development organization that is implementing girls' leadership programming is CARE. CARE provides humanitarian assistance and focuses on systemic causes of discrimination and poverty (CARE, 2003). Beginning in 1945, the Cooperative for American Remittances to Europe (CARE) started as a relief organization, giving "CARE packages" of food to starving people in Europe (Henry, 1999, p. 110). Throughout the 1950s – 1970s, CARE extended its sectoral work to include large-scale supplementary feeding programs, and further expanded to work in health, small enterprise development, agriculture, and natural resources. By the 1990s, CARE specifically focused on integrated approaches to development to determine the underlying causes of poverty (CARE, 2005). Today, as the Cooperative for Assistance and Relief Everywhere, CARE uses a multi-sectoral approach to eradicate poverty around the globe. CARE's mission is to "serve individuals and families in the poorest communities in the world" by promoting innovative solutions and advocating for global responsibility (CARE, n.d., p. 3). Specifically, with a vision to "seek a world of hope, tolerance and social justice, where poverty has been overcome and people live in dignity and security," CARE works to strengthen capacities, eliminate discrimination, and influence policy (CARE, 2003, p. 1).

CARE operates in over 70 countries and reaches 44 million project participants each year. CARE projects and programs involve agriculture and natural resources management; primary health care; small enterprise development; emergency response;

water supply and sanitation; reproductive health; and basic and girls' education (Henry, 1999). Because most of the staff are citizens of the countries where CARE works, CARE's decentralized structure allows for multi-pronged interventions unique to different regional needs and priorities (CARE, n.d.).

### **Involvement in education.**

Prior to the 1990s, CARE's education projects were primarily building schools, operating school-feeding programs, developing education materials, and running literacy programs (CARE, 2005). As studies in the 1990s began to show the importance of education to overcome poverty, the Education for All initiative—a worldwide commitment to providing quality basic education—was adopted by a broad coalition, including CARE. In 1993, CARE identified education as one of its four major initiatives, and it became an independent sector in 1996. The Basic and Girls' Education Unit (BGE) was established in 1997. Since this time, CARE had expanded its educational programming to include non-formal education and literacy programs for women and out-of-school youth, while focusing on targeting girls' access and retention. By 2000, CARE USA had adopted education as one of three main priorities, with a specific focus on gender disparities. In 2003, BGE's first strategic plan included improving gender equality in basic education, enhancing the quality of basic education, and acknowledging that education programming needs to be highly decentralized to involve regional- and country-level strategies, priorities, and programs.

### **CARE's *Power to Lead Alliance*.**

In 2008, CARE received approximately \$3.7 million from USAID's public-private partnership program (the Global Development Alliance) to leverage a new partnership, called the *Power to Lead Alliance* (United States Agency for International Development [USAID], 2008b). The primary goals of the *Power to Lead Alliance* are to promote female leaders in vulnerable communities by providing leadership skill development opportunities, creating public-private partnerships, and strengthening global knowledge to implement girls' leadership programs (USAID, 2008b, p. 1). In conjunction with the *Power to Lead Alliance*, CARE created the *Power Within* program, aiming to "empower girls to work with their families, communities, and countries to overcome poverty" (Baric et al., 2009, p. 7). Through this programming, CARE seeks to "enable 10 million girls in 20 countries to complete a primary education and develop leadership skills to guide their families and communities out of poverty" (CARE, 2009, p. 5). Through a review of the literature and interviews with key informants, CARE has created a model of leadership using five core dimensions of voice/assertion, decision-making, confidence, organization, and vision/ability to motivate others (Heinzen & Prather, 2008). Using tailored programming that specifically enhances these dimensions of leadership, CARE seeks to increase girls' primary school completion, enhance girls' knowledge about leadership concepts, and provide opportunities for girls to practice leadership skills in their communities (CARE 2008c).

## **Background on Honduras**

One of the sites where CARE's *Power to Lead Alliance* is operating is Honduras. Honduras, a mountainous country in Latin America, is bordered to the west by Guatemala, to the southwest by El Salvador, and to the southeast by Nicaragua. With a population of around 7.8 million, Honduras is the second poorest country in Central America (Save the Children, 2009). In addition to struggling with high poverty rates, Honduras also has 60 percent of Central America's HIV/AIDS cases (Save the Children, 2009). In 2007, it was found that one in twelve sex workers in Honduras tested positive for HIV, and most are believed to have been youth (United Nations, 2007). According to a UN study, the percentage of the prevalence of early marriage for girls under age 18 in Honduras ascended to about 40 percent (World Vision, 2008). In addition, it was found that adolescent childbearing rates in Honduras were between 30-40 percent (United Nations Population Fund [UNFPA], 2007). Although Honduras is extremely close to achieving gender parity in education, educational problems continue to exist. High dropout rates, large repetition rates, and low completion rates continue to affect the quality of schooling. Specifically in La Cuesta, Honduras, CARE found that girls did not attend and succeed in school due to gender imbalances in time spent on housework, time spent caring for younger siblings, and traditional teaching practices (CARE, 2008b, p. 11). In addition, parents lacked economic resources to send their daughters to school, and girls did not attend school because they were over-age for their grade (p. 11).

### **Municipalities of Distrito Central and Guajiquiro, Honduras.**

CARE's *Power to Lead Alliance* programming is situated in specific departments in Honduras where education challenges are persistent. Honduras is divided into 18 departments and 298 municipalities, which are further sub-divided into villages and large and small communities. The department of Francisco Morazán includes 1,180,694 people, 568,786 males and 611,908 females, and has grown in the last decade (as people migrate from the country-side to the city) at a rate of 2.4 percent (CARE, 2008a). Francisco Morazán is sub-divided into 28 municipalities, one of which is the Distrito Central, and includes 44 villages. La Cuesta, located on the outskirts of the capital city of Tegucigalpa, is a village in the Distrito Central and includes two communities – La Cuesta 2 and El Lolo – in which CARE is working (combined, La Cuesta 2 and El Lolo have a total population of approximately 5,000 people). The village of La Cuesta has two primary schools (one school is in the community of La Cuesta 1, another is in the community of La Cuesta 2) and one combined primary/secondary school (in the community of El Lolo), with a total of 874 registered students in 2009 (R. Madrid Bardales, personal communication, March 26, 2010).

CARE is also working heavily in the department of La Paz, which is sub-divided into 19 municipalities, one of which is Guajiquiro, and includes 14 villages. The municipality of Guajiquiro includes the communities of Dolores, Ingrula, and San Marcos (each community has one primary school), and San Antonio, San Jose, and Santa Rosita (each community has one combine primary/secondary school). From the six schools in these communities, 835 total students were registered in 2009 (R. Madrid Bardales, personal communication, March 26, 2010).

## **Literature on Girls' Leadership Programming**

CARE's *Power to Lead Alliance* is specifically focused on empowering females in Honduras through youth leadership programming. Female adolescent leadership programs take on a variety of forms and settings, varying from school-based and after-school leadership programs to alternative school and sports programs, in both developed and developing countries. In addition, there is a wide variety of leadership models that drive programming for adolescent girls. Some leadership programs focus on increasing participants' communication skills and self-confidence to give them voice and facilitate empowerment (Denner, et al., 2005; Hoyt & Kennedy, 2008). Other programs tailor leadership activities to create a common vision and sense of belonging to facilitate teamwork (Bosworth, 2002; Suneson, 1997). Other programs, while not specifically focused on leadership, have been shown to foster leadership skills such as enhanced self-esteem and community participation (Brady & Khan, 2002; Murphy-Graham, 2007; Tábora, 2002). Yet, other studies have found that, because leadership capabilities are different among participants, it is necessary to have a broad and flexible conceptualization of leadership (Osberg Conner & Strobel, 2007, p. 294).

## **Gaps in Literature and Significance of Current Study**

Many programs are implemented with a focus on certain leadership dimensions (such as assertiveness), yet evaluation of these dimensions of leadership is rarely undertaken. More research is needed to determine what leadership means for adolescent girls in different contexts. While some programs have included aspects of CARE's leadership model (including the concepts of voice/assertion, confidence, and



vision/ability to motivate others) two of CARE's core dimensions are not so well-researched in the literature (decision-making and organization). In addition, few studies have evaluated programs that involve female adolescents who are out-of-school. Lastly, the vast majority of studies use qualitative methods to measure girls' leadership. While qualitative methods help give rich detail to a study, quantitative methods help researchers understand the different variables that influence a result (Creswell, 2009). Therefore, CARE has developed the Girls' Leadership Index (GLI) survey to collect data on girls' leadership, providing an opportunity to measure and compare leadership in different settings. This study aimed to assess the psychometric properties of CARE's Girls Leadership Index (GLI) survey to determine if the five core dimensions, as defined by CARE, are scales measured by the GLI for this sample of girls in Honduras. In addition, this study examined how leadership, as defined by the GLI, is reflected in the responses of 10-14 year old adolescent females in Honduras, and it assessed differences among in-school and out-of-school girls.

### **Research Questions**

This study was guided by three main research questions:

1. Are the five dimensions of CARE's leadership model reflected in this sample of 10-14 year-old Honduran girls?
2. What is the extent of leadership on the dimensions among this sample of girls' scores?
3. What are the differences in these dimensions among in-school girls compared to out-of-school girls?

## **Purpose Statement**

The purpose of this study was to analyze the extent to which the respondent group reflects the five core dimensions of leadership (included in CARE's model) as measured by the GLI survey. CARE defines leadership as voice/assertion, decision-making, confidence, organization, and vision/ability to motivate others. In addition, the objective of this study was to clarify the extent to which the core dimensions of leadership were present in 10-14 year old girls in Honduras, and to elaborate on the differences between girls' school status (in-school versus out-of-school) and their leadership dimensions.

## **Methodology**

This study analyzed the psychometric properties of the GLI, measured the extent of leadership among Honduran female adolescents, and assessed the differences in leadership characteristics and school status among participants. First, an exploratory factor analysis was used to determine if the survey questions on the GLI actually measured each core dimension of leadership as defined by CARE, and to determine if there were other dimensions of leadership among this sample of girls' scores. To answer the second research question, the researcher used the results of the factor analysis to conduct an exploratory analysis of the data, calculating descriptive statistics and assessing the degree to which each dimension was present in the participants. Lastly, an ANOVA was conducted on each leadership dimension and a Mann-Whitney test was

conducted on each individual item to analyze how leadership scores among participants differed by school status (in-school vs. out-of-school).

### **Limitations**

Because this study used an existing data set it has several limitations. First, it is unclear if CARE conducted a pilot test in Honduras to preliminarily assess if the questions were relevant to the population of interest. In addition, CARE used a nonprobability sample, which affects the generalizability of the results. Additionally, there were possibilities for selection bias and nonresponse bias in this sample. Information is not known about the extent of the fidelity of survey implementation, the conditions of the locations used for survey administration, and the rationale for using group interviews instead of conducting individual interviews. Yet, despite limitations with survey design and data collection, analyses of this data set provides the possibility of improving monitoring and evaluation, in addition to girls' leadership programming procedures and designs. By analyzing instruments, such as the GLI, organizations such as CARE can gather and explore dimensions of leadership among the youth, and thus tailor programming to most effectively develop leadership abilities and create systemic change.

### **Organization of this Paper**

The following chapter will review the literature relevant to this study. Chapter Three will discuss the methodology used in this study, and Chapter Four will present the findings. Chapter Five will conclude with the analysis and implications of this study.

## Chapter 2: Literature Review

### State of Education in Honduras

Honduras, like many countries around the world, is struggling to create and maintain an education system that meets the needs of the entire country. Overall, only 52% of teachers have tertiary education in Honduras, which greatly affects the quality of education (Di Gropello, 2005). Bedi and Marshall (2002) found that while access to primary school was nearly universal, the number of school days missed varied widely because of teacher meetings, local holidays, and school closures. In addition, teachers' absences and administrative tasks reduced the effective class hours in Honduras to roughly half of the anticipated hours on the school calendar (from 900-1,200 class hours a year to about 500-800 real class hours) (Di Gropello, 2005). Furthermore, Honduras's government school system disenfranchised those in rural areas by limiting coverage and access to education, especially in isolated areas (Spaulding, 2002, p. 1). Van Steenwyk (2002) described that in rural areas of Honduras, the average level of schooling was four years compared to an average of seven years in urban areas (p. 14).

Spaulding (2002) and Pavon (2008) both noted that through its traditional education system, Honduras is also plagued with high grade-repetition and dropout rates. UNESCO (2009a) reported in 2009 that over 60% of children in primary school were over the expected age for their grade, and repetition rates in first grade were above 10% (p. 68). World Vision, who has been working in Honduras since 1974, reported that, on average, only one-third of children attended school past the primary level (World Vision, 2009), and the average completion rate in the public education system was a mere 35%

(DeStefano, Hartwell, Schuh Moore, & Benbow, 2006, p. 81). In addition, in 2004, Schuh Moore (2006) reported that net enrollment rates dropped precipitously after 6<sup>th</sup> grade, as only 29% of students ages 13-18 enrolled in grades 7-12.

### **Education Reforms in Honduras**

Because school completion and quality issues continue to persist, different policies and programs have been implemented throughout Honduras with mixed results. Pavon (2008) and Patrinos (2002) argued that a demand-driven education market will increase quality in Honduras; therefore governments should focus on decentralized educational programs and financing initiatives that will give communities more autonomy and empower citizens and communities to improve the delivery of quality education. One example of a decentralized, complementary education program is *Educatodos*, which is implemented in Honduras by USAID and the Secretary of Education (Schuh Moore, 2006, p. 1). *Educatodos* allows youth and adults to complete 1<sup>st</sup> – 9<sup>th</sup> grades at a pace of three grade levels a year, using multi-grade and multi-level classrooms (Schuh Moore, DeStefano, & Gillies, 2008). Since 1996, *Educatodos* has enrolled over 500,000 students in primary school, beginning with roughly 37,000 students in 1996 and expanding to include 117,656 students in 2003 (Schuh Moore, 2006). Although the 7<sup>th</sup>-9<sup>th</sup> grade program has only been in effect since 2000, enrollment rose from 2,728 students in 2000 to 8,824 students in 2003 (p. 3). School completion rates in 7<sup>th</sup> – 9<sup>th</sup> grades in *Educatodos* were an average of 54%, while the public education system had an average completion rate of 35% (DeStefano et al., 2006, p. 81). In addition, the *Educatodos* program was found to increase achievement, as 7<sup>th</sup> graders

participating in the program produced similar or better performance in Spanish and Math than students in regular schools (Zelaya et al., 2002).

Despite the positive increases in student enrollment, completion rates, and achievement, *Educatodos* has had problems with attrition. Nearly 9,000 students were enrolled in 7<sup>th</sup> grade in 2002, but roughly only half enrolled in 8<sup>th</sup> grade in 2003, and there were frequent center closings due to a lack of materials (Marshall, Mejia, & Aguilar, 2008). Marshall, Mejia, and Aguilar (2008) also found that the program experienced problems with quality, as many facilitators departed from the “official” or intended *Educatodos* methodology in an attempt to fill a teaching gap caused by defective materials.

In accordance with the third Millennium Development Goal of eliminating gender disparity in education, Honduras has made impressive gains. According to UNESCO (2009b), in 2007, 50% of pre-primary students, 49% of primary students, and 55% of the total secondary students were female. In addition, the school life expectancy for males was 10.1 years, while the female school life expectancy was 10.8 years. Yet, in La Cuesta, Honduras, CARE conducted a situation analysis and identified persistent barriers to girls’ education. They found that of the 376 children excluded from the educational system, 51% are girls. In addition, girls who did not attend school worked three times as much as girls who attended secondary school, and girls who were enrolled in school worked at home six times more than boys who were enrolled in school (CARE, 2008b, p. 11). Also, within the schools, teachers used traditional teaching methods (mainly teacher-focused instead of child-focused), did not consider gender, and recreation opportunities were only available for boys.

## **Girls' Leadership Programming**

In the face of continuing gender disparities, one strategy that is emerging to help young females “confront hostile environments” and empower them to cope and thrive in school and in their community is the development of girls’ leadership programming (Muno & Keenan, 2000, p. 17). Most of the scholarly work on leadership has focused on male leaders in dominant, Caucasian, male-based, developed countries, with little research exploring how females enact leadership roles (Hoyt & Kennedy, 2008). Yet, current research is shifting to explore the potential of female leadership as a method to promote women’s active participation and social change (Hoyt & Kennedy, 2008, p. 204). Some scholars, such as Eagly and Johnson (1990), have explored the relation between gender roles and leadership styles, and others have argued that, to understand how men and women lead effectively, we must “examine broadly the gender roles and expectancies, leadership roles and expectancies, and contexts in which leadership is enacted” (Hoyt & Kennedy, 2008, p. 205). Because leadership programming has the potential to increase girls’ self-esteem (Muno & Keenan, 2000), improve girls’ connection to school (Bemak et al., 2005) and increase girls’ contributions to their communities (Bosworth, 2002), empowered girls with a leadership self-identity have the potential to work for gender equality and change their communities.

### **Why adolescent girls?**

Both globally, and specifically in the context of Honduras, it is important that empowerment and education interventions target adolescents because they face many challenges as they develop into adults. During adolescence, youth are forming their

identities, building relationships, and developing social and practical skills needed to become active and contributing members of society (United Nations Children’s Fund [UNICEF], World Health Organization [WHO], and United Nations Population Fund [UNPF], 2003, p. 1). According to the Convention on the Rights of the Child, all adolescents have the right to be protected against discrimination, in addition to the right to education, which includes available, free, compulsory primary education, accessible and diverse forms of secondary education and higher education, and accessible and available educational and vocational information and guidance (United Nations General Assembly, 1989). This education should be “directed to develop the child’s personality, talents, and mental and physical abilities to their fullest potential,” to ensure the maximum development of the child (United Nations General Assembly, 1989). Yet adolescents may not be aware of their rights, or may not be able to act in accordance to these rights. Youth programming has the potential to give adolescents opportunities to learn their rights and become advocates for themselves and others in their communities.

The transition from childhood to adulthood creates different opportunities and expectations for boys and girls. Gaining mobility, autonomy, and increasing participation in social opportunities such as sports or clubs, boys tend to enjoy more privileges as they develop into adolescents (Brady & Khan, 2002). On the other hand, girls can be increasingly restricted to their homes, due to cultural norms and conditions that determine which places are acceptable for adolescent females. Girls’ safety becomes an important concern, as around the world adolescent girls have been found to be victims of violence, HIV/AIDS, and trafficking (DeJaeghere, 2004). During childhood, many girls feel they can state their opinions and feelings, but upon reaching puberty, they may be conflicted



between pressures to conform to cultural ideals of femininity and the desire for independence (Baric et al., 2009). In addition, girls' vulnerability increases during adolescence because they have less power and social status (Hoyt & Kennedy, 2008). Because adolescence tends to restrict girls' independence, negatively affect girls' self-perceptions, and limit girls' mobility, programs and policies need to be specifically targeted towards adolescent girls to ensure their empowerment and development (Muno & Keenan, 2000).

### **Leadership theories.**

One strategy to address these concerns is to provide programming that focuses on leadership; yet, we know little about what leadership means in these various contexts. The concept of leadership has been examined by different scholars in an attempt to define the qualities and characteristics that create successful change agents. The trait approach to leadership suggests that people are born with certain traits that make them great leaders, and it specifically focuses on five major leadership traits of intelligence, self-confidence, determination, integrity, and sociability (Northouse, 2007, p.19). While the trait theory provides direction regarding attributes that are beneficial to those aspiring to be a leader, it fails to consider the characteristics of the situation or of those following the leaders, and does not offer guidance in how to nurture leadership qualities in others. In contrast, contingency theories of leadership, such as the prescriptive approach, path-goal theory, and situational leadership, suggest that leadership is situational and that leaders can be effective in different settings and in different organizational tasks. Therefore, according to contingency theories, leaders need to accurately define the level of their

followers and match their leadership style to the situation. Yet, these theories do not provide clear connections as to how leadership affects subordinates' motivation levels, and fail to recognize the transactional nature of leadership (Northouse, 2007).

Thus, new theories of transformational leadership have been formed, highlighting leaders as trustworthy role models who articulate a clear vision and empower others to meet high standards (Northouse, 2007). Transformational leadership connects aspirational goals and core values to guide collective activity to achieve a complex objective by raising the motivation of both leaders and followers. Kouzes and Posner (1997, 2002) identified five fundamental practices of transformational leadership: model the way, inspire a shared vision, challenge the process, enable others to act, and encourage the heart (as cited in Northouse, 2007, p. 188). Similarly, Burghardt and Tolliver (2010) simplified the process of transformational leadership into six golden rules: sustain a healthy lifestyle to achieve internal balance; maintain high standards and clean systems; identify one's place in the organization's vision; practice patience and politeness; embrace difference; and turn values into concrete daily activities. These authors have argued that everyone can become a transformational leader and benefit from interacting with transformational leaders, because this leadership considers the diverse needs of communities to empower collective action. Therefore, it is important to consider not only how leadership traits and attributes can be developed but also the characteristics of others working with the leader, the characteristics of the situation, and the transactional potential of leadership to create systemic change.

Although these leadership theories have been created mostly in reference to adult, male-oriented leadership, they highlight essential lessons for youth leadership

programming. First, the trait theory highlights the importance of the individual development process of leadership for youth. Yet, relying solely on trait theory limits the definition or model of leadership to specific tasks or accomplishments, and ignores the process of leadership development and the transformational experience of leadership (Hoyt & Kennedy, 2008). Contingency theories help situate youth leadership in different contexts and settings, while transformational theories facilitate a deeper understanding of the connection between the individual development process of leadership and the collaborative aspects. Adults have the potential to play a critical role in developing youth leaders by creating youth/adult partnerships and by mentoring youth (Osberg Conner & Strobel, 2007). Lastly, theories of transformational leadership examine the dynamic interplay of leadership development and programmatic structures and supports; programs have the potential to change youth, who also have the potential to change their school and community, and vice-versa.

There is an additional challenge in promoting transformational leadership in youth, though, because of the specific needs during the developmental stages of adolescence. Kress (2006) stated that “youth leadership is the involvement of youth in responsible, challenging action that meets genuine needs, with opportunities for planning and decision making” (p. 51). Because leadership consists of skills, experiences, needs, and motivations, it is a long and cumulative effort. Kress (2006) argued that we must conceptualize youth leaders in different ways than we conceptualize adult leaders, by understanding the different types of youth participation, how these ideas relate to and foster youth leadership, and by pursuing developmentally appropriate strategies for involving youth with adults in significant leadership positions.

### **CARE's model of leadership.**

Because of the potential benefits of youth leadership to individuals and communities, CARE has developed the “Learning to Lead” program, giving girls ages 10-14 quality education and leadership opportunities so they can positively influence others in public spaces (Heinzen & Prather, 2008, p. 1). An external consultant team reviewed the literature and conducted a set of interviews with key external informants (two dozen professionals in girls’ and international education) that provided the basis of a model for girls’ leadership and effective strategies to prepare female leaders (p. 1). Grounded in the perspective that leadership is an ability or behavior that can be developed, the consultants constructed a model of leadership based on five dimensions that emerged; this model includes the dimensions of voice/assertion, decision-making, confidence, organization, and vision/ability to motivate others (p. 4). Voice/assertion is described as the ability to formulate an opinion, have the right to express that opinion, and critically analyze issues. Decision-making is the ability to create opportunities with the belief that decisions can solve problems and matter in one’s personal future and community. Confidence is the belief in oneself and independence in the way in which one behaves. Organization is the ability to organize oneself to achieve one’s goals, and vision/ability to motivate others is the ability to begin with an idea and achieve a practical result, while motivating others in accomplishing the task (p. 5). The first four characteristics can be applied to individual self-actualization or to leadership in a group, and vision/ability to motivate others distinguishes group from individual leadership (p. 6). Though the enactment of these leadership dimensions may vary based on cultural

context, these five dimensions are identified as the core factors in CARE's leadership model.

To evaluate CARE's five core dimensions of leadership, it is important to look at other examples of programs that define leadership and result in increased leadership skills. Many other girls' leadership programs have produced positive results that correlate with CARE's five core dimensions, but these dimensions are present in the literature on leadership programs to varying degrees. By analyzing the differences in definitions of leadership, in addition to program settings, content, contexts, and results, one can identify best practices to create successful girls' leadership programming. In addition, by identifying the core dimensions of leadership across programs and across settings, practitioners can specifically tailor programming to develop these skills among females.

***Literature informing CARE's five dimensions of leadership.***

*Voice/assertion.*

CARE's first dimension defines a female leader as a girl with voice and assertion, or a girl who recognizes her right and ability to critically deconstruct issues, formulate thoughts, and state her opinion (Heinzen & Prather, 2008). Smyth (2006), in his analysis of student engagement, agreed with this conceptualization and highlighted the importance of student voice. Alarmed at the high dropout rate of minorities in U.S. high schools, Smyth (2006) argued that high schools need an ethos of educational leadership that encourages and promotes authentic forms of student voice in order to make students feel that school is worthwhile. By giving disengaged students the ability to control, manage,

and shape the school, learner-centered leadership can give school meaning and help prevent school dropout.

One potential benefit of leadership programming is the strengthening of voice and increased assertiveness among female adolescent participants. For instance, the After School Girls Leadership (ASGL) program for females in 6<sup>th</sup> – 8<sup>th</sup> grade in a large, urban middle school in the United States attempted to address potential stressors in school (for instance, changes in school environment, unequal opportunities, low self-esteem, decreased confidence, and low school achievement). ASGL programming focused on developing teamwork and leadership skills to facilitate community action among its female adolescent participants. It was found that the program gave participants a voice, as girls felt they were listened to and that their opinions mattered in the group, and participants gained awareness of and practice using critical thinking skills (Muno & Keenan, 2000). Another in-school group counseling approach, called Empowerment Groups for Academic Success, was implemented in a U.S. Midwestern high school plagued with high rates of expulsions, suspensions, teen pregnancies, absenteeism, poverty, and poor academic records. Using an unstructured process of group counseling, the approach resulted in profound discussion and deep reflection about group members' lives, in addition to increased communication skills (Bemak et al., 2005, p. 382). In California, the Young Women's Leadership Alliance (YWLA) used youth-adult partnerships as a method for creating contexts that build on girls' interests and strengths while nurturing girls' voices in school (Denner et al., 2005). Middle-class, 9<sup>th</sup> – 11<sup>th</sup> grade female participants felt the YWLA provided a place for girls to speak their minds and listen to different voices. Therefore, although these program settings and methods

differ, the outcome of voice has been an important benefit to girls who have participated in youth leadership programming. Yet, the strengthening of voice has been primarily assessed only in the leadership programming sites and at schools, with a lack of data evaluating how girls use their voice in other groups and contexts.

*Confidence.*

Closely linked to voice and assertion, the concept of confidence, or the belief in oneself, is another dimension in CARE's model of leadership (Baric et al., 2009). Hoyt and Kennedy (2008) conducted a qualitative study of an intensive feminist-based non-profit youth leadership program in New York City, and found increases in both voice/assertion and self-confidence among participants. This program specifically focused on female adolescents of color from low-income or working class backgrounds. At the beginning of the program, girls viewed leadership in traditional ways, focusing solely on the qualities and actions of leaders, felt a loss of voice or disempowerment, and did not see themselves as a leader. After program completion, participants constructed definitions of leadership based on different contexts for different individuals, felt empowered (by recognizing and valuing their own identities and efficacy to effect change), connected action to leadership as a collaborative and cooperative process, and described feeling a restoration of voice, with increased confidence, assertiveness, and awareness (Hoyt & Kennedy, 2008, p. 215-216). Similarly, the Young Women's Leadership Alliance (YWLA) focused on youth-adult partnerships as a method for creating contexts that build on girls' interests and strengths while nurturing girls' voices in school. YWLA participants, middle-class 9<sup>th</sup> – 11<sup>th</sup> grade females in central California,

became aware of equity, learned about research design, and received course credit by participating in and creating a social action project. Using observations, interviews, and a review of participants' journals, Denner, Meyer, and Bean (2005) found that the YWLA provided a place for girls to speak their minds, listen to different voices, and increase their self-confidence to voice their opinions to the group.

Other programs have shown increases specifically in participants' self-esteem and self-assurance. For example, the expressive arts intervention LEAD, (Leadership, Education, Achievement, and Development) was implemented in rural Maryland to reduce the risk of minority youth's first-time involvement in the juvenile justice system, and resulted in increased self-esteem for participants (Shelton, 2008). In addition, the after-school program Girls Acquiring Leadership Skills through Service (GALSS) club, in Galena Park, Texas, targets at-risk (mostly Mexican-American) girls in 6<sup>th</sup> – 8<sup>th</sup> grade to provide opportunities for recreation and community service (Sonnenblick, 1997). By fostering a sense of belonging and involving girls in the school environment, participants in the program felt more self-assured, responsible, and mature at the end of the program year.

*Vision/ability to motivate others.*

In addition, CARE defines leadership as the ability to create a collective vision and the ability to motivate others to accomplish positive outcomes (Baric et al., 2009). The leadership qualities of vision and motivation can be seen in different leadership programs as well. Bosworth (2002) conducted a year-long case study to evaluate the Rural Youth Leadership Academy (RYLA) in west Texas. It was found that high school



participants integrated individual leadership, group leadership, and moral leadership into the RYLA experience. By giving participants the opportunity to create a common vision, set group goals, and complete service projects, participants felt a sense of belonging, integrated their local culture into their projects, and used teamwork to motivate one another and work together (Bosworth, 2002). Similarly, a summer program for 5<sup>th</sup> – 9<sup>th</sup> grade females was implemented in St. Paul, California, which provided opportunities for girls to work in female-only groups to develop leadership skills. In the program, girls were given the opportunity to participate in workshops on creative writing, effective communication, computers, and the history of the women's movement, and were able to utilize technology to transform their ideas into published works and contribute to their communities. With the strength and support from other girls, participants stated they were enhanced by the experience and empowered to lead in mixed-sex groups in coeducational settings (Suneson, 1997).

### **Alternative programs that foster leadership skills.**

While the leadership programs reviewed thus far have taken place in the United States, there are limitations in solely reviewing this literature, as leadership may be identified differently in other countries. Youth programs outside of the United States, although not specifically focused on leadership, have shown cross-impacts by fostering leadership skills, increasing girls' empowerment, and promoting civic participation. In Honduras, the alternative education program *Educatodos* has been found to increase not only academic and vocational skills, but also self-esteem, leadership, and participation in public spaces (Tábora, 2002). Males and females participating in the program learned

about their rights, became more critical of their environments, and were motivated to help educate their community and challenge discrimination. The program was found to be especially beneficial for females, who reported increased levels of self-esteem and greater knowledge and skills to take control over their lives and make improvements for their families and communities. Participants in CARE programming, including participants in this study, were possibly enrolled in *Educadores*, as it also operates heavily in the municipality of Guajiquiro, in addition to La Cuesta 2. Therefore, although the alternative pedagogy used in *Educadores* may not be directly linked to leadership, scholars have found that participants in *Educadores* demonstrated increased leadership skills, specifically self-esteem and empowerment.

Also in Honduras, Murphy-Graham (2007) analyzed the innovative secondary education program, *Sistema de Aprendizaje Tutorial (SAT)*, and found that women who participated in the *SAT* program gained knowledge, self-confidence, and the ability to speak in public and were more likely to participate in public life (p. 96). In addition to acquiring knowledge, their perspectives and values changed, as they demonstrated increased respect for community service and a belief that it was important for individuals to work to better their villages. Murphy-Graham (2008) also found that women's self-confidence and awareness, knowledge, and understanding of gender equity were essential for education to act as a catalyst of women's empowerment in Honduras.

In Kenya, Brady and Khan (2002) conducted a qualitative analysis and found that the Mathare Youth Sports Association (MYSA), while developed to train girls in soccer, fostered new skills among female participants, including strengthening their voice and sense of belonging to the organization, creating friendships, gaining confidence, learning

about health and HIV/AIDS, and participating in community life (Brady & Khan, 2002). Girls felt confident to discuss issues that were important to them, voicing concerns about safety, for example. Female participants became advocates for themselves and other females, and participated in activities such as performing dramas in the community on the dangers of drugs and other vices (Brady & Khan, 2002, p. 18).

### **Leadership is not simple to identify and measure.**

Other studies argue that there is risk in relying on a single, static definition of youth leadership. The Youth Engaged in Leadership and Learning (YELL) program in Redwood City, California, has shown that leadership development takes time and girls may use different leadership skills and capabilities to contribute to their communities. For instance, while two participants developed critical and analytical thinking skills, one participant's strength was her voice, while the other's strength was her interest in listening and learning. Also, while one female participated in public activities as a form of community involvement, another contributed to the school community by consistently attending and serving as a mentor for other girls (Osberg Conner & Strobel, 2007). Osberg Conner and Strobel (2007) used interview and focus group data to argue that youth leadership paths are not always linear, and leadership may take on many different forms and serve different purposes, even within same context.

### **Gaps in the Literature**

Based on this review of the literature, leadership may be exhibited or enacted in various ways, dimensions, or contexts. The dimensions of voice/assertion, confidence,

and vision/ability to motivate others are well documented components of leadership (and alternative) programming for females. Yet, two of CARE's five dimensions, decision-making and organization, are less well-defined in the literature as specific results or potential benefits of girls' leadership programming. While some may argue that decision-making and organizational skills are imperative in order to have vision and the ability to motivate others, these two concepts are not specifically identified as components and benefits of the reviewed youth leadership programs. By specifically defining girls' leadership using these five core dimensions, CARE has attempted to create a measure of leadership (the GLI) that can be used cross-culturally. In addition, by creating the GLI, CARE can gather data on leadership dimensions for different groups of girls, and then tailor programming to specifically enhance these characteristics.

One common theme that emerges from the literature is the use of qualitative methods to evaluate participants' leadership qualities. While qualitative methods can help to understand the meanings that participants ascribe to phenomenon such as leadership, quantitative methods help to understand the factors or variables that influence an outcome, such as leadership, and the relationships among different variables. In addition, Creswell (2009) argues that quantitative research is more objective, limits bias, and creates conditions to replicate findings and compare results. By using a quantitative tool to gather data on girls' self-perceived leadership qualities, CARE has potentially created an opportunity to evaluate if there are dimensions of leadership that are comparable on some level across different settings and contexts. In addition, CARE's model of leadership can possibly be used to enhance understanding of the relationships among the variables that affect leadership.

This study analyzed if CARE's model of the five dimensions of leadership (voice/assertion, decision-making, confidence, organization, and vision/ability to motivate others) are reflected in this sample of 10-14 year old Honduran girls. In addition, this study sought to determine the extent to which the dimensions of leadership are present in this sample of girls' scores, and if there are differences among in-school girls compared to out-of-school girls.

## **Chapter 3: Methodology**

### **Overview**

Based on the review of the literature, it is clear that there are discrepancies in the theory and instruments used to evaluate youth leadership programming, and in how those theories and instruments relate to adolescent girls. CARE has created a model of leadership using five core dimensions, and, based on this model, developed a Girls' Leadership Index (GLI) to measure these dimensions. Using the GLI, CARE surveyed 176 girls ages 10-14 in eight communities (including both peri-urban and rural) in August and September of 2009. With the data from CARE, this study sought to analyze the psychometric properties of the GLI and describe the degree to which these core dimensions were present in female adolescent girls in Honduras. This chapter describes the methodology used in this study, beginning with a review of the research questions guiding this analysis. Then, this chapter describes the reasoning for using quantitative methodology to analyze this data set and the survey methods used to gather the data. Then, the sample, process for data collection, and process of data analysis are described. Lastly, the limitations of this work are discussed.

### **Research Questions**

This study was guided by three main research questions:

1. Are the five dimensions of CARE's leadership model reflected in this sample of 10-14 year-old Honduran girls?
2. What is the extent of leadership on the dimensions among this sample of girls' scores?

3. What are the differences in these dimensions among in-school girls compared to out-of-school girls?

### **Quantitative Methodology**

Quantitative methodology is used with multiple variables and treatments to identify relationships between factors and outcomes, including causal relationships, collective strengths of multiple variables, and treatments that influence specific outcomes (Creswell, 2009). While qualitative research can help understand meanings that participants ascribe to phenomena in an inductive way through exploratory analysis, quantitative research helps understand the factors or variables that influence an outcome and the relationships among variables. Qualitative research tends to be rich with detail, but quantitative research tends to be more representative of the population as a whole. Other advantages to quantitative methodology include the ability to allow the researcher to examine relationships among variables, test a theory deductively, limit bias, and replicate the findings (Creswell, 2009, p.4). Because this study sought to analyze the relationship among CARE's five core leadership dimensions, test CARE's model of leadership (as an index CARE seeks to use in multiple settings), and explore the psychometric properties of the GLI (the potential to measure the same leadership dimensions in other countries), quantitative methodology was used for this study.

### **The Girl's Leadership Index (GLI)**

CARE designed the Girls' Leadership Index (GLI) survey specifically for the *Power to Lead Alliance* to be used in eight countries. To develop the GLI, a research

team conducted key informant interviews and a review of the literature on leadership constructs, which they condensed into five dimensions of leadership: voice/assertion, decision-making, confidence, organization, and vision/ability to motivate others (Heinzen & Prather, 2008). To gather demographic data, the GLI first includes six questions asking the participant her age, school status, the name of her current school, if she attends on a regular basis, if she has taken the survey before, and her name (optional). The instrument then includes 32 statements about skills, attitudes, and behaviors related to the five dimensions of leadership (see Table 1). The survey is structured to include six questions about each of the five dimensions, with two additional questions involving social networks. The survey uses a continuous four-point Likert scale of rarely, sometimes, often, and always (see Appendix A).

Table 1

*Leadership Dimensions and Related Items on the GLI*

Dimension of Leadership	Item on Survey
Voice/Assertion	#2, 6, 9, 10, 13, 27
Decision-making	#4, 7, 15, 20, 25, 32
Confidence	#5, 14, 18, 19, 22, 31
Organization	#11, 17, 21, 26, 28, 30
Vision/Ability to motivate others	#1, 3, 8, 16, 24, 29



## Sample

CARE collected data from 176 female adolescents, aged 10-14, that were both in- and out-of-school. Of the female adolescents in this sample, 145 females were enrolled in school, and 29 were not enrolled in school (2 females did not provide their school status). In addition, 124 participants were 10-12 years old, while 50 participants were 13-14 years old (see Table 2).

Table 2

### *Demographic Information of the Sample*

Age in years	Total number enrolled in school	Total number not enrolled in school
10	42	2
11	41	0
12	2	37
13	15	18
14	10	7
Total	145	29

The 176 female adolescent participants in this study were from eight communities (including peri-urban and rural areas) in Honduras (see Table 3).

Table 3

*Data Collection Sites*

Municipality	Village	Total population of 10-14 year old girls	Number of participants in this study
Districito Central	El Lolo	112	14
	La Cuesta 2	116	14
Guajiquiro	Dolores	27	25
	Ingrula	61	27
	San Antonio	74	13
	San Jose	34	23
	San Marcos	30	11
	Santa Rosita	149	49

Of the 228 total 10-14 year-old girls living in El Lolo and La Cuesta 2 in 2009, 28 of them participated in this study (R. Madrid Bardales, personal communication, April 12, 2010). Similarly, of the 375 total 10-14 year-old girls in the 6 communities of Guajiquiro, 148 girls participated in this study. The participants in this study are not a random representative sample of the communities, but rather CARE used a cluster sampling procedure with a nonprobability sample of females. After identifying the communities of interest, CARE staff then worked with schools and local organizations to inform females of group interviews that would be held in their communities. Group interviews were either held in the local school or another community building (where other community groups hold meetings). After the girls gathered, CARE staff passed out

the individual surveys to be completed by each participant. Participants completed an individual survey in a group setting, and CARE staff were available to answer any questions participants had. Female adolescents were contacted either by teachers or heads of local organizations and then were invited to participate.

### **Process for Data Collection**

This study is a secondary data analysis of surveys conducted in Honduras in August and September of 2009 as part of CARE's *Power to Lead Alliance*. For this project, a team was hired to complete the data collection, which included four data collectors (two males and two females) and one coordinator. The CARE Honduras staff trained the team in data collection methods. In addition, one CARE Honduras field worker accompanied the external team to each community to organize the groups and conduct the survey administration.

Participants in this study either attended the group alone or with a parent. Groups of parents were held concurrently to encourage participation of female adolescents. CARE staff described the survey and preliminary results with parents in groups (held at the same time as the female adolescent groups).

CARE used a cross-sectional survey design to gather data from female adolescents ages 10-14 years-old about their self-perceived skills, attitudes, and behaviors in relation to leadership at one point in time. The use of a cross-sectional survey design is appropriate because the survey attempts to describe self-perceived leadership skills (grouped in five core dimensions) in females, while possibly drawing correlations between school status (in-school versus out-of-school) and leadership skills. This is also

an appropriate method because CARE currently works with these populations of female adolescents in different programs in these locations.

### **Use of an Existing Data Set**

An unprecedented amount of data is being collected by researchers, governments, and non-governmental organizations as a way to evaluate programs and policies. Yet, time and resource constraints, in addition to a lack of technology, can limit the ability of researchers to fully analyze data that are collected. In addition, data collection with large numbers of samples can be expensive, time-consuming, and not always feasible for other researchers (Dimauro et al., 2008). The use of existing data sets is emerging as a legitimate method to test theories, generate practical knowledge, and evaluate outcomes (Magee, Lee, Giuliano, & Munro, 2006). Existing data sets provide an opportunity to facilitate the translation of knowledge to practice, while saving time and resources on data collection, thus allowing resources to be spent on other parts of the research process. With existing data sets, researchers can ask complicated questions, analyze a variety of variables, and gather a more representative sample than could be possible based on the geographic limitations of the researcher. Because CARE has already collected a large amount of data on girls' self-perceived leadership, this study used CARE's existing data set to potentially save resources and assist in translating knowledge into more effective programming for adolescent girls in Honduras.

## **Data Analysis**

In this study, the software SPSS 17.0 was used to conduct the statistical analyses. Because this study sought to test the psychometric properties of the GLI, an exploratory factor analysis was conducted to determine if the survey items actually measure the five core dimensions of leadership as defined by CARE. Exploratory factor analysis is a “variable reduction technique which identifies the number of latent constructs and the underlying factor structure of a set of variables” (Suhr, 2006, p. 2). Factor analysis is used to determine the number of latent constructs in a set of items, explain the variation among items using newly created factors, and define the content of the factors (Suhr, 2006). Therefore, an exploratory factor analysis, specifically principal components analysis, was used to confirm the latent constructs and their factor structure (voice/assertion, decision-making, confidence, organization, and vision/ability to motivate others) to explain girls’ leadership as being measured by the GLI. The extracted factors were then examined and compared to CARE’s original five core dimensions to assess if the GLI tool measures CARE’s model of leadership for this data set.

To answer the second research question, the results of the factor analysis were used to conduct an exploratory analysis of the data. By calculating descriptive statistics, the researcher analyzed the extent to which each factor was present among this population in each community. In addition, the researcher also measured internal consistency through Cronbach’s alpha to analyze if the survey items’ responses were consistent across each construct. To answer the third research question, an ANOVA was used to analyze if and the extent that the mean leadership scores for each factor differed by school status, specifically if there were differences in mean leadership scale scores

between in-school girls versus out-of-school girls. Using the *F*-statistic, one can conclude that the population means do not have the same value if the resulting p-value is as small or smaller than the desired significance level, in this case ( $\alpha = 0.05$ ) (Utts & Heckard, 2006). In addition, to help assess the importance of study effects, this study included Cohen's *d* to measure effect size. As Field (2009) stated, because effect size is an objective and usually standardized measure of the magnitude of an observed effect, it can provide a way to compare different studies that have measured different variables (p. 56). Cohen suggested that  $r = .10$  constitutes a small effect (explaining 1% of the total variance),  $r = .30$  constitutes a medium effect (explaining 9% of the total variance), and  $r = .50$  constitutes a large effect (explaining 25% of the total variance) (as cited in Field, 2009, p. 57). Lastly, to measure if the mean leadership scores differed by school status on individual items, the researcher used the non-parametric Mann-Whitney rank-sum test because the individual items were not normally distributed.

### **Limitations of this Study**

Because the researcher was not involved in the survey design, nor able to oversee the data collection procedure, this study has several limitations. Although the CARE Honduras team did alter the wording of questions to fit the Honduran context, it is difficult to ascertain if the items in the survey are completely relevant to this context because there is no information of a pilot test completed in Honduras. It is also unclear if the survey was at a reading level appropriate for 10-14 year-old girls. In addition, while the researcher discussed the process of the selection of the participants with CARE Honduras staff, it is not completely clear as to how the females were notified and

selected. Because the participants were informed from schools and local organizations it is quite possible that females ages 10-14 who live in difficult-to-reach areas or those who are socially marginalized were not informed of the groups or were unable to participate. Therefore, there is a possibility of both selection bias and nonresponse bias in the survey administration. The use of a convenience sample precludes generalizability, as this may not be an accurate representation of all female adolescents in these communities or an accurate representation of female adolescents in Honduras.

Secondly, because this study used an existing data set, the fidelity of the survey implementation is unknown, as information pertaining to the training of the facilitators and field notes from the groups are not available. For instance, it is unclear if there were any activities prior to or following the survey administration, and it is unknown how long the groups lasted. There is a possibility of participant fatigue if there were other activities before the survey, or if the groups lasted over an extended period of time. While there were few missing data points (six items on six surveys only), each individual item was not normally distributed, possibly indicating participant fatigue in responses.

In addition, the conditions of the locations where the surveys were completed were not documented. If participants were seated close to one another and could possibly see each other's responses, they may have answered the items differently than in a more private setting. Also, as many girls attended the groups with a parent, if the parent group was within earshot of the girls, they may not have felt comfortable asking clarifying questions about the survey procedure.

Lastly, the rationale for conducting the survey administration in groups is not recorded. Because the participants were in a group and not surveyed alone, they may

have felt pressure to answer questions differently and there could be response bias in this study. Also, because the survey administrators came from CARE, an organization that provides health, education, income-generating and other services to community members, the participants may have felt the need to respond positively to survey items to please the survey administrators. Most items on the GLI for this data set were negatively skewed, providing evidence of a positive response set and possible response bias.

Despite these limitations with survey design and collection, this is a unique and rich data set from which useful analysis can be conducted. Because of the prevalence of gender inequity in education and the potential benefits of leadership development for female adolescents, it is necessary to develop and use valid and reliable instruments to measure leadership dimensions of a program. Therefore, it is extremely important to test the psychometric properties of instruments such as the GLI, to affirm that each survey item relates to a set of factors that can be used to describe and measure leadership. With a specific definition of the constructs of leadership, in addition to accurate measurement of these constructs, organizations such as CARE can intentionally create programs to target specific aspects of girls' leadership, thus enabling girls to reach their full potential.



## **Chapter 4: Findings/Results**

### **Overview**

This chapter will report on the data analysis and results of this study's research questions. First, the process and results of the exploratory factor analysis will be discussed to answer the first research question. Second, descriptive statistics for the final factor structure will be provided to answer the second research question and describe the extent of leadership among this sample of girls' scores. Lastly, leadership dimensions of in-school girls will be compared to out-of-school girls to answer the third research question.

### **Factor Analysis**

The data set from Honduras included scores on the GLI from 176 adolescent females. Excluding case-wise missing data, the researcher conducted statistical analysis using data from 170 females (168 females for in-school versus out-of-school statistical comparisons). To begin the analysis, an exploratory factor analysis was conducted. Specifically, principal components analysis was conducted using the statistical software package SPSS 17.0. Principal component analysis, a psychometrically sound test, decomposes the original data into a set of linear variates; therefore, this is one method to discover the dimensions of leadership (Field, 2009, p. 638). Oblique rotation (specifically direct oblimin) was used because there was a belief by the researcher that the factors could be related to one another in theoretical terms (for instance, that self-confidence influences voice, etc.) (Field, 2009, p. 643).

A principal component analysis (PCA) was conducted on the 30 items of the GLI with oblique rotation (direct oblimin). The Kaiser-Meyer-Olkin (KMO) statistic, the ratio of the squared correlation between variables to the squared partial correlation between variables, indicates if the “patterns of correlations are relatively compact and so factor analysis should yield distinct and reliable factors” (Field, 2009, p. 647). The KMO statistic for this sample did verify the sampling adequacy for the analysis,  $KMO = .721$  (‘good’ according to Field, 2009). Bartlett’s test of sphericity,  $\chi^2(435) = 988.002, p < .001$ , indicated that the correlations between the items were sufficiently large to conduct a PCA. The initial analysis revealed 10 factors with eigenvalues over Kaiser’s criterion of 1, and in combination explained 58.83% of the variance. The scree plot (Figure 1) was slightly ambiguous, as it revealed one clear elbow at one factor, and somewhat of an elbow at four and ten factors.

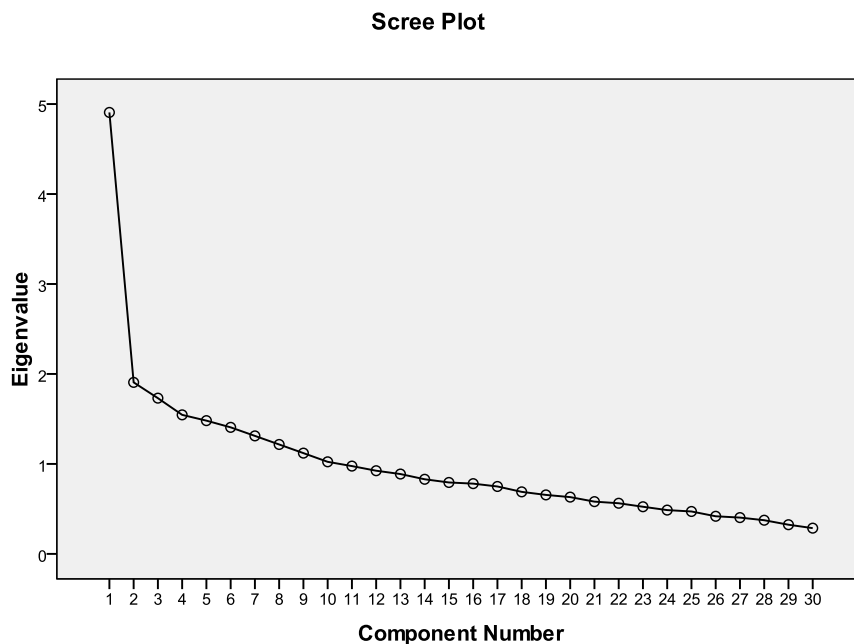


Figure 1. Principal Component Analysis scree plot (30 items).

To determine which items loaded onto each factor, the pattern matrix of factor loadings after rotation was analyzed. See Table 4 for this pattern matrix.

Table 4

*Principal Component Analysis Pattern Matrix After Rotation (30 items)*

	Component									
	1	2	3	4	5	6	7	8	9	10
Q1: I realize that things that I say and do sometimes encourage others to work together								-.794		
Q2: While my experiences and ideas may be different from others, I know that I can bring useful ideas to a discussion		.396	-.223		.203	-.369				
Q3: When a task to accomplish is clear, I like being part of a group to get it done	.528							-.280		
Q4: There are times that decisions I make can influence others	-.526		-.240			-.289		-.337		
Q5: When I have made up my mind about something, I take actions that demonstrate commitment to that point of view	.363	.483			.268	.223			.257	
Q6: I do not hesitate to let others know my opinions				.288			.450	-.440		
Q7: I recognize that I have control over my own actions	-.275				.350	.206		-.260	.309	
Q8: I recognize that what motivates some people is different from what motivates others	.239				-.227		-.554	-.272		
Q9: I am not shy to ask questions about things that I do not understand							.785			
Q10: I feel comfortable speaking in front of groups	.288			.204				-.660		
Q11: Sometimes I like working on one part of a task, while others work on different part						-.771				
Q13: I am comfortable putting my thoughts into words			.230							-.678
Q14: If someone does not understand an explanation that I am giving, I don't give up but try to find a different way of saying what is on my mind					.756					
Q15: I try to consider things from different perspectives before making a decision (DM)				.254	.212					-.492
Q16: I enjoy gathering people together to make things happen	-.215	.707		.222						

Table 4 (continued)

*Principal Component Analysis Pattern Matrix After Rotation (30 items)*

	Component									
	1	2	3	4	5	6	7	8	9	10
Q17: There are times that I realize that it will take a lot of work to make my ideas a reality, but I am willing to consider how to see them through	.302		-.386		.202					
Q18: I am aware of my strengths and weaknesses, and feel comfortable working within my abilities and limitations									.845	
Q19: In school, I am willing to be called on by my teacher to answer questions	.424					-.469				-.246
Q20: I try to anticipate the consequences of possible actions, and make decisions based on those consequences		.516		.214						
Q21: I recognize that planning ahead can often help things go as I want them to go		.217	-.719							
Q22: I do not hesitate to speak or respond to adults in appropriate situations				-.404		-.317	.258			
Q24: I am comfortable when people look to me for advice and guidance about things	.262									-.601
Q25: I see that things that I choose to do today can impact my life in the future		-.239	-.745				.222			
Q26: When I face a problem, I can break down the steps to solve it		.204	-.320							-.684
Q27: In a group setting, I expect the opportunity to share my thoughts	.286				.210	-.236			.210	
Q28: I can help organize others to help accomplish a task	.628		-.251						.289	
Q29: I believe that both the process of achieving something and the achievement itself are rewarding					.738					
Q30: I like to think about actions I will need to take if I want to get something done				-.208		.387		-.256	.314	-.257
Q31: If someone treats me unfairly, I take action against it		.204		.818						
Q32: People consult with me before decisions are taken		.538		-.274						

The pattern matrix of factor loadings after rotation on all 30 items showed many items cross-loading on more than one factor. Pett, Lackey, and Sullivan (2003) discuss undertaking several factor analyses if the cutoff for the number of factors is unclear, to arrive “at a parsimonious set of factors that makes the most intuitive sense given the problem area” (p. 120). Because many factors contained two or fewer items, and the cutoff for the number of factors was unclear, the researcher decided to continue running factor analyses by setting the number of factors until a final factor solution was reached that had face validity, minimized cross-loadings, maximized the number of items per factor, and explained a large percentage of the variance.

After conducting a factor analysis by setting the number of factors to 9 factors, 8 factors, 7 factors, and 6 factors, the researcher decided on a final factor structure when set to 7 factors. The pattern matrices with 9 and 8 factors continued to show many items with high cross-loadings on more than one factor, and did not show many items loading on the same factor. Because the pattern matrix for 6 factors reduced the percentage of variance explained without gaining more questions per factor or reducing cross-loadings, it was not chosen as the final factor structure.

### **Final Factor Structure**

After conducting a principal component analysis on the 30 GLI items with 7 factors using oblique rotation (direct oblimin), the KMO statistic and Bartlett’s test remained the same. The second analysis revealed 7 factors that combined to explain 47.63% of the variance. Table 5 shows the pattern matrix of factor loadings after rotation.

Table 5

*Principal Component Analysis Pattern Matrix after Rotation with Seven Factors (30 items)*

	Component						
	1	2	3	4	5	6	7
Q1: I realize that things that I say and do sometimes encourage others to work together				.372			
Q2: While my experiences and ideas may be different from others, I know that I can bring useful ideas to a discussion	.213	.535	-.232				
Q3: When a task to accomplish is clear, I like being part of a group to get it done	.430		-.290				
Q4: There are times that decisions I make can influence others		.521			.236		
Q5: When I have made up my mind about something, I take actions that demonstrate commitment to that point of view				.210		.587	
Q6: I do not hesitate to let others know my opinions	.234		-.258	.209		-.383	.450
Q7: I recognize that I have control over my own actions	-.319			.489	.355	.239	
Q8: I recognize that what motivates some people is different from what motivates others	.251	.250	-.241	.228	-.242		-.540
Q9: I am not shy to ask questions about things that I do not understand							.769
Q10: I feel comfortable speaking in front of groups	.254			.565			
Q11: Sometimes I like working on one part of a task, while others work on different parts	.312	.581		-.288			
Q13: I am comfortable putting my thoughts into words	.325		.266	.444			
Q14: If someone does not understand an explanation that I am giving, I don't give up but try to find a different way of saying what is on my mind					.703		
Q15: I try to consider things from different perspectives before making a decision				.583	.201	-.250	
Q16: I enjoy gathering people together to make things happen		.726					
Q17: There are times that I realize that it will take a lot of work to make my ideas a reality, but I am willing to consider how to see them through	.288		-.475				
Q18: I am aware of my strengths and weaknesses, and feel comfortable working within my abilities and limitations				.210			
Q19: In school, I am willing to be called on by my teacher to answer questions	.732						
Q20: I try to anticipate the consequences of possible actions, and make decisions based on those consequences		.437		.307			

Table 5 (continued)

*Principal Component Analysis Pattern Matrix after Rotation with Seven Factors (30 items)*

	Component						
	1	2	3	4	5	6	7
Q21: I recognize that planning ahead can often help things go as I want them to go			-.741				
Q22: I do not hesitate to speak or respond to adults in appropriate situations	.384					.283	.205
Q24: I am comfortable when people look to me for advice and guidance about things	.620			.217			
Q25: I see that things that I choose to do today can impact my life in the future			-.751		.206		.222
Q26: When I face a problem, I can break down the steps to solve it	.208	.233	-.264	.243		-.274	
Q27: In a group setting, I expect the opportunity to share my thoughts	.401						
Q28: I can help organize others to help accomplish a task	.408		-.385			.354	
Q29: I believe that both the process of achieving something and the achievement itself are rewarding					.700		
Q30: I like to think about actions I will need to take if I want to get something done			-.227	.601		.323	
Q31: If someone treats me unfairly, I take action against it		.245				-.589	
Q32: People consult with me before decisions are taken		.485			-.251	.222	



After reviewing items that cluster on the same components, each component was named and defined. The first component included items 3, 19, 22, 24, and 27. This component was named “Self-Assurance” or SAS, and is defined as the belief in oneself and one’s abilities (for example, one who is confident in their ability to formulate opinions and share them). The SAS scale is similar to CARE’s confidence dimension, but is less about independence in the way in which one behaves, and instead relates to believing in oneself when working alone or with others. The second component included items 2, 4, 11, 16, 20, and 32 was named “Group Decision-Making” or GDM. The GDM scale is defined as the ability to work well and make decisions with others (one who is able to work in a group and think through decisions). The GDM scale is similar to CARE’s decision-making dimension in combination with the ability to motivate others dimension, but is more closely tied to one’s ability to work with others and make decisions as a group. This scale also is similar to CARE’s vision/ability to motivate others dimension because it distinguishes group leadership from individual leadership.

The third component included items 17, 21, and 25, and is name “Future-Planning” or FP. This component is defined as the ability to plan for the future while recognizing the consequences of actions. Future Planning is similar to CARE’s organization dimension, but is more closely related to the ability to critically analyze consequences of actions and plan to achieve future goals. Yet, it is noteworthy that, because these three items had negative loadings on this factor, the responses from the GLI are actually showing a *lack* of future planning. The fourth component included items 1, 7, 10, 13, 15, and 30, and was named “Self-Awareness” or SAWARE. This is defined as the ability to be aware of oneself as an individual (or awareness of your own

being, actions, and thoughts). SAWARE is similar to CARE's voice dimension, including the ability to formulate and express one's opinion, but also includes how a person, as an individual, has the ability to influence their surroundings.

After the first factor analysis with seven factors, the fifth component was originally named "Voice/Action" and included items 6, 8, and 9. This factor was originally defined as the ability to act on opinions while realizing that different actions drive different people, but the relationship between these three items was less clear and harder to define. When calculating reliability, the data showed that item 6 had a negative covariance, and was thus excluded from the factor analysis, and items 8 and 9 were subsequently included as single-items. Similarly, item 31 loaded negatively with item 5 on the same factor, indicating that the wording was confusing to participants, and was thus excluded from the analysis. Because item 18 was a double-barreled question, it was also excluded. Lastly, item 26 had cross-loadings between .2 and .3 on five factors, while item 28 had cross-loadings between .3 and .4 on three factors. Because these two items had high cross-loadings on more than one factor in the final factor analysis, they were also excluded. Therefore, the final structure included 4 factors and 5 single-items (items 5, 8, 9, 14, and 29) (see Table 6).

Table 6

*Final Factor Structure*

Factor	Question	Loading
Factor 1 (SAS) Self- Assurance	Q3: When a task to accomplish is clear, I like being part of a group to get it done	.430
	Q19: In school, I am willing to be called on by my teacher to answer questions	.732
	Q22: I do not hesitate to speak or respond to adults in appropriate situations	.384
	Q24: I am comfortable when people look to me for advice and guidance about things	.620
	Q27: In a group setting, I expect the opportunity to share my thoughts	.401
Factor 2 (GDM) Group Decision- Making	Q2: While my experiences and ideas may be different from others, I know that I can bring useful ideas to a discussion	.535
	Q4: There are times that decisions I make can influence others	.521
	Q11: Sometimes I like working on one part of a task, while others work on different parts	.581
	Q16: I enjoy gathering people together to make things happen	.726
	Q20: I try to anticipate the consequences of possible actions, and make decisions based on those consequences	.437
	Q32: People consult with me before decisions are taken	.485
Factor 3 (FP) Future Planning	Q17: There are times that I realize that it will take a lot of work to make my ideas a reality, but I am willing to consider how to see them through	-.475
	Q21: I recognize that planning ahead can often help things go as I want them to go	-.741
	Q25: I see that things that I choose to do today can impact my life in the future	-.751
Factor 4 (SAWAR E) Self- Awareness	Q1: I realize that things that I say and do sometimes encourage others to work together	.372
	Q7: I recognize that I have control over my own actions	.489
	Q10: I feel comfortable speaking in front of groups	.565
	Q13: I am comfortable putting my thoughts into words	.444
	Q15: I try to consider things from different perspectives before making a decision	.583
	Q30: I like to think about actions I will need to take if I want to get something done	.601
Individual Items	Q5: When I have made up my mind about something, I take actions that demonstrate commitment to that point of view	NA
	Q8: I recognize that what motivates some people is different from what motivates others	NA
	Q9: I am not shy to ask questions about things that I do not understand	NA
	Q14: If someone does not understand an explanation that I am giving, I don't give up but try to find a different way of saying what is on my mind	NA
	Q29: I believe that both the process of achieving something and the achievement itself are rewarding	NA

## Descriptive Statistics

To answer the second research question, descriptive statistics were calculated for each factor to measure the extent of leadership on the new dimensions among this sample of girls' scores (see Table 7 below). For the self-assurance scale, the mean was 3.08, the median was 3.2, and the standard deviation was 0.65, with an alpha of 0.524. For the group decision-making scale, the mean was 2.33, the median was 2.25, and the standard deviation was 0.64, with an alpha of 0.641. For the future-planning scale, the mean was 2.99, the median was 3, and the standard deviation was 0.74, with an alpha of 0.544. Lastly, the self-awareness scale had a mean of 2.87, the median was 2.83, and the standard deviation was 0.59, with an alpha of 0.587. The self-assurance scale had the highest mean and median, while the group decision-making scale had the lowest.

Table 7

### *Descriptive Statistics by Factor*

Factor Name	GLI Items	Mean	Standard deviation	Median	Range	$\alpha$
Self-Assurance (SAS)	Q3, 19, 22, 24, 27	3.08	0.65	3.2	1-4	0.524
Group Decision-Making (GDM)	Q2, 4, 11, 16, 20, 32	2.33	0.64	2.25	1-4	0.641
Future-Planning (FP)	Q17, 21, 25	2.99	0.74	3	1-4	0.544
Self-Awareness (SAWARE)	Q1, 7, 10, 13, 15, 30	2.87	0.59	2.83	1.3-4	0.587

Descriptive statistics were also calculated for each individual item (see Table 8). Item 5 had a mean of 2.66 and standard deviation of 1.09, while item 8 had a mean of 2.48 and standard deviation of 1.03. Item 9 had a mean of 2.94 and standard deviation of 1.04, while item 14 had a mean of 2.79 and a similar standard deviation. Finally, item 29 had a mean of 2.94 and standard deviation of 1.06. All of the individual items had a median of 3 and range of 1 – 4. For each factor and individual item, except for the self-awareness and the group decision-making scales, the medians were greater than the means, indicating a negative skew (and that more participants are answering with ‘almost always’ or ‘always’).

Table 8

*Descriptive Statistics by Individual Item*

Individual Items	Mean	Median	Standard deviation	Range
Q5: When I have made up my mind about something, I take actions that demonstrate commitment to that point of view	2.66	3	1.09	1-4
Q8: I recognize that what motivates some people is different from what motivates others	2.48	3	1.03	1-4
Q9: I am not shy to ask questions about things that I do not understand	2.94	3	1.04	1-4
Q14: If someone does not understand an explanation that I am giving, I don't give up but try to find a different way of saying what is on my mind	2.79	3	1.04	1-4
Q29: I believe that both the process of achieving something and the achievement itself are rewarding	2.94	3	1.06	1-4

## Statistics by School Status

To address the third research question, and analyze the differences between in-school and out-of-school adolescent females, a one-way ANOVA was conducted for each scale to determine an  $F$ -statistic and  $p$ -value for each scale. First, the researcher tested the assumptions of an ANOVA. The data are independent, although they are not random, which limits the generalizability of this study. The distributions within school status groups for SAWARE and GDM are normal, but the out-of-school group for the FP scale is skewed right, while the in-school group for the FP scale is skewed left. In addition, the in-school and out-of-school groups for the SAS scale are slightly skewed. Because the ANOVA is a fairly robust test to violations in the normality assumption, and “skewed distributions seem to have little effect on the error rate and power for two-tailed tests,” the researcher proceeded with the ANOVA (Field, 2009, p. 359).

To check the assumption of homogeneity of variance, the researcher conducted Levene’s test and compared the largest group variance to the smallest group variance and (see Table 9). Levene’s test was not significant for the SAS scale ( $p = .451$ ) nor the FP scale ( $p = .505$ ), but was significant for the GDM scale ( $p = .01$ ) and the SAWARE scale ( $p = .003$ ). To double check this assumption, the researcher calculated if the largest group variance for each scale was four times larger than the smallest group variance. For each of the four scales, the largest variance was not four times larger than the smallest, SAS ( $.54/.39 = 1.38$ ); GDM ( $.44/.20 = 2.2$ ); FP ( $.57/.45 = .79$ ); SAWARE ( $.39/.15 = 2.6$ ). Howell (2010) stated that “if the largest variance is no more than four times the smallest, the analysis of variance is most likely to be valid” (p. 334). Norman (2010), in his review of studies dating back to the 1930s, also argued that parametric statistics, such as the

ANOVA, can be used with non-normal distributions and unequal variances because they are robust to these violations. Therefore, the researcher concluded that homogeneity of variance was not a major issue and proceeded with the ANOVA.

Table 9

*Descriptive Statistics by School Status by Factor*

Factor Name	GLI Items	Out-of-school mean n=29	Out-of-school variance	In-school mean n=139	In-school variance	Largest variance / smallest	Levene's test p-value
Self-Assurance (SAS)	Q3, 19, 22, 24, 27	2.93	.54	3.11	.39	1.38	.451
Group Decision-Making (GDM)	Q2, 4, 11, 16, 20, 32	2.09	.20	2.38	.44	2.2	<b>.01</b>
Future-Planning (FP)	Q17, 21, 25	2.82	.45	3.02	.57	.79	.505
Self-Awareness (SAWARE)	Q1, 7, 10, 13, 15, 30	2.98	.15	2.84	.39	2.6	<b>.003</b>

The results of the ANOVA are in Table 10 below. The SAS scale had a mean difference of 0.18,  $F(1,166) = 1.92, p = 0.17, d = 0.26$ . The GDM scale had a mean difference of 0.29,  $F(1,166) = 5.10, p = 0.03, d = 0.52$ . The FP scale had a mean difference of 0.21,  $F(1,166) = 1.88, p = 0.17, d = 0.29$ , and the SAWARE scale had a

mean difference of -0.14,  $F(1,166) = 1.20$ ,  $p = 0.28$ ,  $d = -0.27$ . Therefore, GDM was the only scale that had a statistically significant difference ( $p < .05$ ) between in-school and out-of-school scores on the GLI. Field (2009) stated that the  $F$ -ratio tends to be *conservative* when the group with the larger sample size has the larger variance (as is the case here) and thus more likely to produce non-significant results when there is a genuine difference in the population (p. 360). Because the GDM scale had a significant result for Levene's test, and the larger sample size had the larger variance, it is important to remember that the  $F$ -ratio may be conservative. This also applies to the SAWARE scale, which did not produce statistically significant results. The GDM scale also had a large effect size above 0.5,  $d = 0.52$ , while the other three scales had effect sizes of less than .3, constituting a small to medium effect.



Table 10

*Differences Between Girls on Factor Scales by School Status*

Factor	Total mean N=170	In-school mean n=139	In-school standard deviation	Out-of-school mean n=29	Out-of-school standard deviation	Mean difference	Cohen's <i>d</i>	df	<i>F</i> -statistic	<i>p</i> -value
Self-Assurance (SAS)	3.08	3.11	.63	2.93	.73	0.18	0.26	1	1.92	0.17
Group Decision-Making (GDM)	2.33	2.38	.66	2.09	.44	0.29	0.52	1	5.10	<b>0.03</b>
Future-Planning (FP)	2.99	3.02	.76	2.81	.67	0.21	0.29	1	1.88	0.17
Self-Awareness (SAWARE)	2.87	2.84	.63	2.98	.39	-0.14	-0.27	1	1.20	0.28

In addition, to analyze differences between in-school and out-of-school female adolescents on individual items, non-parametric Mann-Whitney tests were conducted for each question because the data were not normally distributed. Scores for item 5 among in-school girls ( $Mdn = 3.00$ ) did significantly differ from out-of-school girls ( $Mdn = 2.00$ ),  $U = 1454.00$ ,  $z = -2.44$ ,  $p = 0.015$ . In addition, scores for item 14 among in-school girls ( $Mdn=3$ ), did significantly differ from out-of-school girls ( $Mdn=2$ ),  $U = 1550.00$ ,  $z = -2.036$ ,  $p = .042$ . Scores for item 8 among in-school girls ( $Mdn=3$ ) did not significantly differ from out-of-school girls ( $Mdn = 2$ ),  $U = 1833.00$ ,  $z = -0.795$ ,  $p = 0.427$ . Scores for item 9 among in-school girls ( $Mdn = 3$ ) did not significantly differ from out-of-school girls ( $Mdn = 4$ ),  $U = 1894.00$ ,  $z = -.543$ ,  $p = .587$ . Lastly, scores for item 29 among in-school girls ( $Mdn = 3$ ) did not significantly differ from out-of-school girls ( $Mdn = 4$ ),  $U = 1752.00$ ,  $z = -1.162$ ,  $p = 0.245$ . The results of the Mann-Whitney tests are below in Table 11.

Table 11

*Differences Between Girls on Individual Items by School Status*

Single Item	In-school mean rank n=139	Out-of- school mean rank n=29	Mann- Whitney U	z - score	p - value
Q5: When I have made up my mind about something, I take actions that demonstrate commitment to that point of view	88.54	65.14	1454	-2.44	<b>0.015</b>
Q8: I recognize that what motivates some people is different from what motivates others	85.81	78.21	1833	-0.795	0.427
Q9: I am not shy to ask questions about things that I do not understand	83.63	88.69	1894	-0.543	0.587
Q14: If someone does not understand an explanation that I am giving, I don't give up but try to find a different way of saying what is on my mind	87.85	68.45	1550	-2.036	<b>0.042</b>
Q29: I believe that both the process of achieving something and the achievement itself are rewarding	82.9	93.59	1752	-1.162	0.245

In-school girls scored higher on the GDM scale, item 5 (“When I have made up my mind about something, I take actions that demonstrate commitment to that point of view”) and item 14 (“If someone does not understand an explanation that I am giving, I don't give up but try to find a different way of saying what is on my mind”) and these differences were statistically significant ( $p < .05$ ). On a similar note, out-of-school girls scored higher on the SAWARE scale, item 9 (“I am not shy to ask questions about things that I do not understand”), and item 29 (“I believe that both the process of achieving

something and the achievement itself are rewarding”), although these differences were not statistically significant. These findings suggest that there are some differences in self-perceived leadership among in-school and out-of-school Honduran females from this sample.

## Chapter 5: Implications

### Discussion of the Study

Defining and measuring leadership among female adolescents continues to be a challenge. By developing the Girls' Leadership Index, CARE has attempted to create a quantitative instrument to measure girls' leadership across eight different countries. This analysis of the data from 170 female adolescents in Honduras demonstrated that the five dimensions of leadership that CARE identified in its leadership model – voice/assertion, decision-making, confidence, organization, and vision/ability to motivate others – are not present in this sample of girls' scores. Instead, four different leadership dimensions emerged, suggesting that leadership is a multidimensional construct, but those dimensions may take on different meanings with different populations.

#### **New dimensions of leadership.**

Through the factor analysis in this study, four new leadership dimensions were shown for this sample of girls' scores. The first factor that emerged, which the researcher named self-assurance, is similar to CARE's confidence dimension, but includes the belief in oneself when working alone *and* with others. This is similar to other scholars' results, in which female participants were able to recognize their own positive traits, valued their own identities, and viewed leadership in collaboration with others (Hoyt & Kennedy, 2008); felt more self-assured (Sonnenblick, 1997); and felt self-confident to express their ideas in journals and in groups (Denner et al., 2005).

The second factor that emerged, group decision-making, is similar to CARE's decision-making dimension in combination with the ability to motivate others dimension,

as it emphasizes working together and influencing others to think through decisions as a group. This leadership dimension can be seen in Bosworth's (2002) work, where youth involved in leadership programming were given the opportunity to create group goals and create a group vision, and in the Mathare Youth Sports Association (MYSA), where female participants acted as leaders by making decisions together to determine safer hours and locations of soccer playing fields (Brady & Khan, 2002).

The third dimension, self-awareness, is closely linked to the self-assurance factor, and is similar to CARE's voice dimension, combining the ability to individually analyze issues and voice an opinion with the awareness of one's ability to influence their surroundings as an individual. This is similar to other scholars' results, in which female participants learned how to think critically, listened to others, gained increased confidence in expressing their opinions, and felt that their opinions were valued in the group (Denner et al., 2005; Muno & Keenan, 2000).

The fourth dimension, future-planning, is the ability to anticipate the consequences of actions for the future, and is similar to CARE's organization dimension. This dimension is less well-defined in the literature as a specific component or result of leadership programming, but relates to project completion and goal-setting components of different programs. In many of the reviewed leadership programs, participants were either involved in community service or other types of projects (Bosworth, 2002; Denner et al., 2005; Suneson, 1997), and most often future-planning and goal-setting were essential components to project completion and success.

The first three dimensions, self-assurance, group decision-making, and self-awareness, all differ from CARE's dimensions of confidence, decision-making, and

voice, in that they relate to one's abilities both individually *and* in relation to working with others. This group dynamic, or ability to effect change in one's own life and larger community, is echoed in the literature on effective girls' leadership programming (Bosworth, 2002; Murphy-Graham 2007; Sonnenblick, 1997; Táborá, 2002), and could be argued as an important component of leadership for youth. Denner, Meyer, and Bean (2005) recommended leadership programming that fosters youth-youth and youth-adult partnerships and group decision-making rather than using a top-down approach (p. 98). By modeling interdependent leadership, the diverse strengths of youth and adults can work together, rather than limiting leadership opportunities solely to those with strong and assertive communication styles.

#### **Scale construction.**

Based on these new dimensions of leadership, the descriptive statistics for each factor and each individual item revealed interesting findings. Specifically, for the self-assurance and future-planning scales, the medians were greater than the means, indicating a negative skew (and that more participants are answering with 'almost always' or 'always'). One possible approach for obtaining more variation and a more normal distribution would be to stretch the scale of response options in the survey. By rewording the scale to use more detailed response options (such as once a week, or every day) leadership program evaluators could possibly obtain more variation in girls' scores to determine specific areas of leadership that may be important to focus on.

### **Differences by school status.**

Different trends in the data emerged when analyzing the scores for in-school versus out-of-school females. In-school girls scored higher on the GDM scale, item 5 (“When I have made up my mind about something, I take actions that demonstrate commitment to that point of view”) and item 14 (“If someone does not understand an explanation that I am giving, I don't give up but try to find a different way of saying what is on my mind”) and these differences were statistically significant ( $p < .05$ ). These findings suggest that there are differences in self-perceived leadership among in-school and out-of-school Honduran females from this sample. Development organizations, such as CARE, can use these findings to tailor their programming; for instance, if CARE has formed a group of out-of-school girls, they can specifically tailor activities to give the girls more practice working in groups and making decisions together, in hopes of raising group decision-making scale scores.

Similarly, out-of-school girls scored higher on the self-awareness scale, item 9 (“I am not shy to ask questions about things that I do not understand”), and item 29 (“I believe that both the process of achieving something and the achievement itself are rewarding”), although these differences were not statistically significant. This may suggest that organizations such as CARE could focus leadership programming to in-school girls to give them more practice with independently forming, expressing, and acting on their own thoughts.



## **Implications for Research and Youth Leadership Programs**

This study suggests that there are multiple dimensions to adolescent girls' leadership in the Honduran context. The results of this study proposed that a group dynamic in youth leadership is significant for these Honduran adolescent girls. Based on the results, youth leadership program directors working with this population could enhance programming by providing girls more opportunities to work with others both inside and outside of the school setting. In addition, this study aligns with Osberg Conner & Strobel's (2007) findings that leadership dimensions can serve various purposes and have various meanings for individual participants. Thus, instead of focusing on specific characteristics or components of leadership, youth leadership programming that fosters partnerships with other youth and adults, and provides a diverse array of opportunities (in groups, in public spaces, at school) for participants to enact different forms of leadership, may be most beneficial and important.

More research is needed to gain an in-depth understanding of how adolescents conceptualize and enact leadership both in Honduras and in other settings and contexts. For instance, while three of the factors in this study (self-assurance, group decision-making, and self-awareness) relate to an individual's self-perceived capacity to work alone and with others, less is known about how this perception translates into action in a girl's personal life and in the larger community. Additional research has the potential to tease out if and how working in a group influences action on a personal and community-wide level. For instance, much of the literature on youth leadership programming and voice has been measured in school programs and settings (Bemak et al., 2005; Denner et al. 2005; Munro & Keenan, 2000); in-depth qualitative studies can add to existing

knowledge of how this concept of voice (or self-awareness) influences Honduran girls' actions in the larger community. In addition, more profound and thorough open-ended research has the potential to shed light onto additional factors and components of leadership that are significant to Honduran adolescent girls that may not have been measured with the GLI.

### **Implications for CARE**

This sample of female adolescent girls' scores on the GLI did not reveal CARE's model of leadership. If CARE is interested in specifically measuring their definition of leadership, CARE could re-consider questions on the GLI, to see if the individual items capture one of the dimensions and re-assess items that comprise each dimension. CARE also has the option of re-considering response options on the GLI to try and obtain a larger (and more normal) distribution across each item and factor. Then, by pilot-testing the revised survey, CARE can assess if the data from the new instrument confirms their theory of the five dimensions of leadership. Alternatively, CARE could also refine their theory of leadership based on the results of the Honduran data or data from other contexts. This analysis is one example of a refined theory of leadership, and this refined theory shows differences in leadership dimensions and differences in leadership scores for in-school and out-of-school Honduran girls. Although the results of this analysis cannot be extrapolated beyond this sample, CARE has the ability to conduct another analyses using different samples (from the other *Power to Lead Alliance* countries, or a different random sample with equal group sizes), to determine if their model of

leadership is more generalizable and achieves the same factor structure (Field, 2009, p. 636-637).

In addition, CARE has the ability to add to the leadership literature in a variety of ways. For instance, while some leadership programs claim to increase school connectedness and prevent school dropout (Bemak et al., 2005; Denner et al., 2005; “Partnerships for Success”, 2005), there has been little research on leadership programming for out-of-school female adolescents. CARE has the potential to fill this gap with the GLI, by tracking out-of-school girls’ self-perceived leadership skills and their school status, to measure if increases in leadership (and participation in leadership programming) influences re-entering school. CARE can also innovatively use the GLI results and scales, while tracking school attendance and completion, to analyze possible correlations among leadership, attendance and achievement/completion.

### **Limitations**

As this study attempted to test CARE’s model of leadership using the GLI, it used an existing data set and therefore has several limitations. For instance, this study was not preceded with a pilot test in Honduras, it used a nonprobability sample, and it may be victim to possible selection and nonresponse bias. In addition, the fidelity of survey implementation is unclear, and the possible consequences of surveying participants in groups versus individually are unknown. The data were not normally distributed and the sample sizes for the in-school and out-of-school groups were quite different, which may have affected the results. Yet, this analysis provides useful information to improve the monitoring and evaluation, in addition to the design and procedures, of girls’ leadership

and CARE's *Power to Lead Alliance* programming. It also provides an important understanding of the dimensions of leadership for adolescent girls in the Honduran context.

### **Final Conclusion**

By continuing to develop and refine scales used to understand gender issues, such as leadership, CARE is moving beyond measures of parity to assess the specific impacts on girls and women. The construction of the GLI as a quantitative tool for its *Power to Lead Alliance* initiative has given CARE the ability to further understand the dimensions that comprise leadership, and the relations among these different factors. With the results of the GLI, CARE has the ability to gather data and tailor programming to specifically enhance the dimensions of leadership. By creating and using the GLI to assess the relative quality of girls' leadership experiences, in addition to the relations and power dynamics of female adolescents, CARE is transitioning from parity measures to address gender relations in communities to help empower females and combat poverty around the world.

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## Appendix A

### *LEARNING TO LEAD* GIRLS' LEADERSHIP INDEX

#### Instructions to Girl Respondents

This is not a test, so there are no correct and no wrong answers. It is a way to learn how you see things and how you feel about yourself. The information will be used to help develop activities that you may have the opportunity to participate in, to encourage you to become the woman you hope to become. Thanks for helping us learn how to help you!!

*It is anticipated that you should complete the Girls Leadership Index in approximately 1 hour.*

**Skills, Attitudes and Behavior Statements:** You are asked to read each of the sentences, and give a rating between 1 and 4 to show how your own behavior compares to that described in the sentence, using the explanation below.

Circle the **1** next to the sentence if you...**rarely** behave as described in the sentence.

Circle the **2** next to the sentence if you...**sometimes** behave as described in the sentence.

Circle the **3** next to the sentence if you...**often** behave as described in the sentence.

Circle the **4** next to the sentence if you...**always** behave as described in the sentence.

**Current Skills and Behaviors – How am I doing?:** You are asked to think about your actions and behavior overall, and circle a statement that best describes how you feel about your own current skills and behaviors as a leader.

**Getting Started:** In order to help us best use the information you provide, please tell us the following:

How old are you? (circle one)      **10**    **11**    **12**    **13**    **14**

Are you enrolled in school?    **YES**    **NO**

Do you attend on a regular basis?    **YES**    **NO**

What is the name of your school? \_\_\_\_\_

Have you completed this questionnaire before? **YES**    **NO**    If 'YES', when? \_\_\_\_\_

What is your name? (OPTIONAL) \_\_\_\_\_

### Skills, Attitudes and Behavior Statements

Read each of the following sentences and give each a rating by circling a number from 1 to 4, indicating how your typical behavior compares to that described in the statement, using the explanation below:

Circle the **1** next to the sentence if you...**rarely** behave as described in the sentence.

Circle the **2** next to the sentence if you...**sometimes** behave as described in the sentence.

Circle the **3** next to the sentence if you...**often** behave as described in the sentence.

Circle the **4** next to the sentence if you...**always** behave as described in the sentence.

Rarely	Some- times	Often	Always	SENTENCE
1	2	3	4	I realize that things that I say and do sometimes encourage others to work together. (VAMO)
1	2	3	4	While my experiences and ideas may be different from others, I know that I can bring useful ideas to a discussion. (V)
1	2	3	4	When a task to accomplish is clear, I like being part of a group to get it done. (VAMO)
1	2	3	4	There are times that decisions I make can influence others. (DM)
1	2	3	4	When I have made up my mind about something, I take actions that demonstrate commitment to that point of view. (C)
1	2	3	4	I do not hesitate to let others know my opinions. (V)
1	2	3	4	I recognize that I have control over my own actions. (DM)
1	2	3	4	I recognize that what motivates some people is different from what motivates others. (VAMO)
1	2	3	4	I am not shy to ask questions about things that I do not understand. (V)
1	2	3	4	I feel comfortable speaking in front of groups. (V)
1	2	3	4	Sometimes I like working on one part of a task, while others work on different parts. (O)

Circle the **1** next to the sentence if you...**rarely** behave as described in the sentence.  
 Circle the **2** next to the sentence if you...**sometimes** behave as described in the sentence.  
 Circle the **3** next to the sentence if you...**often** behave as described in the sentence.  
 Circle the **4** next to the sentence if you...**always** behave as described in the sentence.

Rarely	Some- times	Often	Always	SENTENCE
1	2	3	4	I try to get involved in extra-curricular activities because they help me gain skills to become a leader. (SN)
1	2	3	4	I am comfortable putting my thoughts into words. (V)
1	2	3	4	If someone does not understand an explanation that I am giving, I don't give up but try to find a different way of saying what is on my mind. (C)
1	2	3	4	I try to consider things from different perspectives before making a decision. (DM)
1	2	3	4	I enjoy gathering people together to make things happen. (VAMO)
1	2	3	4	There are times that I realize that it will take a lot of work to make my ideas a reality, but I am willing to consider how to see them through. (O)
1	2	3	4	I am aware of my strengths and weaknesses, and feel comfortable working within my abilities and limitations. (C)
1	2	3	4	In school, I am willing to be called on by my teacher to answer questions. (C)
1	2	3	4	I try to anticipate the consequences of possible actions, and make decisions based on those consequences. (DM)
1	2	3	4	I recognize that planning ahead can often help things go as I want them to go. (O)
1	2	3	4	I do not hesitate to speak or respond to adults in appropriate situations. (C)

Circle the **1** next to the sentence if you...**rarely** behave as described in the sentence.  
 Circle the **2** next to the sentence if you...**sometimes** behave as described in the sentence.  
 Circle the **3** next to the sentence if you...**often** behave as described in the sentence.  
 Circle the **4** next to the sentence if you...**always** behave as described in the sentence.

Rarely	Some- times	Often	Always	SENTENCE
1	2	3	4	I think that my friends and family have an influence on my ability to become a leader. (SN)
1	2	3	4	I am comfortable when people look to me for advice and guidance about things. (VAMO)
1	2	3	4	I see that things that I choose to do today can impact my life in the future. (DM)
1	2	3	4	When I face a problem, I can break down the steps to solve it. (O)
1	2	3	4	In a group setting, I expect the opportunity to share my thoughts. (V)
1	2	3	4	I can help organize others to help accomplish a task. (O)
1	2	3	4	I believe that both the process of achieving something and the achievement itself are rewarding. (VAMO)
1	2	3	4	I like to think about actions I will need to take if I want to get something done. (O)
1	2	3	4	If someone treats me unfairly, I take action against it. (C)
1	2	3	4	People consult with me before decisions are taken. (DM)



**Current Skills and Behaviors - How am I doing?**

Circle the sentence below that best describes how you feel about your own current skills and behaviors as a leader.

<b>I am unsure what it takes to be a leader</b>	<b>I see people who are leaders and wish I could be more like them</b>	<b>I am looking for ways to improve my leadership skills</b>	<b>When the situation is right, I feel comfortable acting as a leader</b>	<b>I regularly show that I am a capable leader</b>
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## Appendix B

### *Aprendizaje a Conducir*

## EL ÍNDICE DE LIDERAZGO DE LAS MUCHACHAS

### Instrucciones para las Chicas Encuestadas

Este no es una prueba, así allí no son correctos y ningunas respuestas incorrectas. Esto es un modo de aprender como usted ve cosas y como usted siente sobre usted. La información será usada para ayudar desarrollan actividades en las cuales usted puede tener la oportunidad de participar, animarle a hacerse la mujer que usted espera hacerse. ¡¡Gracias por ayudarnos para aprender a ayudarle!!

*Es esperado que usted debería completar el Índice de Mando de Muchachas en aproximadamente 1 hora.*

**Habilidades, Actitudes y Declaraciones de Comportamiento:** le piden leer cada una de las oraciones, y dar una posición entre 1 y 4 para mostrar como su propio comportamiento se compara con esto descrito en la oración, usando la explicación abajo.

Rodee el 1 al lado de la oración si **rara vez** se comportan como descrito en la oración.

Rodee el 2 al lado de la oración si **algunas veces** se comportan como descrito en la oración.

Rodee el 3 al lado de la oración si **muchas veces** se comportan como descrito en la oración.

Rodee el 4 al lado de la oración si **siempre** se comportan como descrito en la oración.

**¿Habilidades Corrientes y Comportamientos - Cómo hago?:** le piden pensar en sus acciones y comportamiento en general, y rodear una declaración que mejor describe como usted siente sobre sus propias habilidades corrientes y comportamientos como un líder.

**Como empezar:** a Fin de ayudarnos mejor a usar la información usted provee, por favor díganos lo siguiente:

¿Qué edad tienen usted? (rodee un)            **10      11      12      13      14**

¿Es matriculado usted en la escuela? **SÍ      NO**

¿Asiste usted en una base regular?            **SÍ      NO**

¿Cuál es el nombre de su escuela? \_\_\_\_\_

¿Ha completado usted este cuestionario antes? **¿SÍ      NO** Si es “SÍ”, cuándo? \_\_\_\_\_

¿Cómo se llama usted? (OPCIONAL) \_\_\_\_\_

### Habilidades, Actitudes y Declaraciones de Comportamiento

Lea cada una de las oraciones siguientes y dé a cada uno una posición rodeando un número de 1 a 4, indicando como su comportamiento típico se compara con esto descrito en la declaración, usando la explicación abajo:

Rodee el **1** al lado de la oración si **rara vez** se comportan como descrito en la oración.

Rodee el **2** al lado de la oración si **algunas veces** se comportan como descrito en la oración.

Rodee el **3** al lado de la oración si **muchas veces** se comportan como descrito en la oración.

Rodee el **4** al lado de la oración si **siempre** se comportan como descrito en la oración.

rara vez	algunas veces	muchas veces	siempre	ORACIÓN
1	2	3	4	Realizo que las cosas que digo y animo realmente a veces a otros a trabajar juntos. (VAMO)
1	2	3	4	Mientras mis experiencias e ideas pueden ser diferentes de otros, sé que puedo traer ideas útiles a una discusión. (V)
1	2	3	4	Cuando una tarea de llevar a cabo está clara, me gusta ser la parte de un grupo para hacerlo. (VAMO)
1	2	3	4	Hay tiempos que las decisiones que hago pueden influir en otros. (DM)
1	2	3	4	Cuando he decidido sobre algo, tomo acciones que demuestran el compromiso de aquel punto de vista. (C)
1	2	3	4	No vacilo en dejar a otros saber mis opiniones. (V)
1	2	3	4	Reconozco que tengo el control de mis propias acciones. (DM)
1	2	3	4	Reconozco que lo que motiva a algunas personas es diferente de lo que motiva a otros. (VAMO)
<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	No soy tímido para hacer preguntas sobre cosas que no entiendo. (V)
1	2	3	4	Siento el hablar cómodo delante de grupos. (V)
1	2	3	4	A veces me gusta trabajar sobre una parte de una tarea, mientras los otros trabajan sobre partes diferentes. (O)
1	2	3	4	Trato de estar implicado en actividades extraescolares porque ellos me ayudan a ganar habilidades de hacerse un líder. (SN)
1	2	3	4	Soy la puesta cómoda de mis pensamientos en palabras. (V)
1	2	3	4	Si alguien no entiende una explicación que doy, no dejo, pero trato de encontrar un modo diferente de decir lo que está sobre mi mente. (C)
1	2	3	4	Trato de considerar cosas de perspectivas diferentes antes de tomar una decisión. (DM)
1	2	3	4	Disfruto de la gente creciente junto para hacer cosas pasar. (VAMO)

Rodee el **1** al lado de la oración si **rara vez** se comportan como descrito en la oración.  
 Rodee el **2** al lado de la oración si **algunas veces** se comportan como descrito en la oración.  
 Rodee el **3** al lado de la oración si **muchas veces** se comportan como descrito en la oración.  
 Rodee el **4** al lado de la oración si **siempre** se comportan como descrito en la oración.

<b>rara vez</b>	<b>algunas veces</b>	<b>muchas veces</b>	<b>siempre</b>	<b>ORACIÓN</b>
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	Hay tiempos que realizo que esto tomará mucho trabajo para hacer mis ideas una realidad, pero quiero considerar como verlos por. (O)
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	Soy consciente de mis fuerzas y debilidades, y siento el funcionamiento cómodo dentro de mis capacidades y limitaciones. (C)
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	En la escuela, quiero ser visitado por mi profesor para contestar preguntas. (C)
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	Trato de esperar las consecuencias de acciones posibles, y tomar decisiones basado en aquellas consecuencias. (DM)
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	Reconozco que planear para el futuro puede ayudar a menudo a cosas a ir cuando quiero que ellos vayan. (O)
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	No vacilo en hablar o responder a adultos en situaciones apropiadas. (C)
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	Pienso que mis amigos y familia tienen una influencia sobre mi capacidad de hacerse un líder. (SN)
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	Soy cómodo cuando la gente me contempla para consejo y dirección sobre cosas. (VAMO)
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	Veo que las cosas que decido hacer hoy pueden afectar mi vida en el futuro. (DM)
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	Cuando afronto un problema, puedo dividir los pasos para solucionarlo. (O)
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	En un ajuste de grupo, espero la oportunidad de compartir mis pensamientos. (V)
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	Puedo ayudar a organizar a otros para ayudar a llevar a cabo una tarea. (O)
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	Creo que tanto el proceso de alcanzamiento algo como el logro sí mismo son provechosos. (VAMO)
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	Me gusta pensar en acciones que tendré que tomar si quiero hacer algo. (O)
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	Si alguien me trata injustamente, tomo medidas contra ello. (C)
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	La gente consulta conmigo antes de que las decisiones sean tomadas. (DM)

### **¿Habilidades Corrientes y Comportamientos - Cómo hago?**

Dé vueltas la oración debajo de aquel mejor describe como usted siente sobre sus propias habilidades corrientes y comportamientos como un líder.

<b>Soy inseguro lo que esto toma para ser un líder</b>	<b>Veo a la gente que es líderes y lamenta que yo no pudiera ser más bien ellos</b>	<b>Busco modos de mejorar mis habilidades de mando</b>	<b>Cuando la situación es correcta, siento la interpretación cómoda como un líder</b>	<b>Con regularidad muestro que soy un líder capaz</b>
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## **Appendix C IRB approval**

TO : deja0003@umn.edu, pell0097@umn.edu,

The IRB: Human Subjects Committee determined that the referenced study is exempt from review under federal guidelines 45 CFR Part 46.101(b) category #4 EXISTING DATA; RECORDS REVIEW; PATHOLOGICAL SPECIMENS.

Study Number: 1001E75854  
Principal Investigator: Nancy Pellowski Wiger  
Title(s): Girls' Leadership in Honduras

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This e-mail confirmation is your official University of Minnesota RSPP notification of exemption from full committee review. You will not receive a hard copy or letter. This secure electronic notification between password protected authentications has been deemed by the University of Minnesota to constitute a legal signature.

The study number above is assigned to your research. That number and the title of your study must be used in all communication with the IRB office.

If you requested a waiver of HIPAA Authorization and received this e-mail, the waiver was granted. Please note that under a waiver of the HIPAA Authorization, the HIPAA regulation [164.528] states that the subject has the right to request and receive an accounting of Disclosures of PHI made by the covered entity in the six years prior to the date on which the accounting is requested. If you are accessing a limited Data Set and received this email, receipt of the Data Use Agreement is acknowledged.

This exemption is valid for five years from the date of this correspondence and will be filed inactive at that time. You will receive a notification prior to inactivation. If this research will extend beyond five years, you must submit a new application to the IRB before the study's expiration date.

Upon receipt of this email, you may begin your research. If you have questions, please call the IRB office at (612) 626-5654.

You may go to the View Completed section of eResearch Central at <http://eresearch.umn.edu/> to view further details on your study.

The IRB wishes you success with this research. We have created a short survey that will only take a couple of minutes to complete. The questions are basic, but will give us guidance on what areas are showing improvement and what areas we need to focus on:

<https://umsurvey.umn.edu/index.php?sid=36122&lang=um>

## Appendix D

### CARE approval



CARE USA  
Program Division  
151 Ellis Street, NE  
Atlanta, GA 30303-2440  
USA  
tel 404.681.2552  
fax 404.589.2620  
www.care.org

January 4, 2010

To Whom It May Concern:

Nancy Pellowski Wiger, a Master's student in Comparative and International Development Education at the University of Minnesota, has permission from CARE USA and the Basic and Girls' Education Unit to use the "Power to Lead" data from Honduras for her Master's thesis. This database includes survey responses from 176 female youth ages 10-14 years old in peri-urban and rural areas of Honduras where CARE works. The only identifying information included in the data are participants' ages and the communities where the survey administration took place. Nancy will keep hard copies of this data in a locked file cabinet, and electronic copies will be secured on a password protected computer. Nancy has permission to analyze this data for her Master's thesis only, for up to one year from the time it is determined to meet the exempt criteria (no later than May 2011). Any other use of this data (in any other conference, report, published document, including the thesis itself) will require further authorization from CARE USA and the Basic and Girls' Education Unit.

Thank you for your time and consideration. If you have any additional questions, please feel free to contact me at 404-979-9119 or [pcronin@care.org](mailto:pcronin@care.org).

Sincerely,



Peter M. Cronin, Ed.D  
Education Technical Advisor  
CARE USA  
151 Ellis Street, NE  
Atlanta, GA 30303