Leadership in a Collaborative Mural with Adolescent Girls

by

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ABSTRACT

In contemporary society, educators teach adolescent students about the importance of developmental growth. This growth transitions into leadership, which prepares youth to collaborate with adults in a working environment. Additionally, youth mural programs generate leadership skills, yet not many art educators are using mural projects as a means to develop leadership in their students. This study explored the connection between working collaboratively on a mural project and the impact it had on leadership traits and skills in adolescent girls. I created an action research project in conjunction with Girl Scouts to encourage a group of girls while creating a mural. The mural project took place at an Arizona Girl Scout resident camp for a total of 11 days. Seven participants between the ages of 14-17 engaged in planning and executing a tile mosaic mural. The image they created remains as a permanent mural for the camp.

Qualitative data includes responses to reflection questions and observations. Quantitative data consist of self-reported questionnaire scores before and after the mural project. The data is analyzed to understand if there was a difference in leadership traits and skills before and after instruction. Data is also used to see which leadership traits and/or skills, if any, were impacted. Findings in the study reveal differences in leadership skills before and after instruction. However, there was not a significant impact to leadership traits. Specific skills that improved include those that involve communication and working with others. I conclude that adolescent girls became more aware of communicating effectively, adapting ideas to others, and working with others after they finished the mural. Additionally participants were more open to sharing thoughts near the end of the project than at the start.
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CHAPTER 1
INTRODUCTION

I first encountered the concept of youth leadership development utilizing the visual arts while I worked as a teen leadership coordinator in the summer of 2011 at a resident Girl Scout camp called Willow Springs Program Center. Throughout the summer we implemented a variety of empowering activities such as building trails, assisting younger campers, setting goals, learning collaboratively, and developing communication. Even though all of these activities were inspiring, one of the most compelling actions that really stuck with the campers involved beautifying the camp with murals. I designed an action research project in keeping with the teenagers’ preference for a cooperative and creative atmosphere and in conjunction with the mission of the Girl Scouts to promote leaders in our community: “Girl Scouting builds girls of courage, confidence, and character, who make the world a better place” (GirlScouts.org).

This study focused on how a collaborative tile mosaic project impacted the foundation of leadership in teens. Because the project combines research, application, and data collection, it could interest current and future art educators who teach in either schools or alternative programs such as camps or after school programs.

In my internet research, I found very few sources exclusively about visual arts influencing leadership in youth. This lack of research drove me to fill the gap by implementing a study based on how a collaborative project in the visual arts would impact leadership traits and skills. While searching for more information about leadership projects, I found that ability to collaborate is one of the most essential aspects
of leadership. Northouse stated that “Leadership is a process whereby an individual influences a group of individuals to achieve a common goal” (Northouse, 2013, p. 5). Without the opportunity to collaborate in group projects, it seems likely that youth will have less chance to develop specific leadership skills.

One of my main intents for a mural project for this study stemmed from the lack of historical or cultural identities depicted visually at Camp Willow Springs. With access to a variety of artistic mediums and enthusiastic teens, the camp could easily create a visual representation of prominent historical features. The tile mosaic mural lesson focused on traditions, histories, and cultural identities not visually represented at the camp. As Willow Springs grows each year with new programs, the camp loses pieces of its history and traditions along the way. By digging through the past, the participants had an opportunity to work together as a group to establish leadership qualities. Although leadership was not an explicit goal of the mural project, the Girl Scout program promotes the development of leadership through projects and activities.

**Research Questions**

**Principal research question**

How does a collaborative tile mosaic mural project impact leadership skills and traits in adolescents?

**Subordinate research questions**

What, if any, leadership skills and traits do youth develop while participating in a collaborative art project?
If participants develop leadership skills and traits, how do they demonstrate these skills throughout the collaborative project?

**Research Problem**

Girl Scout Council conducts significant research, which states scouting affects the foundations of powerful leaders. In fact, one of the main goals of the Girl Scout program is to enhance the leadership experience by discovering, connecting, and taking action (GirlScouts.org). Kathy Cloninger, the CEO of the Girl Scouts in the USA, stated “In Girl Scouts, leadership isn’t just about building future leaders- it’s about building girl leaders today (Girl Scouts of the USA, 2008, p. 5). However, the development of youth leadership skills specifically utilizing the visual arts is a limited topic for the Girl Scouts. The Girl Scout program connects to many national and state curriculum standards, but art, including theatre, dance, visual, and music is not specifically recorded in any research publications that I found. In areas beyond Girl Scouts, many programs exist that emphasize youth leadership and the arts. However I have found no studies that branch into the realm of collaborating on a visual art project and whether the effects of group socialization impact youth leadership.

In addition to lack of research, there is a problem with society’s common assumption of visual art classroom activities as individualized pursuits verses the view that music, theatre, and dance classroom for youth are collaborative. The performance classroom (music, theatre, and dance) usually entails a group of individuals working collaboratively to create one piece. However, a common notion of the visual arts classroom assumes a group of students work independently to create their own personal artwork (Hagaman, 1990). Independent work can compel an individual to identify with
personal interests, but there is little room for collaborative learning that leads more effectively to the development of leadership traits and skills. In high school, students should develop aspects of leadership in order to function well in society as adults. My investigation explored whether collaboration in a mural activity ultimately promoted advanced leadership traits and skills in participants.

Adolescent students generally form cliques and socialization encompasses a huge part of everyday life. Peer relations, the behaviors of idols, and interactions with parents all influence teens. Often adults do not think that adolescents are capable of demonstrating leadership, which includes the ability to manage time, work as a team, start conversations and set goals. By not giving adolescents responsibility in these areas, adults can hinder the development of leadership. Leadership qualities are positive life skills that should be addressed before moving beyond high school. Building leadership is a common problem that all adolescents face in all cultures before entering the adult world.

Studies regarding leadership are vast and cover many aspects of personal and professional development. Leadership is a common word with many meanings and it is sought after by businesses, companies, and organizations in a professional field of practice. By narrowing my focus specifically to leadership traits and skills, I clarify specific developments in leadership through a collaborative visual art project. Through this study, I prepared adolescent teens to understand art as a visual expression of powerful ideas. If these ideas can stimulate innovative change, the visual expression of them has important potential outcome of positive leadership.
The research problem in my study focused on four main points. First, Girl Scout research lacks a specific emphasis on visual art projects and the development of youth leadership. Second, this study challenges the traditional art classroom for individualized practice by incorporating a collaborative approach to visual art education. Third, this study explores whether adults can actually promote the development of youth leadership by providing them with responsibility or encouragement in social outlets. Finally, my study focused on specific traits and skills because most studies involving leadership are extensive. By addressing the problems that I outlined, my study provided adolescence with collaborative visual art instruction to determine whether such instruction enhanced leadership.

**Purpose of Study**

The purpose of this study was to measure the impact of a collaboration project on high school girls’ leadership traits and skills. As part of its program, the Girl Scouts significantly encourages advancing leadership abilities. The Girl Scout program benefits from understanding how leadership traits and skills develop throughout a collaborative art project. It specifically targets leadership growth and brings a visual art program focus to Girl Scout participants. The outcome of the research may also encourage similar projects not only at this camp, but in other Girl Scout programming across the country. Willow Springs also benefited from the proposed study because the mural beautified the surroundings and incorporated historical features of the camp.

The intended audience for this research is current and future art administrators and instructors of alternative arts programming including, but not limited to, after school and summer camp sessions. From promoting leadership to connecting practical
applications, this project incorporated the involvement of all the participants. Not only did the participants benefit by learning new skills, but the camp benefited as well with a newly constructed mural built by the campers themselves.
CHAPTER 2
REVIEW OF LITERATURE

To better understand the features of collaboration in a mural project impacting leadership, this literature review explores a variety of relationships between adolescent development, art, collaboration, and leadership. The chapter is divided into eight sections starting with theoretical perspectives and ending with a description of the community. Additional areas include a discussion of adolescent development, leadership, leadership in art, collaboration, community murals with youth and community in general.

Theoretical Perspective

My study uses a theoretical framework about the development of leadership. The theoretical framework for my proposed study outlines the theories of leadership development already established by theorists, philosophers, historians, sociologists, and others. First, I need to note that the word leadership has evolved over the past century without a universal consensus. The word leadership contains many meanings. It has a similar context as the words love, democracy, and peace (Northouse, 2013). Stogdill’s (1974) stated that “there are almost as many different definitions of leadership as there are people who have tried to define it” (p.7). Northose, with regards to the core of leadership, poses the questions of whether or not a person needs to be born with leadership traits or whether it is a learned process. According to Northouse, inherited traits include intelligence, self-confidence, judgment, aggressiveness, sociability, or desire, among many other traits, while learned experiences include leadership, technical skill, motivation, the ability to work with people, and working with new and innovative concepts (2013).
Beginning in ancient times, leadership concepts began to take root with philosophers such as Plato, Socrates, and Aristotle (Pitis, 2008). Pitis explains that during the Hellenistic era leadership was a prized asset and it did not matter whether leaders were male or female. Rather a person achieved leadership through the development of virtues by progressing through a series of life challenges. Throughout the ages in the West, leadership theorists such as philosophers, sociologists, and psychologists, developed, challenged, and re-designed the concept of leadership. The westernized concept about leadership shifted in the 19th century when scholars organized and categorized the concept’s aspects into trait and skill-based approaches.

Leadership trait theories began during the 19th century with the widely accepted Great Man Theory, which stated that leaders were born and not made (Cawthon. 1996). Pitis critiques this theory that identifies leadership traits with individuals’ specific biological and genetic personality traits, because the theory fails to recognize the virtue of family nature or socioeconomic status (2008). Summarizing the basic tenets of the Great Man Theory, Pitis continues: “A trait is a stable and consistent genetic characteristic passed on from one generation to the next through breeding. Traits such as honesty, integrity, intelligence, strength of character, and confidence were argued to be critical to leadership performance” (2008, p. 796.). Trait theorists like historian Thomas Carlyle (1841) were ultimately unable to prove that leadership traits were strictly inherited and early research was mixed at best. Stogdill (1974) later established a situational approach, which concluded that leaders gained strength through experiences.

Over 50 years ago, Stogdill (1948) identified the Situational Theory of leadership, which identifies the difficulty in isolating a set of leadership traits without including
situational actions. He continued to state that only under situational circumstance can one find that a leader acted with more effectiveness, insight, or empathy. Even with a number of positive traits, over time a leader could lose effectiveness in certain situations if they refuse to conform to changes. Essentially, there is no single way to lead.

Even though the concept of leadership is changing, the trait approach cannot be thrown out entirely. Cawthon (1996) supports contemporary theories, but adds that people do not enter the world as blank slates with completely equal abilities. He quoted Kirpatrick and Locke (1991) in his 1996 article:

Regardless of whether leaders are born or made, it is unequivocally clear that leaders are not like other people. Leaders do not have to be great men or women by being intellectual geniuses or omni-scient prophets to succeed, but they do need to have the “right stuff” and this stuff is not equally present in all people. Leadership is a demanding, unrelenting job with enormous pressures and grave responsibilities. It would be a profound disservice to leaders to suggest that they are ordinary people who happened to be in the right place at the right time. In the realm of leadership (and in every other realm), the individual does matter.

(Kirkpatrick & Locke, p. 48-60).

Northouse (2013) reports that in 1955, a skills-based approach to leadership attempted to redirect the trait method into a model with identifiable set of leadership skills. The skills approach to leadership receives wider acceptance in the modern world especially in the United States, as compared to the trait approach. It encourages individuals because they are able to understand that a leader’s effectiveness changes
through learned experiences. Northouse summarized Katz’s findings by identifying three skills of leadership: (1) technical skill, which includes competencies in a specialized area, analytical ability, and the ability to use appropriate tools and techniques, (2) human skill, which is knowledge about how to work with people, and (3) conceptual skill, which is the ability to work with ideas and concepts. The three skills mentioned emphasize abilities that can be learned and developed.

As scholarship in leadership continues to develop, modern situations enhance the meaning of leadership. Coleman (2012) organized leadership theories in a systemized chart to break down modern situations, see table 1 Historical Leadership Theories. Coleman’s chart lays out theories that address behaviors and situations, achievement-orientated circumstances, and the ability of leaders to transform an organization. Contemporary researchers also address topics such as: the capacity to inspire vision, generate charisma, delegate authority, establish communication, work collaboratively, and encourage self-discipline (Bass, 1985; Burns, Coleman, 2012; 1978; DePree, 1989; Leithwood, 1992; Yukl, 2006). Through personality tests and similar questionnaires, individuals can understand whether they have the traits or skills considered appropriate for leadership.
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| Great Man theory              | 1. Leaders are born, not made  
2. Leaders have specific qualities that make them leaders  
3. Leaders are male | Carlyle, 1888; Spencer, 1896 |
| **Trait theory**              | 1. Leaders are born with specific traits that make them suitable for leadership  
2. Traits include charisma, intelligence, socioeconomic status, birth order as well as achievement, responsibility, participation, and situation | Bass, 1960; Bird, 1940; Likert, 1967; Stogdill, 1948, 1974 |
| **Situational theory**        | 1. Leadership determined more by requirements of situation rather than inherited traits  
2. Organizational climate, role characteristics, subordinate characteristics, and organizational structure determine leadership  
3. Some traits more effective in certain situations than others | Fiedler, 1967; Hoy & Miskel, 1987; Vroom and Yetton, 1973 |
| **Behavioral theory**         | 1. Leadership determined by behaviors displayed by the leader  
2. Behavior categories include organizational tasks, individual and personal relations  
3. Effective leaders able to address task and human relations in organizations | Barnard, 1938; Bolman & Deal, 1991  
Cartwright & Zander, 1960; Etzioni, 1961; Halpin, 1966; Lewin, 1936; Stogdill, 1963 |
| **Contingency theory**        | 1. Leadership is determined by both situation and behavior  
2. Interaction of leader’s behavior with the situation determines effectiveness as leader  
3. Determined four behaviors (directive, achievement-oriented, supportive, participative) and two situation variables (followers characteristics and organizational environment) | Fiedler, 1967; House, 1971; Hoy & Miskel, 1987 |
| **Transformational theory**   | 1. Leadership determined by ability of leader to transform an organization  
Adolescent Development

The adolescent years of human development range between childhood and adulthood. American psychologist Hall described adolescence as “the stage of life between sexual maturity and socioemotional and cognitive maturity” (1904, p. 75). A transformation in psychological, emotional, and physical growth occurs during these years and positive adult interactions are crucial to the social health of adolescent teens. Piaget (1972) stated that “the period from 15 to 20 years marks the beginning of professional specialization and consequently also the construction of a life program corresponding to the aptitudes of the individual.” It’s during the adolescent years that teenagers are better able to influence the outcome of their own personal development and the direction of society.

By the time students reach their third or fourth year of high school, they start to develop an understanding of issues with global consequences. They become familiar with large-scale movements throughout history and tend to incline towards community actions to enact upon morality and identity which are focal points of development in teens (Youniss, 1997). Erickson (1968) stated that two aspects comprise adolescent identity: personal and social. He theorized that adolescents need to form a personal identity to direct their future lives. Both identity processes in youth development pertain to community actions.

The young person, in order to experience wholeness, must feel progressive continuity between that which he [she] has come to be during the long years of childhood and that which he [she] promises to become in the anticipated future; between that which he [she] conceives him [her] self to be and that which he [she]
perceives others to see in him [her] and expect of him [her] (Erickson, 1968, p. 87).

During a typical high school art course, students generally create independent art pieces and develop an understanding of techniques, processes, and applications. As a result, students continuing with art as late teens are ready to move beyond an individual artwork to a collaborative piece in order to impact a community and thereby develop leadership traits. Younis and Yates (1997) propose that community projects provide opportunities for reflection on society’s political, moral, and historical scopes. It may be a time for adolescence to become makers of history and provide meaning to their artwork and community.

Programs such as after school clubs, 4-H, Girl and Boy Scouts, student council, national honors society, and other organizations encourage active involvement. Larson (1994) described these organizations as contexts for social integration by connecting youth to the community and fostering relationships with adults, peers, and family. These organizations stimulate student involvement that promotes leadership qualities during adulthood (Lerner & Perkins, 1999). “Adolescents need to become part of a larger collective that transcends the self’s personal biography” (Youniss & Yates, 1997, p. 22). With the implementation of a group project, teenagers work together to discover what their society needs. In groups, adolescent teens are more likely to bounce ideas off each other and display higher confidence by asking community members directly what the community needs.

Beginning in the 10th grade, students start to move beyond significant egocentric judgment and replace the perspective with a socialized approach to advocate for issues
they care about. Adolescents develop more independence and are able to grasp abstract concepts by asking questions, which lead to further investigation. Many adults may not realize the extent to which social interactions and forms of visual culture impact adolescent teens (Freedman, Haijnen, Kallio-Tavin, Karapati, Papp, 2013). These experiences connect to wider social aptitudes and guiding these aptitudes enhances team collaboration. Each student’s individual talents impact the group. My study is especially appropriate for high school students because teens between the ages of 14 and 17 develop a desire to make a difference in their community by discovering the issues, connecting them, drafting a plan, and taking action. Also, most of these students are just evolving past what Victor Lowenfeld called the Gang Age of development indicating greater social maturity. (Lowenfeld 1987).

The Gang Age in art development is the important stage of social independence within a group. Through cooperative work, the arts contribute greatly to social development by providing a constructive meaning to a developing social conscience. “This feeling of social consciousness and responsibility is of great significance for the child's understanding of a larger world of which he [she] will become a part” (Lowenfeld, 1987). During this stage, youth begin to question their environment and become highly critical of others as well as themselves. These critical thoughts lead to a sense of justice and encourage actions of fairness. Although the participants in my study might display characteristics of the Gang Age, they are most likely to fit into the stage of The Period of Decision in art development based on their age.

Victor Lowenfeld described The Period of Decision as passing from one stage of physical, mental, and emotional development to another with great difficulty
In contrast to the elementary art classroom, art instruction at the high school level takes a different approach to learning focused on skills and the development of positive attitudes. Students are more purposeful with their creations because they have developed opinions which may or may not line up with the teacher’s values (Lowenfeld, 1987). Teenagers start to see art as something that was once fun, but is not necessary in their everyday lives. Similar to younger learners, older adolescents are still concerned with their social crowd and with independence from adult control, they start to seek an identity (Lowenfeld, 1987). Students of this age need encouragement by bringing art closer to conscience awareness.

Leadership

The topic of leadership is vast and incorporates many meanings, but in general it encompasses the act of leading others, setting goals, and solving problems. It is a highly sought after and valued quality, which captivates public attention (Northouse, 2001). In the context of this study, leadership is defined according to Northouse’s description as: “a process whereby an individual influences a group of individuals to achieve a common goal” (p. 5). Leviton (2007) stated, “Leadership is one of the big societal concepts and is an essential ingredient for personal and social change” (p. 5). She argues that by utilizing a leadership program, individuals develop the skills necessary to prepare for complex future challenges (Leviton, 2007). Many styles of leadership exist. My study specifically examined Northouse’s claim of leadership traits as inherited and skills as learned. Traits include intelligence, self-confidence, determination, integrity, and sociability. Skills include technical problem solving, social judgment, conceptual knowledge, motivation, and performance. This study determined the extent to which the identified traits and skills...
changed after participation in a learning experience to either support or not support Northouse’s claim.

**Leadership in Art**

Freedman (2007) argues that adolescent teens create change in a dynamic world by engaging the power of art because it is problematic, or challenging to the minds and hands of youth. She goes on to propose that student artistic production should be characterized as a development of cultural and personal identity rather than just as a means of therapeutic self-expression (Freedman, 2007). Freedman concludes that powerful images impact culture by making a statement of transformation, which encourages creative action to enhance learning and ultimately creates an action plan for leadership development.

Leadership development in the field of art education can be a form of social action. When youth gain leadership qualities they access the educational advantages they deserve. Bringing leadership instruction into the art classroom creates potential for powerful discussions and motivations. Leadership has the potential to break youth out of shy shells and to help them discover a new sense of self in order to take action, set and achieve goals, network with communities, and build communications. However, in order to take a stand for not only change in the art classroom, but speaking for a group, a leader must balance the critical perspectives of the entire group (Danner, 2008). Through collective experiences among individuals, young leaders work toward a common goal within the group. Leadership develops integrity in youth as they apply critical thinking to create a dynamic team. By implementing types of leadership activities, such as collaborative work in art making, art teachers encourage leadership skill development to
increase awareness around social issues not only among peers but in larger social groups as well.

**Youth Leadership**

Through adolescent leadership development, youth are able to recognize they are part of something larger, develop a sense of social involvement, and contribute to a community. Youth leadership creates a sense of social activism and promotes communication with others. By incorporating specific goal-setting strategies in the leadership processes, individuals or groups determine whether or not the reach leading benchmarks (Hoyle, 2007). Zeldin and Camino go on to define the importance of leadership and its active role in society.

Youth leadership, which is one type of youth development programming, is distinctive in three ways. First and foremost, it is grounded in a social cause. Second, it seeks to promote a relatively narrow set of youth outcomes, specifically those that allow young people to engage in collaborative action. And third, programming incorporates not only instruction and action, but equally important, membership and modeling. Indeed, we conclude that it is the experience of caused-based, collective, and visible action that transforms a youth group into a youth leadership team.

(Zeldin and Camino, 1999)

Strong leadership qualities differ across many fields. To be successful, one needs to understand one’s own personal traits. Hoyle (2007) explains “The behaviors enabling a football coach to gain and maintain disciplined control over a team are not the same as those required of an artist mentoring young artists in mastering their disciplines” (p. 10).
He argues that by empowering young teens to recognize their own personal character, they will understand their specific traits and make an effort to improve leadership skills through these traits.

**Collaboration**

In this study, collaboration is defined as a group working together to share common goals, learn together, and communicate. Fischer (2005) describes the arts as currently in a transitional phase from modern to postmodern, incorporating a cooperative approach to creativity instead of an individual perspective as an artist. Fischer explains that “still today artists are viewed as outsiders, loners, self-absorbed geniuses who create the highest work of art from within themselves” (p. xiii). By moving into a more group-oriented atmosphere, it is possible that visual art can foster more widespread relationships.

With the utilization of a collaborative learning theory, this study assesses whether group learning affects youth communication, specifically in developing new perspectives. It is important to understand whether these new perspectives shape adolescent teens into well-rounded individuals as well as leaders. In Gokhale’s (1995) report based on collaborative learning, she discovered that “collaborative learning fosters the development of critical thinking through discussion, clarification of ideas, and evaluation of others' ideas” (p. 34). Dillenbourg (1999) reported that instead of being distant and independent observers of problems and solutions, youth exchange information with each other to directly participate in problem solving. By collaborating with other teenagers in art production, youth might understand the similarities and differences in their peers, which leads to a better understanding of their community. This increased potentially
branches students outside of their comfort zone, allowing them to create a theme in their own art, and even develop the essentials of situational leadership.

By using collaborative learning, high school students are able to evaluate each others’ ideas and interact by sharing experiences and knowledge. Group art making also requires that all of the students contribute and help to finalize the artwork, a feat that could not be achieved through the efforts of just a single individual.

High school students advance in a new direction toward leadership by transforming their personal visions into social responsibility during collaboration. Collaborative work in art taps into the potential of adolescent teens because they do not just make another project, they create a unique work that might unite the classroom and spark a unified social movement. Through collaborative learning, youth not only enhance communication verbally, but in writing and journaling too. By working together, adolescent learners develop healthy communication skills, expand a team-oriented atmosphere, and develop leadership perspectives.

Collaborative learning represents a significant shift away from the typical individually-oriented visual arts classroom. Gutermute (2000) argues that upon using a collaborative approach, instructors see themselves as creators of academic experiences for a group of students rather than just conveying knowledge to single students. With the promotion of more collaborative programs, active involvement creates a new learning practice for the participants. The diversity of the students brings in multiple perspectives to the learning experience and therefore broadens the discussion of art.

The capacity to tolerate or resolve differences among peers are crucial characteristics promoted through working together and by sharing a common space in the
art classroom. By taking part in a collaborative project, youth develop teamwork and leadership skills in art making, and such a project allows students to improve their involvement in the community through an art based concentration. All in all, collaborative learning in general encourages students to make meaningful contributions to society and create active voices for dialogue and discussion.

**Community Murals with Youth**

I included a brief overview of mural history because the activity for my study was a mural project with youth. Reviewing this information helps establish the historical and social context of the project. Murals have been depicted in varying conditions for social, political, economic, or aesthetic purposes for thousands of years. They also communicate a story for an audience to understand or generate an aesthetically pleasing atmosphere. The *Oxford Dictionary* describes a mural as “a painting or other work of art executed directly on a wall” (Oxforddictionaries.com). Most murals are narratives painted on walls and represent a particular time or cultural trend. In this study, the participants needed to understand the purpose behind historical murals. Understanding deeper significance of the creation of historical murals can inspire a design that aligns with the purpose of the project’s mural.

Over thirty thousand years ago, the language of visual symbols became the means to record life experiences (Zelkowitz, 2003). Paintings found on the walls of caves depict prehistoric imagery of human’s first encounters with the world around them. These paintings indicate the historical development of the human race and describe what was most important at the time of their creation. Egyptian tombs are covered with murals and decorate the walls of the catacombs where rulers lay at rest. These visual narratives
carried on into the Middle Ages and Renaissance when wall murals portrayed traditional Christian beliefs and Greek mythology (Zelkowitz, 2003). In almost all cultures across the globe, depict an important message of the time.

Specifically in Mexico, artists shaped mural history after the turn of the 20th century when they portrayed free expression and stories about political and social issues. The Mexican Revolution influenced muralists such as Diego Rivera, David Alfaro, and David Siqueiros to confront social history with strong depictions of workers as they celebrated many centuries of change (Zander, 2004). From then on, the Mexican Mural Movement dramatically affected mural aesthetics in the United States. Mural programs began to form, including the 1930’s Works Progress Administration Federal Arts Project (WPA/FAP) (Conrad, 1995).

This federal program comprised part of the New Deal initiated by President Franklin D. Roosevelt when the depression hit the United States. It called for the government to hire artists to create murals for public buildings (Conrad, 1995). Programs such as these provided space to express societal ideas and expands culture to communities.

Many of today’s contemporary murals in the United States arose out of the late 1960’s Civil Rights movement and brought together communities. These community murals are spread throughout union halls, schools, women’s centers, and workplaces (Drescher, 1994). They represent the coming together of social (historical) and artistic traditions through a world of human interactions and cultural traditions. Citywide programs to promote the process of mural painting took many forms, such as anti-graffiti networks, school projects, corrective action for youth, and community service.
Judy Baca of LA brought together a very large community. Baca was one of 20 artists hired by the city to teach art programs at parks in the area. Being a Chicana, she was sent to eastern Los Angeles and worked with alienated youth. She initiated a large mural program in 1974 creating 100 murals in ethnic communities throughout Los Angeles. Upon completion of this project the city hired her to paint a very large mural in a segment of concrete along the Los Angeles River. This mural may be the largest ever created. By using collaborative teams of artists, community members, and adolescent teens, Baca worked on the project, titled *The Great Wall of Los Angeles*, from 1976 to 1991. Each year various artists helped Bacca paint 10 new murals representing a new decade in the history of Los Angeles with themes ranging from the forced assimilation of Native Americans, to the history of gay and lesbian rights, to the Olympic achievements of women and people of color (Conrad, 1995). These collaborative formats of working become standard examples for other muralists (Thomson, 2001).

Throughout the 1990’s Americans experienced the popularity of Keith Haring and Tim Rolling, who transformed social-political urban wall murals into eccentric murals dedicated to creative expression. Edmunds (2011) argues that with the rapidly changing demographics and the connection with global community, an approach to visual arts instruction that revives narrative art is needed more than ever. In my mural project, I explained these important factors to the participants. They began to understand why a mural would enhance the community of the Willow Springs Girl Scout Camp.

The Deep Eddy Tile Mosaic Project of Austin, Texas is similar in many ways to my project. Local artists Lisa Orr and Wanda Montemayor worked with non-profit organizations and art students from eight middle and high schools to create tiles for a
large mosaic mural on a wall at the historic Deep Eddy swimming pool in Austin, TX (depeeddymural.wix.com). The pool lacked historical imagery, so the artists partnered with the community to find information and images from public libraries. From a gang of swimmers to carnival acts, this mural displays the pool’s colorful past with one hundred years of historical images.

Each of the school groups created a section of tiles. The group then organized the tiles and placed them on the wall. "These awesome, talented kids from the schools and the non-profits making these tiles represent Austin’s varied social, economic and cultural backgrounds but they have at least two things in common: they love Deep Eddy and they love art," said Montemayor. "Throw in a ton of history surrounding the oldest swimming pool in Texas and it’s a pretty cool project for them" (depeeddymural.wix.com). The after school classes and free summer camp programs offered the students an opportunity to make the tiles of the mural completed in the summer of 2010.

Art educators and artists work with youth in community mural projects that take many forms. Ho (2010) argues that working together on a mural provides a cultural and educational outlet by allowing participants to understand different ethnic backgrounds, and to respect each other’s’ personal qualities. By branching outside the traditional form of individual art-making, adolescent youth can use collaborative execution in mural projects to develop ideas. The inclusiveness of community murals may encourage personal growth by combining different skills, abilities, and ages to engage in the process by designing, preparing, executing, documenting, appreciating, and reflecting. Actively engaging in the process with others connects people to a shared goal, which may lead to deeper understandings and may promote a transfer of information from individual to
community. Ho (2010) argues that for a collaborative mural to be successful, participants must develop a team and become aware of individual accountability while fostering group interdependence. Even though participating individuals contribute in different ways, everyone potentially contributes to the success of a community mural.

Ulbricht (2005) proposes that struggling communities significantly benefit from community based programs as a cultural outlet. Communities see impact through a variety of platforms, such as after school, church, city, or other programs that incorporate a common group. Conrad (1995) describes murals as a catalyst for empowering communities. He proposes that murals redefine and reformulate common values of the community’s history and heritage.

The community mural movement serves an important educational role by helping to clarify, expand, and strengthen community values. This is an art form that teaches, provokes, and pleases. Murals can be aesthetically challenging and ask profound questions at the same time; they are expressive as well as didactic (Conrad 1995, p 98).

Community murals unite the members of the society, give voice to issues they care about, and potentially transform a neighborhood. Artists creating a mural in a community often choose specific imagery to educate and inspire, such as raising consciousness, nurturing multicultural and cross-cultural awareness, or producing community harmony (Song and Gammel, 2011). Community murals have the power to narrate the story of the people and, in the case of this study, the tile mosaic mural project could spark leadership qualities in participants.
Community

The word “community” in this study refers to the local environment that exists between campers, staff, and the location’s atmosphere at Willow Springs, as well as the camp’s connection with the local town of Prescott, Arizona. Even though the community of Willow Springs does not fit the standard notion of a collection of neighborhoods, churches, gyms, schools, etc., it is a communal living environment involving social structure and cultural behavior through commonalities such as beliefs or values (Wood, Judikis, 2002). Communities exist in the form of special interest groups, workplaces, churches, peer groups, as well as geographical locations. Because communities are typically internally diverse, community members bring various styles of participation, communication, and timing. “The community is like a classroom of diverse learners” (Daniel & Drew, 2011, p. 37). Wood and Judikis state:

Community can be identified as a group of people who have a sense of common purpose(s) and/or interests for which they assume mutual responsibility, who acknowledge their interconnectedness, who respect the individual differences among members, and who commit themselves to the well-being of each other and the integrity and well-being of the group. (2002, p. 12).

Identifying Camp Willow Springs as a community also includes the Girl Scout community, which extends throughout the United States. The Girl Scout community encourages the values of leadership and addresses contemporary issues of diversity, inclusion, and collaboration. It also provides a structure for girls who are committed to improving neighborhoods, building communities, and helping the world (The Girl Scouts of the USA, 2008). Founded in 1912, the Girl Scouts currently has over a million
members from all across the United States and even the globe (Girlscouts.org). The organization fosters the inclusion of all members and engages girls in discovering themselves, connecting with others, and taking action. By increasing responsibility through designing and implementing activities, girls in this community see how their actions impact the lives of others.

Bringing together multicultural youth to collaborate in improving society builds a community that can then set goals. Some of these goals could include eliminating gangs, restoring historic districts, informing residents of recycling programs, or just connecting with other community members. These goals may expand diversity and may promote cultural understanding, which creates a thriving atmosphere in the community. Pamela Taylor states “culture is about human beings with real issues, serious, histories, crucial values, important beliefs, and sacred customs and rituals” (2011, p. 48). Communities can establish programs focused on goals such as collaborative mural projects. Studies show that cities with mural programs are more likely to build stronger community connections and find common historical connections.

Overall, chapter 2 discussed the essential literature covering many aspects behind leadership, theory, and murals, which assists in understanding the basics of my mural project. The eight sections covered theoretical perspectives behind leadership, adolescent development, leadership in general, leadership in art, collaboration, community murals with youth, and community murals in general.
CHAPTER 3

METHODOLOGY

Type of Research Design

As a mixed methods research study, my leadership-in-mural-building project collects both quantitative data from pre-self-reports paralleled with post-self-reports as well as qualitative data from observations and analysis of journal entries. Mixed method studies involve multiple approaches to data collection by using both quantitative and qualitative data in tandem strengthening the study (Creswell, 2009). Combined with the tactic of using both approaches, I’ve focused the study by selecting specific leadership traits and skills for participants to self-report while allowing space for new ideas that come out of discussions and journaling. This study uses the concurrent triangulation strategy with quantitative self-reports reinforcing qualitative observations and written text from the participants. The type of information gathered from the observations and journal entries emerged from the participants, allowing the researcher to better understand the participants’ views of the situation (Creswell, 2009). The self-reports, however, focus on specific information about traits and skills of leadership before and after instruction.


*Figure 1. Research diagram*

Population

The study took place at an all-girl sleep-away camp specifically tailored for the 11 day “Ultimate Art Experience” session. The camp director designed this session for no more than 10 participants ages 14-17. Seven girls enrolled in the session. All the participants were current members of the Girl Scouts. Although not required at the time of registration, the Arizona Girl Scout Cactus Pine Council requires that the campers
register as a Girl Scout before attending camp. The majority of participants lived in the Phoenix metropolitan area, while one participant lived just outside of Phoenix. I gave all the participants an option of choosing whether or not to be a part of the study. If they chose to not have their information recorded, they could still participate in all the activities and I agreed not to record any of their information. All seven of the participants chose to actively participate in the study. To protect the identity of the participants I replaced the participants’ names with numbers one through seven. I was able to retrieve age information from the camp’s online registration system prior to the start date.

Table 2

Participant Ages

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Context

Willow Springs Program Center is a Girl Scout camp located in the heart of Prescott National Forest. The camp offers a variety of activities and programs including archery, hiking, gardening, and camping. This camp specializes in the arts including ceramics, arts and crafts, theater, dance, and music. Summer camp sessions run from
two to 14 days depending on age and the program. The camp population ranges each week from 50-300 girls ages six to 17 all from differing economic backgrounds. The Girl Scout Cactus Pine Council offers scholarships to families expressing need, but in general, the cost to attend camp ranges from $100-$600 depending on the duration, age, and the camp session. The summer camp sessions start the first week of June and end the last week of July.

The Ultimate Art Experience camp, an 11 day program offered to grades 9-12, costs $515 with dates running from July 20th 2014 to July 30th 2014. The description of the camp stated “Northern Arizona is known for art and stories. Live the life of an artist and [venture] to art galleries, make your own art portfolio, take a journey on an artistic road-show, and produce a mosaic that will be installed at Willow Springs permanently!”

While the participants were not working on the mural, they experienced other camp activities such as the challenge course, archery, dance, theater, hiking, and other camp programs. They spent their evenings bunking in a cabin and were always together throughout the 11-day session. Two counselors and two program staff worked with the group and I was with the group during mural construction. For three days during the session, the group ventured to see existing murals in the town of Prescott and visited artist galleries in Sedona and Jerome, Arizona.

The facilities used for this study at Willow Springs included a multipurpose room called the Stiner building and the Zuni ceramics studio. I converted the Stiner building into a brainstorming center where most of the participants’ planning took place. In an effort to find more information about the history of the location, the participants searched through the camp’s library and found old images. Unfortunately, the girls did not find
many images and I dismissed the initial plan of printing the images onto ceramic decal paper. As soon as the participants generated the group plan, they moved to the patio of the Zuni ceramics studio to start work on sketching a large image and working on the tiles. I used the camp’s kilns to fire the tiles. Once ready, the girls mortared the tiles on to the large 4’ x 6’ board and worked as a group to prop the board into place at the Zuni Ceramics studio. The original plan was to have the group mortar tiles directly onto the brick wall of the ceramics studio, but I did not gain permission from the facilities manager, so we compromised and constructed the mural on a large board instead. In the future, I hope to see the board bolted to the wall.

The mural building project lasted 11 days, three and a half hours each weekday from 9:00 am to 12:30 pm. Each day, the participants spent the morning hours working on the mural project roughly totaling 25 hours. When not working on mural development, I encouraged the participants to write, draw, or jot down questions in their journals to help them generate ideas. Each day the participants reflected on a particular journal question to answer. On day three the participants took a trip to Prescott to view actual murals. The collaborative working hours during each day varied depending on the extent of the daily activities. Most afternoons were open for camp activities beyond the mural project.

**Role of Researcher and Assistant**

The camp administration assigned several camp staff members to work with the Ultimate Art Experience participants and I asked staff member agreed to assist in taking notes of observations. I specifically asked this particular person because of her strong connection with visual arts. She was the arts and crafts instructor at the camp. As the
assistant researcher, she mainly observed interactions between the participants, while I instructed the lessons. She spent additional time with the teens after the daily lessons, which included observing them during activities such as the challenge course, archery, dance, and crafts. The assistant researcher generated more information about the group dynamic because she could spend more time with the group.

Throughout the summer I held the position as Program Director of the camp, which required me to assist in all programming activities. I was paid staff at the camp and I was also provided with room and board. I ordered supplies, generated schedules, and provided feedback on lessons. This meant that I was not able to be with the group fully during the entire duration of the Ultimate Art Camp experiences. I spent time with the group only during mural construction and field trips. I acted as the lead teacher and gained the support of the assistant researcher. I remained as objective as possible when collecting data to prevent biased observations. Both the assistant and I collected data, issued tests and journal questions, collected journal response, and helped with instruction.

**Instructional Intervention**

Every morning before the teens started to work on the mosaic, the group and I held a discussion about the next step for the day and they assigned tasks altogether. Every day after working on the mural I reminded the participants to answer the next reflection question. Along with the mural construction, I taught a lesson each day by including demonstrations, technical art terms and ceramic vocabulary, such as stages of firing in a kiln, applying mortar and grout, cutting ceramic tiles, and using plaster molds as a type of stamping tool. See Appendix A: Ceramic Materials and Vocabulary.
In the beginning, the mural project called for participants to individually generate initial ideas and sketches through guided questions in their guidebooks. I lead them through the initial idea generation. Activities such as the Brainstorming Tree (Appendix C, page 116), and Composition Handout (Appendix C, page 125) gave the participants insight for effective designs of the mural. I provided them with demonstrations of making ceramic tiles, mortaring tiles, and grouting the mural. During the demonstrations, I spoke about specific ceramic and mosaic processes. The participants and I also took a trip to the library to investigate the history of the area and viewed several murals in the town of Prescott. Altogether, the participants worked together to generate an idea for the mural and decided the best working routine.

First Day: Sunday

I introduced the goals to the group by stating that “participants will contribute to collaborative teamwork with the inclusion of everyone working together to formulate one shared goal: an image for the tile mosaic.” (See Figure 2). I informed them that the imagery of the mural would be completely up to the participants and that I would help them by providing options for mural layouts as well as a lesson on the aesthetics of a composition. In order to generate ideas, I let them know that I would be guiding them with different options, such as examples of past mural projects, the history of Girl Scouts, and exploring the land at camp. After I informed the group of the clay drying time, kiln firing time, and the amount of time it takes the mortar to fix, the group decided on an 11 day schedule (See Appendix B: Camp Schedule) with deadlines to be posted on the wall. I introduced the guidebooks (See Appendix C: Guidebook) and encouraged the girls to look through them before the next meeting. All the participants signed the participant
agreement form (See Appendix D: Participant Agreement form) and completed the first two leadership self-reports. Before taking a tour of camp, the group looked through the first part of the journal at the inquiry questions. As a group, we read them out loud and I encouraged the participants to think about answers to these questions as we walked around camp. Participants answered journal reflection question 1.

**Figure 2.** Project Goals and Schedule in Participant 1’s Guidebook.

**Second Day: Monday**

The girls developed individual inquiries about people, places, and things they wanted to add to the mural to encourage brainstorming (See Figure 3: Inquiry Questions in Participant 7’s Guidebook). They looked through old photographs and I led a discussion about the history of Girl Scouting as well as camp Willow Spring’s history through an online presentation (See Appendix E: Prezi Presentation). The campers added
what they knew about camp and stories they found appropriate. I provided the group with an overview of the Great Topic Tree in their journal (See Appendix C page 16). Each person spent individual time writing her own tree. Then she presented her thoughts, journaling, and sketches to the group and posted them to an Idea Wall. Individually, each participant designed her own mural in her journal as a template for idea generation and answered the prompts in the journal. Participants answered guidebook reflection question 2.

Figure 3. Inquiry Questions in Participant 7’s Guidebook.
Third Day: Tuesday

I showed slides of mural examples (See Appendix E), taught a mini lesson on composition, and gave the participants ideas for effective mural designs. The group looked at the mural composition section of their guidebook (See Appendix C page 125). The teens finished the morning by individually sketching out ideas. In the afternoon, the participants visited three public murals in the town of Prescott each depicting scenes of the history and stories of Prescott. I discuss this field trip in the next few paragraphs. The girls researched the history of Prescott at the Prescott Public Library.

Murals Viewed in this Study

I introduced the participants to a variety of different murals online and through pictures. We also visited three public murals in the Town of Prescott.

First, the participants visited a mural situated right below a bridge on Gurley Street near downtown Prescott. The town unveiled the mural in 2001 in celebration of Earth Day. It represents Granite Creek as a natural site important to the Town of Prescott. The mural depicts portions of Prescott’s history with the first school house situated on the left, the Yavapai Indian Tribe in the middle, and a variety of significant citizens of Prescott on the right. With the help of two artists, Elizabeth Newman and R.E Wall, students from the local middle school and local community members painted the Granite Creek Mural. This mural is hidden beneath the bridge and vegetation covers large portions, but the participants in the study grasped the mural’s purpose and intent, which is to visually represent historical stories about Granite Creek.
Next, the participants visited a large mural project completed in 2007. Just like the Granite Creek Mural, R.E Wall designed the *Art for All* mural with artist Margaret Dewar. Prescott’s community helped paint the mural and special mural artists put the finishing touches on it.

*Figure 4. Granite Creek Mural.*

Covering a huge portion of a downtown business space, the *Art for All* mural portrays Prescott’s dynamic heritage and focuses on the arts over the past 150 years. In the middle of the mural, local artist, Mary Schulte, created a mosaic, which represents the tree of life and a symbolic crane on top. Each of the individuals depicted in the mural are significant historical figures for the Town of Prescott. With the help of a mural guide, the participants identified each figure and found the layered composition different from the first mural.

Finally, the participants visited the *Beyond Words* mural situated behind the public Library in Downtown Prescott. Upon completion in 2009, the town held a large celebration for the unveiling. This mural is laid out in a time line format and depicts the evolution of the alphabet, literature, writing, bookmaking, and even the Prescott Public
Library. The mural features a mosaic, which depicts the *Spirit of Learning*. Again, artists R.E Wall and Margaret Dewar designed different sketches that the community later approved. After the voting, The Mural Mice, a group of local mural artists, painted the images along with the help of the community. A librarian provided the participants of my study with an overview of the mural. She told them many insightful facts and details about the mural’s significance.

As the participants in my study viewed each of the murals, I prompted them to look at the composition, subject matter, and significant features. Back at camp, the teens discussed what they discovered. Participants answered journal reflection question 3.
Fourth Day: Wednesday

Each person presented her design to the group. Some designs included a modern “Rosie the Riveter” character, details of a sun and moon, a Yavapai Native American girl, a campfire, and the girl scouts symbol. The group then sketched out one large design by incorporating almost everyone’s ideas. The participants decided to split the mural in half with a modern day Willow Springs Girl Scout Camp on the right and a past Native American side on the left. The girls decided to place two large figures in the middle; the one on the right represents a modern “Rosie the Riveter” and the one on the left represents a past Yavapai girl.

Some participants began to take on leadership roles and each participant drew on sections of the mural. It was important that everyone felt her ideas or assistance was necessary. For the most part, I encouraged the participants to communicate with each other without supervisor assistance, including troubleshooting arguments. If a resolution
arose, or someone felt left out the assistant and I intervened and provided the group with communicative guidance, such as assigning specific roles or tasks for each individual or creating smaller temporary teams. The teens started to transfer the finalized image onto the large six foot by four foot board just outside of the ceramics studio. This large board was left over from a past project at the camp and I drilled concrete backer boards on the surface. The backer boards acted as a barrier so the wood underneath would not warp. The participants started to subdivide each section into drawn ceramic tiles. Participants answered journal reflection question 4.

Figure 7. Day Four Mural Design.

Fifth Day: Thursday

I demonstrated ceramic tile making with the help of the teaching assistant and showed the participants a small finished example of a tile mosaic. During the demonstration, I showed the participants how to break pre made tiles (floor tiles) into smaller bits by covering a tile with canvas and fragmenting the tiles with a hammer. This gave the teens a visual for how to break tiles into sections of a mosaic and how the
grouting affects the overall piece. They had the option of using more than just clay. For example they could use pre-fired ceramic tiles (collected from tile companies), glass beads, stones, or anything else that will not break down over time. Using clay allowed the participants to generate any shape they wanted. However, clay tiles needed to be fired in the kiln whereas pre-glazed tiles could be used without that step.

On this day, the participants finished the image and began to create flat clay tiles. As the group produced the tiles, they placed them in the corresponding spots on top of the board which lay parallel to the table. Ultimately the group decided that the best working system meant some girls broke premade tiles into small bits with a hammer, some girls worked in clay to create tiles, and some girls drew out the layout for the design. If any individuals sat out on the process, the research assistant and I provided the participants with ideas for effective participation. Participants answered journal reflection question 5.

*Figure 8. Day Five Mural Design.*
The girls took a break from the mural in the morning and went on a field trip to visit artists’ studios and galleries in Jerome and Sedona. They visited with different artists and asked questions about life as an artist and how to make a living as an artist. In the evening, the girls continued to make clay tiles and break the pre made ceramic and glass tiles. Participants answered journal reflection question 6.

Figure 9. Day Six Tiles for Breaking.

Figure 10. Day Six Clay Girl Scout Symbol.  Figure 11. Day Six Tile Breaking Area.
Seventh Day: Saturday

The teens continued making tiles to fill in every section and started to brush underglazes on them. During this work day, I assisted the participants when necessary and recorded observations.

At the end of the day, I brushed a low fire clear coat of clear glaze (green in color) on the tiles and loaded them in the electric kiln to fire overnight. The teens had originally written the years 1970 to represent the past and 2014 to represent the present on the bottom of the right and left sides. Both the assistant researcher and I encouraged them to use a quote that they found during their field trip rather than the years because the years seemed limiting to those particular times. The participants agreed and replaced the years with the quote “Progress relies upon the lessons of the past guiding the course for tomorrow” by an anonymous person. Participants answered journal reflection question 7.

Eighth Day: Sunday

I demonstrated the mortaring process and assisted the girls in preparing the mortar. Before I unloaded the ceramic tiles from the kiln, the girls started to mortar the

Figure 12. Day Seven Quote.  
Figure 13. Day Seven Tiles in the Kiln.
pre-fired tiles to the board. Mortar can be harmful to the skin so we prepared it outside and used gloves. I showed the participants how to use a drill to mix a large quantity of mortar. I had purchased the tiles from discount stores or acquired broken tiles from tile stores several weeks before the project began. The teens decided the best way to organize themselves with some assistance from the assistant and me. Some girls broke tiles using a hammer and found a spot for each tile, while others began to mortar the tiles to the board. I unloaded the ceramic tiles in the afternoon. Participants answered journal reflection question 8.

**Ninth Day: Monday**

On this day, the group continued mortaring tiles to the wall. They needed to remove some of the already mortared tiles from the board in order to fit the ceramic tiles to the mural. Once finished, I conducted another group discussion about how the process was going, what was and wasn’t working, and what changes needed to be made. Participants answered journal reflection question 9.

*Figure 14. Day Nine Mortaring the Mural.*
**Tenth Day: Tuesday**

For the last step before completion, the group needed to put grouting in between the cracks of the mural, which the girls completed on this day. I assisted the teens in preparing the grouting. For the most part, the teens prepared the mural themselves. Participants answered journal reflection question 10.

![Day Ten Grouting the Mural](image)

*Figure 15. Day Ten Grouting the Mural.*

**Eleventh Day: Wednesday**

Before the group could hold a critique, the participants needed to wipe the mural clean to remove excess grouting. During the first two hours, the girls scrubbed the mural clean. On this last day, each participant took turns leading a reflection discussion about the processes, what she learned, and the mural’s significance. Participants also used the prompts in their journals to lead a critique. After this discussion, each participant took the post-self-report, scored it, and compared it with her pre-self-report. The assistant and I
held a discussion with the group about the benefits of leadership traits that they used during the collaborative project. The assistant researcher and I answered specific questions about leadership from the participants. Participants answered journal reflection question 11.

*Figure 16. Day Eleven Completed Mural.*

The final image for the mural was completely designed by the participants with minimal help from me or the assistant researcher. The participants decided to create a mural based on the history of the area before it was settled as well as a modern depiction of camp Willow Springs. On the center left side of the mural several participants worked on creating a Yavapai Native American girl to represent the past. Continuing on the left side, the participants designed a sun in the upper left corner sprouting flowers. A participant placed a traditional Yavapai basket of corn on the bottom left. A photo frame
of 1970 represents when Willow Springs was founded. Other participants worked on the center right side of the mural to create a modern “Rosie the Riveter” character wearing Girl Scout badges. Continuing on the right side, participants created a large moon in the upper right corner, a campfire with girl scouts dancing, and the traditional Girl Scout symbol in the bottom right corner. Participants created the trees on the right larger than the ones on the left to represent growth. As a group, all the participants decided that the most important elements needed to be the largest and in the middle. They created the two girls in the middle to represent the power of girls and young women in the past and the present.

**Moral Issues, Safety, and Anonymity**

I acknowledged ethical concerns to ensure the safety of the participants. The project began after the Arizona State University Institutional Review Board (IRB) confirmed that this study met its standards (See Appendix F: IRB Approval). A year before the project began the director of Willow Springs granted permission for the study and created the camp session.

Prior to the session, I sent a letter to the campers’ families stating the intended outcome of the study and giving them an option to either participate in the study or not. (See Appendix G: Parent Agreement.) Campers who opted out could still attend the session and participate in all the activities, but I would not record their data. The letter to the family and participant addressed the fact that the study posed no harm to anyone and it continued to state that anonymity would be used to keep all names safe. The participant and the guardian signed the letter before I collected data.
Instruments Used for Outcome of Study

Northouse provides a variety of prominent leadership tests in his sixth edition book *Leadership: Theory and Practice* (2013). Although he provides many variations of tests for identifying different types of leadership, my tile mosaic study utilized his first two tests involving the use of personality identification and skill-based approaches to leadership. The trait questionnaire is separate from the skills questionnaire. It reflects statements of particular personal leadership traits, such as how self-confident or empathic a participant thinks she is. Whereas the skills questionnaire provides statements referring to particular leadership skills, such as how the participant thinks she is able to adapt to others ideas or how she thinks she is able to complete assignments.

As part of my study, Northouse’s word “test” has been changed to self-report. I changed the order of the questions on the post-self-reports and replaced certain words with synonyms to avoid a practice effect; when the first test influences the outcome of the second test. The publisher granted permission to use these tests in the research study (See Appendix H: Publisher Approval).

Prior to starting the project each participant completed two pre-self-reports described by Northouse (2013) as a personality traits test and a skills test of leadership. The teens scored their results and recorded them in the guidebook. At the end of the project, the teens completed a variation of the same two self-reports again, scored them, and determined the difference, if any. In this study, it was important for the participants to score their own self-reports before and after instruction and answer prompts in the journal throughout the project. In order to maintain the validity of the self-reports, I changed the order of the questions asked on the post-self-reports as well as substituted
specific words with synonyms. I did this so the participants would be completing the same self-reports with slightly different wording.

The participants kept a journal of thoughts and particular questions that arose when working or not working on the mural. This journal led them through the steps of organizing ideas for designing a mural and included areas for reflecting on the progress. By orally addressing the independent questions generated by the participants, this process allowed everyone to interact with the designing process.

I designed “My Mural Guidebook” to be used as an instrument to identify personal development of leadership traits and skills of the participants and how they used these skills throughout the project. The 40 page journal and sketch book included the basics of a KWL chart (what you know, what you want to know, and what you learned) as well as a composition chart, a prompt for designing mosaics, and a guide for critiquing the mural. The guidebook covered all parts of the project including self-reports, discussion questions, idea generation, composition, and extra sketching pages (See Appendix C: Guidebook).

**Instruments**

- Northouse designed a scoring guide and scoring interpretation for both the trait and skills leadership tests. (See Appendix C pages 113 and 114.)
- I designed the Mural Guidebook Reflection Assessment Guide. It assesses the quality of reflection answers generated for each prompt in the guidebook (See Appendix I. Reflection Assessment Guide).
Limitations

This study is limited in several ways, which include: (1) the study of only teenage girls, (2) the small population of participants, (3) the selection of participants, 4. the extent of enthusiasm, (5) participation in other camp activities that could also promote leadership traits and skills, and (6) I acted as lead instructor as well as researcher collecting data.

One of the benefits of attending Willow Springs is that the campers have a chance to try all of the activities offered. Unfortunately this benefit also causes a limitation for the study because it is not manageable to ensure all the participants only participate in the mural project. Other activities potentially impact leadership in the participants. Specifically, the Challenge Course, where girls must work together to generate ideas and solve a given problem, likely influences camper leadership qualities.

Additionally, the girls are older adolescent Girl Scouts, which means that the participants most likely involve themselves in other leadership experiences such as volunteering, leading a meeting, or caring for younger children. Even though summer camp is designed to be a fun experience, levels of enthusiasm vary and one negative comment affects group morale and thus the project results.

In addition, without two groups (one control group with an individual project and one experimental group with a collaborative project), one cannot verify that collaboration alone increased leadership. Also it is impossible to determine whether participants answered truthfully or completely understood the information on the pre- and post- tests.
Finally, the pre- and post-self-reports carry some limitations in this study. Northouse designed the leadership trait test to be scored by the participant and five additional people who know the participant. Including other viewpoints by people other than the participants themselves more fully reflects the participants’ traits. However, when they first arrived to camp, there was no guarantee that the teens would know five other campers at the camp. Therefore I changed the self-reports so that the participants only scored themselves. The lack of multiple self-reports for each participant somewhat compromised the validity of leadership measurement.

By acting as the lead instructor and the researcher at the same time, I was not able to observe how the participants acted during my presentations. During group discussions, however, I was able to take note of the level of participation among the participants, but most of the time I could not stop to write down every detail. Instead the assistant researcher took observation notes while I was instructing. This acted in my favor because it combined two forms of data limiting the chance of bias. Even though I attempted to remove all bias and instruct each day as objectively as possible, there is still a change of bias with just one individual researcher’s views. Having an assistant researcher added another view on the participants working style and interactions.

**Data Collection and Analysis**

For quantitative data, I used pre- and post- self-report questionnaires that identified which specific traits and skills improved or regressed during the mural project. The self-reports were included in the guidebook (See Appendix C: Guidebook, pages 113 and 114). The teens scored themselves on the pre- and post- self-reports and I analyzed
the differences in their reported traits and skills before and after instruction. After collecting the guidebooks, I double checked the teens’ calculations before analyzing the scores. I took these calculated differences between the pre and post-self-reports and graphed the participant’s scores to reflect improvement or digression. I also analyzed the scores of each trait and skill and I calculated which traits and skills saw improvement or digression. I also looked at whether or not a lower score correlated to a more passive/quiet participant and whether a higher test score correlated to a more dominant/outgoing participant during the mural construction.

After the completion of the mural, I collected the guidebooks and analyzed the written content from beginning to end to identify any evidence of how the project impacted the participants’ leadership traits or skills throughout the building of the mural. To do this I created a reflection question assessment guide (See Appendix I: Reflection Assessment Guide). Using the assessment guide I was able to give each of the participant’s reflection responses a quantitative number score. I totaled each participant’s score and compared their answers with their pre- and post-self-reflection as well as my, and the assistant researcher’s, observations.

As I analyzed the written statements in the guidebooks, I specifically looked for leadership words or statements regarding impacts on collaborative inclusion or personal developments the girls saw in themselves. I analyzed the written leadership words throughout the entire guidebook, not limited to just the reflection questions. I listed these words in a table identifying which participant wrote certain leadership words. Instead of using a specific guide for the words, I collected any words that held a leadership context.
These words informed me what the girls were individually thinking about during the project.

Throughout the project the assistant researcher and I observed the participants' interactions and made specific notes documenting their work ethic and leadership improvement. I also documented qualitative observations even when the group was not working on the mural, such as interactions during the field trips. I compared the observations with the calculated self-report scores of the participants. In my comparison, I established similarities and differences between mine and the assistant researcher’s observations of the participants’ interactions and the attitudes indicated by the score. I also compared the observations with the quality of leadership words and reflection answers. After compiling and analyzing the data, I was able to formulate conclusions.
CHAPTER 4

FINDINGS

Chapter 4 presents the results of my study and also analyzes the data based on my three research questions. I organized this chapter in four parts to address the findings from the data I gathered: pre-and post-self-reports of leadership traits and skills, assessment of reflection answers, written leadership words and phrases, and observations. Questions emerged in several areas, such as whether age played a role in completing self-reports and the significance of outlier participants, that is, a socially apprehensive participant as well as another participant for whom English was her second language. Additionally, a participant did not complete the post-self-report for the leadership skills and her guidebook responses are very minimal so reports on her information are limited.

Pre- and Post-Self-Reports

The pre-self-reports on leadership traits and skills are questionnaires that I gave to the participants before I gave any instructions on building the mural. On the first day, the participants completed the questionnaires after they got settled in their cabins and played introductory games with each other and the camp staff. I gave the participants the post-self-reports after the completion of the mural and right before the participants went home. I changed the order of the questions on the post-self-report and replaced certain words with synonyms to avoid a practice effect. The pre- and post-self-reports on leadership traits and skills are questionnaires asking the participant to report on their own traits and skills. Figure 17: Skills Questionnaire for Participant 2 shows an image of the post-self-report from one of the participant’s guidebooks. An example of a Leadership Trait statement is “Communicate: I speak clearly and concisely with others”. An example of a
leadership skills statement is “I enjoy working out tactics for my team’s growth.” Using these statements, participants marked themselves with 1, 2, 3, 4, and 5: 1 agreeing the least with the statement and 5 agreeing the most with the statement.

I organized the findings on the pre-and post-self-reports in three sections. First I introduce the overall self-reported scores of participants who marked themselves higher, lower, or the same on the post-self-reports. Next I graphed the differences in each participant’s score to show which participants reported the most improvement and which reported the most regression. Finally I broke down traits and skills in categories and graphed which traits and skills were reported by the participants as improved and which were reported as regressed.
Overall Self-Reported Scores

Table 3 describes the percentage of reported scores that participants marked higher, lower, and remained the same on the post-self-report for leadership traits. There were 14 trait statements and seven participants self-reported themselves with either 1-5 for each statement.

Table 3

Leadership Trait Self-Report Scores

<table>
<thead>
<tr>
<th>Scores marked on the post-report</th>
<th>Marked Higher</th>
<th>Marked Lower</th>
<th>Remained the Same</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of marked scores</td>
<td>26</td>
<td>26</td>
<td>47</td>
</tr>
<tr>
<td>Percentage</td>
<td>26.5%</td>
<td>26.5%</td>
<td>47%</td>
</tr>
</tbody>
</table>

Out of a total of 98 trait responses (14 responses by each participant), 26 were marked higher on the post-self-report, 26 responses were marked lower, and 46 responses remained the same. The majority of the participants reported the same response on the pre-and post-self-reports. Whereas as an equal number of responses were marked higher and lower on the post-self-report. The next table describes the total percentage of participants who completed self-reports with higher and lower responses on the post-self-report.

Table 4

Leadership Trait Self-Report Scores For Participants

<table>
<thead>
<tr>
<th>Percentage of participants on the post-self-report</th>
<th>Marked Higher</th>
<th>Marked Lower</th>
<th>Remained the Same</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of participants</td>
<td>3</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>Percentage</td>
<td>43%</td>
<td>57%</td>
<td>0%</td>
</tr>
</tbody>
</table>
Out of 14 trait statements, I totaled all seven of the participants’ responses and determined which participants completed the self-report with higher scores and which participants had lower scores on the post-self-report. For the full table layout of responses see Appendix J: Trait Table. None of the participants’ total responses remained the same whereas four participants had a lower total score and three participants had a higher total score on the post-report.

The next questionnaire that the participants completed was the leadership skills self-report, which had a total of 18 statements. Again the participants marked themselves with scores ranging from 1-5. On this questionnaire, the scores were divided into three categories: Technical, human, and conceptual with each category totaling 36. Table 5: Leadership Skills Self-Report lists the percentage of reported scores that were marked higher, lower, and remained the same on the post-self-report for leadership skills. Participant 6 did not complete the post-self-report therefore information was not gathered for her limiting the gathered data to six participants.

Table 5

Leadership Skills Self-Report

<table>
<thead>
<tr>
<th>Number of marked scores</th>
<th>Percentage of responses on the post-self-report</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Marked Higher</td>
</tr>
<tr>
<td>Technical</td>
<td>9</td>
</tr>
<tr>
<td>Human</td>
<td>14</td>
</tr>
<tr>
<td>Conceptual</td>
<td>12</td>
</tr>
<tr>
<td>Percentage</td>
<td></td>
</tr>
<tr>
<td>Technical</td>
<td>25%</td>
</tr>
<tr>
<td>Human</td>
<td>38%</td>
</tr>
<tr>
<td>Conceptual</td>
<td>33%</td>
</tr>
</tbody>
</table>
With a maximum total of 36 points for each skill, 18 responses remained the same for the technical skill, nine were marked lower, and nine were marked higher on the post-self-report. For the human skill 19 responses remained the same, three were marked lower, and 14 responses were scored higher on the post-self-report. The conceptual skill had a total of 11 responses remaining the same, 13 were scored lower, and 12 were scored higher on the post-self-report. The next table describes the total percentage of participants who completed self-reports with higher and lower responses on the post-self-report for leadership skills.

Table 6

*Leadership Skills Self-Report For Participants*

<table>
<thead>
<tr>
<th>Leadership Skills Self-Reports</th>
<th>Percentage of participants on the post-self-report</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Marked Higher</td>
</tr>
<tr>
<td><strong>Number of participants</strong></td>
<td></td>
</tr>
<tr>
<td>Technical</td>
<td>4</td>
</tr>
<tr>
<td>Human</td>
<td>5</td>
</tr>
<tr>
<td>Conceptual</td>
<td>2</td>
</tr>
<tr>
<td><strong>Percentage</strong></td>
<td></td>
</tr>
<tr>
<td>Technical</td>
<td>67%</td>
</tr>
<tr>
<td>Human</td>
<td>83%</td>
</tr>
<tr>
<td>Conceptual</td>
<td>33%</td>
</tr>
</tbody>
</table>

For each participant, I totaled their responses in the categories and determined which participants scored higher, lower, or had a score which remained the same for the post-self-reflection. For the full table layout of responses see Appendix K: Skills Table. The majority of the participants scored themselves higher on the post-self-report except for the conceptual skills.
**Differences in Participants’ Scores**

During the study, I collected various data on each participant. I broke down their improvement or regression into categorized graphs to represent each participant singly.

Figure 18: Leadership Trait Questionnaire Totals lists each of the participants’ total score on pre- and post- self-reports for leadership traits.

![Figure 18. Leadership Trait Questionnaire Totals.](image)

This graph represents the combined total of responses on the pre-self-report (dark grey) and the total of combined responses on the post-self-report (light grey). Participant 4 completed the pre-self-report with a total of 55 and scored herself with a total of 66 on the post-self-report whereas participant 6 marked herself with a combined total of 46 on the pre-self-report and 33 on the post-self-report. For specific self-scoring information on each participant see Appendix J: Trait Table. In Figure 19: Improved and Regressed Traits, I calculated the difference between the pre- and post-self-reflection and graphed the improvement and regression of each participant on the leadership trait questionnaire.
Figure 19. Improved and Regressed Traits.

The participants on the left scored themselves higher on the post-self-report than on the pre-self-report. Participants on the right scored themselves lower on the post-self-report than on the pre-self-report. Participant 4 had the highest improvement in self-report with a numerical improvement score of 11. The highest regression is seen in participant 6 with a numerical regression score of -13. Participant 4, 2, and 7 scored higher on the post-self-reflection whereas participant 1, 5, and 6 all scored lower on the post-self-report.

Similar to the leadership trait findings, I organized the leadership skills findings in a comparable way. However, instead of one graph, I broke down each of the three skills (technical, human, conceptual) in three graphs of the participants’ scores. Figure 20: Technical Skills Self-Report Scores displays each of the participants’ total scores on the pre-self-report (dark gray) and their total scores on the post-self-report (light grey) for leadership technical skills.
*No information collected for participant 6.

**Figure 20. Technical Skills Self-Report Scores.**

Participant 1 scored herself with a pre-self-report total of 22 and a post-self-report total of 27 while participant 5 recorded 28 on the pre-self-report and 20 on the post-self-report. For a full list of scores see Appendix K: Skills Table. The next graph breaks down each participant’s overall improvement or regression on the technical skills portion of the questionnaire.

**Figure 21. Improved and Regressed Technical Skills.**
Participant 1 had the most improvement with a numerical difference of 5 between each self-report whereas participant 5 had the most regression with a numerical difference of -8 between both self-reports. Participants 1, 2, and 3 scored higher on the post-self-report, participant 4 recorded no change, and participants 7 and 5 scored lower on the post-self-report.

The next graph lists the human leadership skills that were self-reported by the participants on the questionnaires. Just like the previous graphs, it describes the total self-reported scores by the participants on the pre- (dark gray) and the post- (light grey) self-reports. For a full break down of scores, including self-reports for each leadership statement, see Appendix K: Skills Table. Participant 2 had a calculated total of 19 on the pre-self-report and scored herself with a total of 28 on the post-self-report. Participant 5 had a calculated total of 23 on the pre-self-report and a total of 20 on the post-self-report.

*No information collected for participant 6.

*Figure 22: Human Skills Self-Report Scores.*
Figure 23: Improved and Regressed Human Skills describes the participant’s improvement and regression for pre- and post-self-report on leadership human skills. The highest improvement in scores is seen in participant 2 with a difference in pre- and post-self-reports of 9 whereas participant 7 had the highest regression with a score difference of -4. Participants 1, 2, 3, and 4 all scored themselves higher on the post-self-report while participants 5 and 7 scored themselves lower on the post-self-report.

![Bar chart showing skill improvement and regression for participants](image)

Figure 23: Improved and Regressed Human Skills.

The final two graphs representing skills in each of the participants are the conceptual graphs. Figure 24: Conceptual Skills Self-Report Scores lists each of the participants total scores on the pre- (dark grey) and post- (light grey) self-reports. The biggest range in scores are from participant 4 with a pre-self-report score of 21 and a post-self-report score of 24 and participant 5 with a pre-self-report score of 13 and a post-self-report of 8. For a detailed table of information see Appendix K: Skills Table.
Figure 24. Conceptual Skills Self-Report Scores.

The first two graphs representing conceptual skills list scores from the pre- and post-self-report. Participant 4 had the highest improved difference of 3 while participant 5 had the highest regressed difference between self-reports with a score of -5. Participants 3 and 4 had improved scores while participants 1, 2, 7, and 5 had regressed scores.

Figure 25. Improved and Regressed Conceptual Skills
**Differences in Scores of Traits and Skills**

In this final section of the pre-and post-self-report findings, I calculated which leadership traits and skills received the highest improvement and which received the most regression. Each of the participants (excluding participant 6) gave one number (1 through 5) for each of the traits and skills that represented themselves. A score of 1 meant that the trait or skill did not represent themselves much whereas a score of 5 meant that the trait or skill represented them the most.

![Figure 26. Trait Totals.](image)

This graph lists how the participants scored themselves on the pre- (dark grey) and the post- (light grey) according to each trait. I arranged the graph from the highest combined total on the left to the lowest combined total on the right. Traits such as friendly, dependable, diligent, and outgoing received more scores of 5 from the participants (on both the pre-and post-self-report) than traits such as self-assured, articulate, perceptive, and self-confident. On the pre-self-report, friendly received a total score of 35 from all of the participants and a post-self-report score of 32. Whereas self-
assured received a pre-self-report score of 20 and a post-self-report score of 25. For a detailed table of information see Appendix J. Trait Table.

Even though self-assured received the lowest combined scores, this trait received one of the highest improved ratings according to the participants’ self-reports. Figure 26: Overall Improved and Regressed Traits describes the total difference in scores from the pre- and the post-self-report for each of the leadership traits.

The graph shows that improved traits were conscientious, self-assured, trustworthy, persistent, determined, diligent, and perceptive while regressed traits were empathetic, outgoing, articulate, friendly, sensitive, and dependable. Conscientious had the highest total improvement on the post-self-report with a score of 6 and empathic had the highest regression with a score of -5.

The next graph, Figure 28: Skills Totals, shows the combined total of scores that the participants gave for a particular skill on the pre-self-report (dark grey) and on the post self-report (dark grey). I organized this graph with the highest combined total on the left with the lowest combined total on the right. The skill “understanding basic things”
received more scores of five from the participants than the skill “mission statement”. For a table of specific scores see Appendix K: Skills Table.

Figure 28. Skills Totals.

In the final graph, I added the scores that the participants gave to a particular skill on the pre- and post-self-report and calculated the difference. Skills such as “supportive communication” and “adjusting ideas to others” had improved scores whereas skills such as “organization and philosophy” and “complex organizational problems” had regressed scores. The largest difference was in “supportive communication” with an improved score of six and “organization and philosophy” with a regressed score of -6. There were a higher number of improved scores over regressed scores for the leadership skills.
While looking at the information, one can see a common feature in the first four skills of the highest improvement. The first four skills are comparable in that each has to do with working with other people.

**Assessment of Guidebook Reflection Answers**

As part of the recording process, each of the participants answered a reflection question at the end of every day. An example of a question is “Day 1: What have you learned that will provide you with useful direction throughout this project?” For the assessment part of the process, I was looking for the participants’ ability to answer all questions thoroughly with supplemental information. There were no right or wrong answers to the questions as long as the answers pertained to the mural project. Answers
with leadership-type words were given particular attention. Examples of leadership-type words included “communication”, “teamwork”, and “leadership” just to name a few.

Before analyzing the reflections, I created a scoring guide (See Appendix I: Reflection Assessment Guide) to help me score the participants answers. I gave the participants one score per each answer ranging from 0 (no evidence) to 4 (exceeds). An example of a score of 3 (proficient) for Day 1’s assessment is “Participant provides information about what was learned, connects it to the mural, and/or explains what she liked or didn’t like.”

For the most part, the scoring process was straight forward and it was clear which responses received certain scores. A score of 4 (exceeds) meant that the participant answered the question fully and provided even more relevant information essentially surpassing the expectations. In Figure 30: Reflection Answers from Participant 2, I gave the participant a score of 2 for day five and a score of 3 for day six.

Figure 30. Reflection Answers from Participant 2
Figures 1-7 show graphs of the scores that I gave the participants for reflection answers.

**Figure 31.** Participant 1 Reflection Scores.  
**Figure 32.** Participant 2 Reflection Scores.  
**Figure 33.** Participant 3 Reflection Scores.  
**Figure 34.** Participant 4 Reflection Scores

**Figure 35.** Participant 5 Reflection Scores.  
**Figure 36.** Participant 6 Reflection Scores.  
**Figure 37.** Participant 7 Reflection Scores.
For a detailed scoring table with notes on the participants’ answers see Appendix L: Reflection Answers Table.

Three out of seven participants did not answer reflection questions for days 8-11 and just two participants answered questions for day 10 and 11. On average, the days that received the highest scores were day 6 (“What is your role in the project? Are you making a significant impact by providing ideas or suggestions? What are they?”) and day 7 (“Describe how the group is working together? Is this an effective process? Why or why not?”). By adding all of the participants responses, I calculated that day 6 and 7 both received score of a 12 out of a possible score of 28 (maximum score of four for seven participants). This essentially means that the participants answered these reflection questions more thoroughly according to my assessment reflection guide. The days that received the lowest scores, according to my assessment reflection guide, were days 8 (“Why is it important to work together on this mural? Have you noticed a change in group dynamic throughout the project? If so, describe this change.”), 10 (“If we continued this project and created another mural, what could we do differently?”), and 11 (“Are you encouraged to do another project like this? Why or Why not? What are some projects you would like to do in the future? What have you learned about yourself?”). All three reflection days received a total score of 5 out of a possible 28. This essentially means that there were a higher number of participants who did not answer the question on these days.

After analyzing the participants’ scores, I graphed the total score I gave each of the participants using my assessment reflection guide as seen in Figure 38. Total Assessment Score of Reflection Answers. The highest possible score was 44 and the
lowest possible score was 0. The highest score (44) was calculated by multiplying 4 (maximum score a participant could have received for a question) and 11 (the number of daily questions).

![Figure 38. Total Assessment Score of Reflection Answers.](image)

Participants 2 and 4 answered all the reflection questions and received the highest scores. I gave participant 2 a total of 22 and participant 4 a total of 27. In addition, participant 4 was the only participant that I gave a score of 4 (exceeds) throughout all the reflection questions. I gave participant 5 a score of 9, out of a possible 44, and participant 6 a score of 4. These two participants had the highest score of 0 (no evidence).

**Written Leadership Words and Phrases**

Throughout the guidebooks, the participants had written a variety of interesting leadership words and phrases beyond their reflection answers. I looked at the quantity and quality of words that were written in the participant’s guidebooks. This essentially captured what the participants were thinking throughout the mural project. In Table 7: Leadership Words and Phrases in Guidebooks, I listed each word or phrase that I
considered acceptable leadership words using Northhouse’s traits and skills questionnaires as a reference. The numbers in parenthesis represent multiple times the word was written.

Table 7

*Leadership Words and Phrases in Guidebooks*

<table>
<thead>
<tr>
<th>Participant 1</th>
<th>Participant 2</th>
<th>Participant 3</th>
<th>Participant 4</th>
<th>Participant 5</th>
<th>Participant 6</th>
<th>Participant 7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Want to know More</td>
<td>Achievement</td>
<td>Friendship</td>
<td>Empowering</td>
<td>Work well with others (x 4)</td>
<td>Creative</td>
<td>Work hard</td>
</tr>
<tr>
<td>Can find the answers</td>
<td>Knowledge</td>
<td>Knowledge</td>
<td>Bring a community together</td>
<td>I’m in charge</td>
<td>Communication</td>
<td>Give people time to think</td>
</tr>
<tr>
<td>Mural will have a positive effect</td>
<td>Being yourself</td>
<td>Teamwork</td>
<td>Support</td>
<td>I helped to decide</td>
<td>Polite skills</td>
<td></td>
</tr>
<tr>
<td>Opinionated</td>
<td>Acceptance</td>
<td>Want to do a lot of things</td>
<td>Leadership</td>
<td>Friendship</td>
<td>Confident</td>
<td></td>
</tr>
<tr>
<td>Teamwork</td>
<td>Socialization</td>
<td>Communicate (x 2)</td>
<td>Compromise</td>
<td>Leadership</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Communication</td>
<td>Resourceful</td>
<td>Providing Ideas</td>
<td>Communication among the group seems fine</td>
<td>Good process</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Have experience</td>
<td>I suggested to…… it saved us time.</td>
<td>Working together (x 3)</td>
<td>I am a major contributor</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Productive</td>
<td>Do it together</td>
<td>I am a supervisor</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Good process</td>
<td>Understanding</td>
<td>Productive day</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Women are powerful</td>
<td>Motivation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Accepting environment</td>
<td>Leading</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Speak out</td>
<td>Supervising</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rewarding</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Participant 4 had written the most at 13 words and phrases, while participant 6 had written the least with just two words. Participant 2 was just below participant 4 with 12 words and participant 3 had written 9 different words and phrases. Figure 39: Number of Leadership Words and Phrases in Guidebooks represents the quantitative data of words and phrases for each participant.

![Bar chart](image)

*Figure 39. Number of Leadership Words and Phrases in Guidebooks.*

Participant 4 had written some of the strongest words and phrases such as “I am a major contributor”, “Supervising”, and “I am a supervisor” while participants 3 and 4 had written a majority of words or phrases in relation to teamwork or working together. Other than these two correlations, the words and phrases are randomly written between the participants.

Next I graphed the words that appeared most frequent in the guidebooks to understand which traits and skills the participants were thinking about most throughout the mural project. In order to reduce the range of words and phrases, I combined the words into categories (See Appendix M: Leadership Words and Phrases in Categories).
After combining the words, I applied leadership traits and skills with each category that sounded most similar to the words and phrases.

Figure 40. Types of Leadership Words or Phrases in Guidebooks.

There were a variety of words and phrases that represented the category “Working with others”, such as “Teamwork”, “Working together”, and “Socialization”. This category had the highest number of responses with four out of seven participants listing a word or phrase that fits in this category. I counted 11 words and phrases that fit in this category with participant 5 mentioning “Work well with others” four times.

Just like “Working with others”, the category “Get people to work together” also had a variety of words including “Supervising”, “I am in charge”, and “Leadership”. This
was the second highest category. I counted “Get people to work together” words and phrases six times throughout the guidebooks. Out of seven participants, three mentioned these types of words or phrases with participant 4 writing these words four times.

While the first two categories had the highest variety of responses, the most common word, written by four out of seven of the participants, was “Communicate” or “Communication”. These words appeared five times throughout the guidebooks. The rest of the leadership words and phrases written by the participants were different so I combined them as synonyms in certain categories. The largest correlation is the first three categories, which relate to working with other people and communication.

Observations

The assistant researcher and I collected a variety of observable data on each of the participants. In this section, I describe the overall observations that the assistant researcher and I collected for each participant.

Participant 1

On the first day, I prompted the participants to answer preliminary inquiry questions. For the question “What do you want to know?” participant 1 wanted to know more about Willow Springs history. For the question “What have you discovered?” she talked about the old chapel on the camp groups. During day two, participant 1 needed to be encouraged to answer discussions questions within the group. She mostly worked by herself and was very reserved. By the third day, she was excited to draw out ideas and created an image with trees and people dancing around a campfire. She also drew the Girl Scout symbol and presented these ideas to the group. On day four, she was working with participant 4 and 7 a lot to start putting together one large image. She began asking a lot
of questions and making strong statements. Eventually she stood up for a decision that participant 3 had made about the tile process (whether or not to break the tiles). She encouraged the group to agree upon a conclusion for participant 3’s suggestion, essentially becoming her advocate. During days five and six, participant 1 gained inspiration, made strong statements, and showed signs of leadership. On the last few days, she worked on the trees, silhouettes of dancing campers, and created the Girl Scout symbol. On the last day, participant 1 spoke about the mosaic process, described teamwork, and talked about the technical execution during the critique. By the end of the project, her leadership progress surprised me because she was so reserved during the first three days. All in all, she designed a large portion of the right side of the mural and contributed much to the project.

Participant 2

When I encouraged participant 2 to answer the question “What have you discovered?” she described how seven of the camp’s cabin areas were named after Native American tribes. She discovered this during the initial tour of the camp grounds. Her statement most likely had an effect on the final image for the mural. On day two, I learned that participant 2 was very opinionated, observant, and clever as well as knowledgeable, and confident. Even though she is a younger participant, I noted that she does not act like it. During the group discussion on day three, she did not promote her initial designs for the mural even though she worked diligently on them. She drew an eye with Earth in the middle using pastels. On days three and four, she worked on breaking tiles for the background, the stars, and the night sky. She also began making corn and basket tiles out of clay. It was on day five when she grew more reserved and started to
lose interest in the mural, most likely due to that fact that the group was not using her designs. During day six, I encouraged her to ask the group what still needed to be done because she spent her time sitting out. On day seven, she used a very innovative technique by drawing an image on butcher paper using charcoal and pressing the paper onto wet clay. Thus, she transferred the image and could cut out an exact replica. During day 8, I needed to encourage her to keep working by asking her what she thought her next step should be. While critiquing the mural she spoke up first and described why the bigger elements are more important. She also mentioned women as strong leaders. In my observations, I noted that participant 2 had good foundations of a leader in her confidence, self-assurance, and knowledge. However, she lacked some ability to compromise and found it hard to continue working if anyone told her what to do.

**Participant 3**

During the tour on the first day, I asked participant 3 “What do you see?” but she did not answer this question and instead remained silent. On day two, she fell asleep during the presentation on mural history. I then took everyone outside to play a warm up game. For the rest of the day, participant 3 remained silent even when I prompted her to answer a question. On day three, when called upon during group discussions, she started answering with interesting insights. She became excited when she knew the answer to a question and began researching Yavapai Native American designs. Her enthusiasm increased when the group discussed including an image of a Native American because she and her family are Yavapai Native American. She mainly worked with participant 7 in creating the central figure. After drawing out the image, participant 3 worked on breaking tiles for the figure. For the next few days, she worked hard and did not
participate in group conversations. By day six, she demonstrated confidence and became set on her own ideas. Participant 4 gave her an idea on the design of the Yavapai girl’s braided hair, but participant 3 rejected her suggestion. Instead they compromised on a different way to change the hair. On day seven, she stated that the murals during the field trip encouraged her design. Near the end of the project she began to show pride in her work stating “The Yavapai girl is me and I will make her beautiful.” All in all, I noted that participant 3 started the beginning of the project very reserved and by the end she had come out of her shell and displayed a high level of confidence and pride.

**Participant 4**

During the first day, participant 4 drew an image of a twisted tree in her guidebook for the question “What do you see?” Initially she wanted to discover more about the murals of Pompeii. She said that a mural at Willow Springs is necessary because it will show the important history and beauty of the camp. On the second day of the mural project, participant 4 took a big lead and was not afraid to speak in front of the group. During the group discussion, I could see her agitation grow if others did not answer basic questions. On day three she expressed interested in creating a Rosie the Riveter character. She mainly worked with participants 1, 2 and 7 to generate an idea for the mural to be split in half with the past on the left and the present on the right. Together they asked the rest of the group for their opinions. On day four, participant 4 began to allocate responsibilities for other participants and asked them if they wanted more responsibilities. She asked participant 6 to generate ideas for the past side of the mural, but didn’t help her any further. During day five, she supervised the group and worked on creating tile pieces for the Rosie the Riveter character. By day six, individual
participants begin to go to her for approval and she, in turn, asked the whole group for their opinion. Participant 4 described the group as positive and hard working. During the critique, she did not dominate the group by answering all the questions. When she did answer, she used a variety of art terms to critique the mural. In my observation, participant 4 exhibited the strongest leadership qualities and encouraged the other participants to take a lead as much as possible.

**Participant 5**

During the tour of the camp, on the first day of the project, participant 5 mentioned that she did not care to learn more about the camp’s history. When I asked her “What have you discovered?” she spoke about a tree that she drew. In my observations, I noted that participant 5 acted was the most immature and always had something to say. She was very happy and had a good attitude. During day three, she spent good amount of time observing and seemed excited to participate. She began to design a border, drew animals, and did her best to encourage group discussions (usually not about the mural project). On day six, the assistant researcher and I asked her to change her design. Rather than depicting years, we suggested a quote instead. She became disappointed as this required re-working the design. She once accidently brushed the wrong glaze color on the feet of the Yavapai girl and became frustrated. For the next few days, participant 5 worked on the design for the sun, created the letters for the quote, brushed glaze on the ferns, and cleaned the moon after the group mortared the tiles to the board. On the last day, she spoke up first during the critique and discussed the meaning behind the mural’s image. I observed that participant 5 was always in good spirits and had a care free
attitude. She had a hard time communicating her expectations for mural, which caused some mistakes. However, she enjoyed talking about popular culture with the group.

**Participant 6**

While looking through participant 6’s guidebook, I unsurprisingly found little to no written commentary. My observations about her performance and her self-reported scores on the questionnaires indicate a hesitancy to participate. During the tour on the first day, I asked her “What have you discovered?” and she replied with, “Trees and wildlife”. On day two, I held a group discussion about murals and I asked the participants a variety of simple questions about their knowledge of murals. Participant 6 was the only participant who did not answer any questions. When I encouraged her, she mostly replied with “I don’t know” or a shrug of the shoulders. During the presentation, she fell asleep so we played a game to get everyone moving. For the rest of the day, I called on her often to bring her attention back to the project. On day three, the group worked individually to create ideas for the mural. When the group came together, everyone except participant 6 took turns presenting their ideas. When I asked about her drawings, lightly encouraging her to share, she said that they were not relevant. During day three, she began to express that she did not know what to do or what was expected of her. She mentioned that the group needed to tell her what to do. I noted her very quiet and introverted nature. She stated “I am not a leader”, looked away throughout the day, and had very little involvement in the project on day three. On day four, the group gave her the task to work on the past side of the mural. When she did not know what to do explicitly, she sat by herself. On day five, she began to discover commonalities with the other participants and this started to pull her out of her shell. As the group worked on the mural, participant 6
needed a lot of guidance to keep her on track. I reminded her to ask the group for suggestions of what to do and eventually I encouraged her to make ceramic trees for the background. On day six, I observed that if participant 6 lacked an explicit task, she watched everyone else or looked away. At this time, the group began to recognize that she needed help with ideas. For the next few days, she worked on creating ceramic tree tiles for the background with continuous prompting from me and the assistant researcher. Her communication with the group mostly involved pop culture or topics not related to the mural project. Eventually she began to quietly assist without asking questions, which included cleaning up and putting the tools away. I called her the “Silent Doer”. Even though participant 6 did not display many extroverted leadership qualities, I observed small growth in her resourcefulness.

**Participant 7**

Throughout the mural project, I observed that participant 7 showed some of the best skills working with others. Both the assistant researcher and I noted that she boosted morale for the group when the participants lacked energy or stumbled upon a problem. While on the tour of the camp, participant 7 observed an old chapel on the camp grounds. On the second day, she spoke very eagerly about her personal goal for the project and was the main contributor to the group goal. I observed her speaking up a lot on day two. During day three, she expressed that she really wanted to depict a scene with a Yavapai Native American and worked closely with participant 3 to create a design. On day four, participant 7 worked with participant 4 in allocating responsibilities for the group. She suggested a good alternative to an issue that arose with the border. Originally, there was a moon on the night portion of the mural, but there was no sun on the day portion. In order
to balance the mural, participant 7 asked participant 5 to turn the border into a sun. As the group began to work on the design for the mural, she began to express concerns about participant 6. During the next few days, participant 7 worked closely with participant 3 in creating the Yavapai Native American figure. When participant 6 did not create an idea for the past side of the mural, participant 7 created a photo frame and made silhouettes of people in a photo from the 1970’s. While analyzing the mural during the critique, participant 7 discussed how the mural was important to Willow Springs. She also spoke about communication as a big part of the mural process. She said that when there was a lack of communication, mistakes happened such as glazing the Yavapai girl’s shoes the wrong color. All in all, participant 7 played a very important role in the project by keeping everyone happy and on task. Her low scores on the self-report and her guidebook reflection answers surprised me, because I saw her as an encouraging leader.

On the last day of the project, the participants and I held a critique of the mural. Unlike the first and second day of the project, the girls were not hesitant to speak up. They did not require encouragement nor did they need to be called on by name to answer a question. In fact, almost all of the participants were very eager to answer questions on the critique. Participants 4 and 7 were no longer the only ones answering questions with thorough and interesting responses. In my observations, I found that every one of the participants had come out of their shell, by working together, even participant 6.

**Observations of Participants Working on the Mural**

Initially the participants didn’t know what to draw exactly. As a group, they came together and decided on specific design elements from everyone’s ideas. After I instructed lessons on ceramic terms, visual art concepts, and composition styles, I began
to see and hear participants 1, 4 and 7 using a lot of technical terms. I noted that participant 7 asked participant 5 to change the border into a sun so that more balance was achieved. There was a moon on the right so she encouraged participant 5 to create the sun on the left. Participant 2 later explained that the right side of the mural had the Girl Scout symbol so they needed to create a symbolic representation of the past to create balance for the design on the left, so she created a traditional basket of corn. I overheard participant 4 explain the concept of keeping the most important parts of the design as the biggest and brightest.

I also noted that as each day progressed, the participants began to find their niche in the process. Participant 1 worked mostly on creating clay tiles for the dancing figures and the Girl Scout Symbol. Participant 2 broke many tiles for the background using the hammer. Participant 3 mainly worked on breaking the tiles with the hammer and she organized them on the board. Participant 4 worked on the figures in clay and pre made tiles and helped organize the overall design. Participant 5 spent a good amount of time on the flower/sun border as well as the clay letters for the quote. Participant 6 spent a lot of time at the clay table cutting out trees for the background and glazing many of the tiles. Participant 7 did most of the research on Yavapai culture and worked on putting together a good portion of the past section by breaking tiles and creating clay tiles as well. I noticed that the participants’ technical ability of laying out tiles for the design began to improve and they became faster and improved as each day progressed.
CHAPTER 5
CONCLUSIONS

With this study I intended to explore whether involvement in a collaborative mural project was related to leadership trait and skill development in teenage girls. Before collecting any data, I proposed one principal research question and two subordinate questions:

Principal question

How does a collaborative tile mosaic mural project impact leadership skills and traits in adolescents?

Subordinate questions

What, if any, leadership skills and traits do youth develop while participating in a collaborative art project?

If participants develop leadership skills and traits, how do they demonstrate these skills throughout the collaborative project?

After assembling all the data from the 11 day mural project, I have drawn several conclusions that I organized into four different categories; self-reports reflections, written words / phrases, and observations. While I analyzed the data on the pre- and post-self-reports, a new question emerged; why did some participants report that they regressed in certain traits and skills?

Self-Reports Conclusions

The self-reports on leadership traits and skills produced quantitative data. I analyzed the leadership trait self-reports separately from the leadership skills self-reports.
Using the two different questionnaires, I analyzed how the participants viewed their own leadership traits and skills before and after the mural project. By using Northouse’s scoring guide, the participants calculated their own scores to see whether the project impacted their overall total. I recalculated their score after I received their guidebooks. After I graphed and compared all the scores, I struggled to determine whether the mural project had an explicit impact on the leadership traits overall. The participants mostly reported the same score on both the pre- and post- self-report for leadership traits. When I looked at the participants’ scores individually, just over half had regressed in their self-reported traits with participant 4 improving the most and participant 6 having the highest regression. The findings for individual participant traits are inconclusive. The self-report data does not conclusively show that working collaboratively on a mural project impacts the participants’ overall leadership traits. However, I found an impact on specific leadership skills for the majority of the participants.

After graphing each participant individually, I graphed each trait individually to see which specific traits improved the most and which traits had the highest regression (See Figure 27: Overall Improved and Regressed Traits, on page 66). A relatively equal number of traits improved and regressed. Most participants scored themselves higher on the traits “conscientious” and “self-assured” on the post-self-reports, whereas most participants had marked themselves lower on the post-self-report for the traits “outgoing” and “empathetic”. This information shows that most participants saw themselves becoming more conscientious by the end of the mural project. The words “thorough, organized, and controlled” were listed as definitions of conscientious on the self-reports.
However, participants also saw themselves as becoming less outgoing and empathetic as well.

Even though the trait self-reports were inconclusive, the overall score of the leadership skills self-reports improved after the mural was finished. Northouse separated the skills on the questionnaire into three categories: technical, human and conceptual. The majority of the participants marked themselves higher on the post-self-report for both technical and human skills whereas most participants gave themselves lower scores for conceptual skills. Human skills, which include statements such as “My main concern is to have a supportive communication climate”, improved the most, whereas conceptual skills, which included statements such as “Creating a mission statement is rewarding work”, slightly regressed. Overall, participants 3 and 4’s scores improved in all three skill areas. While participants 5 and 7 completed the post-self-report with lower scores in all three skills.

Self-Report Discussion

I found that the leadership traits in this study were not entirely impacted by the mural project. This adds strength to Northouse’s claim that leadership traits are inherited and cannot be learned over time. Northouse stated that “Initial leadership studies believed that people were born with these traits, and that only the “great” people possessed them” (2013, p. 19). He continued “Teaching new traits is not an easy process because traits are not easily changed. Traits are largely fixed psychological structures, and this limits the value of teaching and leadership training.”(2013, p. 32). Additionally participants did not complete that questionnaire as it was originally intended. Northouse created the trait test to be completed not by only the participant, but by five other people who know the
participant well. I was not able to have multiple people complete the questionnaire for each participant, so I limited the study by having the participants complete their own questionnaires on traits. This impacted the results of my study.

The first four categories that the participants marked as improved on the leadership skills questionnaire were: supportive communication, adapting ideas to others, understanding others, and, social fabric of group. All of these skills relate to working together as a group, teamwork, and communication. Improved communication skills relate to findings in other data that I analyzed including written leadership words, and observations.

**Reflection Answer Conclusions**

The participants answered reflection questions at the end of each day. I used these answers to see the participants’ daily thoughts. Rather than having the participants journal experiences for the day, I asked them to answer specific questions. Some of these questions included “Describe how the group is working together? Is this an effective process? Why or why not?”. Using an assessment guide, I was able to score each of the participant’s responses and I found that participants 1 and 4 answered the questions more fully than the rest of the participants.

Throughout the guidebook, participants 1, 2, 3, 4, and 7 wrote the most and included a variety of drawing plans for the mural. Participants 4 and 1 were the only ones to answer all of the questions and include interesting insights. On the last day, participant 1 wrote about discoveries she found in herself. These discoveries pertained to her working with other people and how much work was required from her. Additionally,
participant 4 wrote about her discoveries as a supervisor. She wrote that it was a tiring process, but very rewarding.

**Reflection Answer Discussion**

Initially I planned to report differences in scores for each day on the reflection responses. I was hoping to see higher scores in responses as the days progressed, but this data remained inconclusive because too many participants did not answer the final reflection responses for the final days. The only participant whose scores showed this progression was participant 1 (See Figure 31: Participant 1 Reflection Score). Instead of showing each participant’s progression, the answers for the reflection questions served as a basis for comparing the participants to each other and recording common thoughts.

I believe the participants did not answer the last questions because the group began working harder on the mural during the final days. Completing the mural became the ultimate goal and the reflection questions might have slipped the minds of the participants.

**Leadership Words and Phrases Conclusions**

By analyzing the participants’ words and phrases, I was able to calculate which participants used more leadership words than other participants. I counted the amount of words per participant to see whether more written words correlated to signs of a better leader in my observations. I was also able to understand what the participants were thinking about during the project. Examples of leadership words or phrases include “teamwork”, “communication”, or “working together”. As I expected, participant 4 wrote more leadership words than any other participant and participant 6 wrote the fewest words. This correlated with her self-reports, reflection answers, and observations.
**Leadership Words and Phrases Discussion**

While looking through the guidebooks I started to see common words or phrases frequently occurred in every participant’s guidebook. I categorized these words to correspond with Northouse’s traits and skills (See Appendix M: Leadership Words and Phrases in Categories). The most common word or phrase that I found was “working with others” and “getting people to work together”. Almost every participant wrote about their experience working and communicating as a group.

**Observations Conclusions**

While observing the participants, I noted specific behaviors each participant portrayed during my 11 day study. Starting on the first day, I noticed the differences in some of the participants’ learning styles almost immediately. When I gave the first presentation, I observed participants 1, 2, 4, and 7 were the most engaged while participants 3, 5, and 6 did not seem as interested. It was hard to get most of the girls to participate in a group discussion and I had to call on them by name. It was evident from the beginning that participant 4 had the strongest leadership tendencies and she tried her hardest to let others engage in discussion first before jumping in. Throughout the project, participant 6 had a hard time engaging in discussion, seeing the next steps, and stepping up to challenges. In my observations, participant 3 showed the most progress in becoming more sociable. Even though the participants had their own learning styles and personal individualities from the start, they established a working routine allowing for individual growth.
Observation Discussion

Between the four types of data there is a correlation connecting the participants’ scores and observations. Participant 4 held the strongest leadership role in my observations by far and her leadership role connected with her high self-reported improvements for traits and skills. I gave her the highest score on the reflection assessment and I was not surprised to find that she wrote more leadership words and phrases than any other participant. As the oldest participant, I saw her jump ahead and encourage the others to take a lead.

In my observations, participant 6 was the most reserved and the other participants mentioned their concerns about her lack of input. She received the highest regression for leadership traits and did not complete the skills questionnaire. In my observations, I saw that she was socially apprehensive and had a hard time taking a lead. She was always drawing, but her images did not relate to the mural. My observations about her working routine connected to very few leadership words or phrases written in her guidebook. Even though participant 6 remained mostly reserved throughout the project, I saw her develop commonalities between the participants through pop culture and she became more social by the end of the project.

The self-reported score that surprised me the most was participant 7. In my observations, I saw her take the lead on multiple occasions and she communicated with the group about the mural throughout the entire process. However, she regressed in self-reported leadership traits and skills and wrote little in her guidebook. The rest of the participants’ scores relate to the observations that I recorded.
Mural Design Discussion

While the participants discussed the design concepts in mural during the critique, I noted that almost every part of the mural had a specific meaning. One meaning in particular held a very close connection with leadership. This meaning was in the two figures in the middle. The participants had created these figures to represent the power of past and present young women. They used the concept of the “Rosie the Riveter”. During World War II this symbol was an American icon that represented the roles women began to take on and how women stepped up to challenges. In the participants’ mural design, participant 4 recreated the iconic symbol wearing modern style sunglasses and a Girl Scout sash with badges. This image was designed to express young modern women stepping forward and becoming powerful innovators. Before using the symbol, participant 4 explained this concept to the group. All the participants agreed to use it as one of the most important parts of the mural. In the mural design, participant 3 created The Yavapai Native American standing in the same way as the “Rosie the Riveter” character; with her hand up to symbolize strength. Some participants mentioned that the central figures are standing back to back as a way to work together and watch out for each other. The message the participants wanted to convey with the two figures directly links to concepts of leadership.

Summary

Overall, I found differences in responses of participants from the beginning to the end of the project. By analyzing the types of data (self-reports, reflection responses, written words, and observations), I found that each participant had similar scores on every type of data that was collected. I found that this collaborative mural project had no
significant impact on the participants’ self-reports of leadership traits, but the majority of participants reported an increase in leadership skills especially skills relating to teamwork, social communication, and adapting to others ideas. Additionally the findings show specific leadership skills and traits that improved and regressed from the beginning to the end. While looking at the written leadership words in the guidebooks, the majority of participants responded with words relating to “working together” or “communication”. In my observations, I found that participants increasingly used art terminology, established an efficient routine, and worked more efficiently on technical tile making at the end of the project then at the beginning. They used each other as resources for ideas and questions. I conclude that, while working together on this mural project, each participant had specific improvement and/ or regression in leadership traits and skills. However, an overarching theme occurred in all the data that was collected, which involved improving communication and teamwork skills.
CHAPTER 6

IMPLICATIONS

Implications for Further Study

My study found that adolescent girls involved in a tile mosaic mural project improved their leadership skills in communication and working with others. However, skills pertaining to organization and philosophy saw regression. Additionally, some participants reported that they regressed in almost all traits and skills. These issues lead to the questions: When is it appropriate to teach a collaborative mural project? Does maturity impact how receptive adolescent girls are to building leadership skills through collaboration?

Throughout the 11 day project I began to see some correlations that I had not considered before. I started to see the older participants taking more initiative in the project more than the younger ones. The two oldest participants, 3 and 4, were the only ones that had improved dramatically on self-reports for skills. Additionally, the younger participants tended to score themselves higher on the pre-self-reports. Participant 5 was the youngest and completed post-self-reports with lower scores than pre-self-reports. I believe that the younger participants may have had less knowledge of their own traits and skills prior to the project. They may have completed the questionnaires on the first day with little to no experience in certain traits or skills. This leads to the question: Are older participants more receptive to building leadership skills?

From the very start of the project, I noted that participant 6 was very reserved and introverted. Unlike extroverts, introverted people tend to shy away from groups and enjoy working by themselves (Cain, S. 2012). Participant 6 became an outlier in my study
because of her hesitancy to participate and apprehension to socialize. Displaying leadership is not explicitly reserved for the extroverted members of society though (Cain, 2013). Many prominent leaders throughout history were introverted and worked solo on most of their projects. Participant 6’s comment “I am not a leader” pertains to the conventional sense of leadership, which is “people wish to fit harmoniously within the group” (Cain, p 78).

With this information, I wonder how participant 6’s leadership qualities could have been impacted if the mural was a solitary project; meaning that each participant designed her own section by herself. This leads me to the question how do leadership traits and skills differ between extroverted and introverted people? Do collaborative art projects cause a regression in leadership abilities for introverted people?

Another question that arose focuses on the use of collaboration in the project. My study used one group of seven girls to work together through the 11 day project. The group was small and they utilized each other to create one large image. I wonder what types of leadership traits and skills would improve and/ or regress if the group worked independently to create a mural; meaning that the participants would each have their own individual section without collaborating with each other on one design. Would the skills that saw regression in this study become more improved?

Other questions that emerged applied to working in an all-girl environment. Willow Springs is an all-girls camp with just a handful of male employees. All of the counseling staff who worked with the participants were female. The participants saw women leaders in action every day of the project. In addition, the Girl Scout program holds girl-power to a high degree in its philosophy. Evidence of women leaders is even
seen in the outcome of the mural’s design. The participants used two female figures as the main features of the mural. Working in an all-female group poses several questions. What types of leadership traits and skills would have developed in a mixed gender group? What kind of image would have been created in a different organization? The teens depicted a scene relating to the Girl Scout philosophy. Why then did they report regressed leadership skills in organization and philosophy?

In the past, it would have been more common for male members to show signs of leadership over females. However, contemporary U.S. practices are more widely recognizing women as leaders. Are these movements affecting the actions of girls in art classrooms? In another study, would more male participants step up as leaders over females? How would an all-male group differ than an all-female group?

By living and working with each other for 11 days, the participants had an advantage that could have impacted the results of the study as well. The girls participated in activities other than the mural process that could have altered their self-reports and reflections on leadership. Would the results be different if the participants only worked on the mural during their stay at Willow Springs? If the participants did not live and work with each other throughout the study, would the outcome of their traits and skills be different?

The majority of the participants reported no change on their trait self-report. I wonder whether the traits would have seen an impact if the self-report was used as it was originally intended. Northouse designed the questionnaire to be filled out by the participant and five people that the participant knows well. If the participants scored each
other near the beginning of the project and at the end would there be a change in leadership traits? If so, which traits would have improved or regressed?

The mural’s media is also an area that could be explored in further studies. The mural in my study was made from a tile mosaic. How would the mural’s design differ with a different media? Would leadership traits and skills be impacted by using different media?

What about a difference in leadership abilities for participants of a different culture? The mural project had two participants belonging to a minority group: Native American and African American. These two participants had some of the highest improved leadership traits and skills. If the study focused on a multicultural aspect, would there be a difference in leadership abilities among minorities.

All of these questions could be further investigated in additional research studies.

**Implications for Practice**

Using a guidebook, like the one I designed for this study, can assist in teaching artistic idea generation. The guidebook can include different composition styles and prompts for sketches. By covering topics that encourage individual inquiry, a guidebook can be used to break down the process of art making into a series of steps. This in, turn can, allow young artists to make more meaningful artwork.

Educators working with teens can apply group collaboration to projects in order to enhance communication abilities. Many businesses, organizations, and companies look for strong leadership characteristics in a professional field of practice and leadership experiences promote development. By participating in a collaborative mural project, high school students can develop specific leadership skills in order to function well in society.
Additionally, organizations that encourage leadership can promote an artistic approach through collaborative art activities. Summer camps and after school programs, which specialize in leadership development, can promote more group activities in art making. Art teachers in schools can use mural projects to promote leadership in students as well as beautify the location, whether it is the neighboring community or the school itself.

Closing

The mural project has encouraged me to continue investigating art making as a tool for bringing together a community. While the group was working on the mural, much of the camp’s community stopped to see the progress. Staff and campers asked the girls about the mural during meal times and when it was completed, many people gathered to express their interest in the design. It was encouraging to witness the girls becoming aware of community murals in Prescott and how they applied this knowledge to the mural they were about to create. Even though some participants may not see the mural again and others may see it every year until they are old, every one of them knows the difference they made for the camp. This project was more than a study to measure leadership; it was a mission I hope will impact the lives of the participants.
REFERENCES


APPENDIX A

LIST OF CERAMIC TERMS AND MATERIALS USED
List of Ceramic Terms and Materials

Bisque Fire: First firing before the glaze firing. The clay undergoes permanent chemical and physical changes. The clay becomes harder, but remains porous for glaze application. Fired to cone 06 (1830 degrees in Fahrenheit).

Source: Duncan

Bisque Ware: Ceramic pieces that have undergone the bisque fire.

Bone Dry Clay: Most moisture has left the clay and it is ready for the first firing.

Concrete Backer Board: Used in construction as a tile backing board. It can be nailed or screwed to wood to create an area for vertical tile attachment. It prevents the wood from warping.

Electric Kiln: A heating chamber used to transform clay into harder bodies at high temperatures. Uses electricity using a 220 volt plug.

Firing: Heating ceramic clay and glaze to maturity. Firings can happen in kilns or pits.

Glaze: A coating of glass that fuses on the surface of a clay body during glaze firing.

Glaze Fire: Can range in temperature from cone 06 (1830 degrees in Fahrenheit) to cone 10 (2381 degrees in Fahrenheit). Glaze firings higher than cone 10 also occur.

The glaze fire happens after the bisque fire. At a high temperature, it allows the applied glaze to vitrify and convert to a harder glass like form.

Greenware: Unfired ceramic ware free of moisture and ready for the first firing.

Grout: A thin mortar comprised of cement and water (or materials that solidify) for filling spaces. Can come in a variety of colors.

Source: Webster’s Dictionary
**Leather Hard Clay:** Clay in a state that has some moisture, but it can no longer be pliable. Good state for carving.

**Low Fire Clay:** A porous clay body in which a glaze is required to create a waterproof surface. Fired to cone 06 (1830 degrees in Fahrenheit).

Source: Laguna Clay

**Low Fire Clear Glaze:** Used as a clear coating over colored underglazes. The clear glaze used at Willow Springs is green in color before firing. Fired to cone 06 (1830 degrees in Fahrenheit).

**Mortar:** A mixture of lime and cement with sand and water used as a bonding agent between bricks, stones, tiles, etc.

Source: Dictionary.com

**Plaster Mold:** A mold form made from gypsum plaster, usually to form or cast clay in intricate shapes.

Source: Dictionary.com

**Plastic Clay:** Clay in a state that is still pliable.

**Scoring:** Making marks in the clay to adhere two or more pieces of clay together.

**Slip:** Clay and water blended to create a consistency of cream. Used for joining pieces of clay.

**Tools Used:**

- Needle/ pin tool
- Loop tool
- Wooden carving tool
- Wire
Metal, wooden and plastic ribs

Rolling pin

Canvas

Hammer

**Underglaze:** Diverse color of glaze that can range from bright and intense to dark and dull. Underglazes are versatile can be applied to clay before or after the first firing. Predictable colors can intensify when covered with a clear glaze or will remain velvet when left unglazed.

Source: Axner

**Wedging:** A procedure to knead or push on clay repeatedly to prepare it by hand. This removes air bubbles and extra moisture.
APPENDIX C

GUIDEBOOK
Draw, sketch, write, plan. This book will lead you into new discoveries.
GOALS

The project goal:
To complete a large tile mosaic using teamwork, communication, determination, and skill to depict a scene chosen by the group.

My personal goal:

The group goal:

Objectives
- Collaborate as a group to develop and revise plans for a mural
- Contribute to a discussion about the importance of preserving history
- Create a collaborative artwork that communicates a substantive meaning or achieves an intended purpose.
- Communicate with peers to create individual parts of an artwork to add to a large collaborative work.
- Generate an individual sketch of a mural plan.
- Hold a group discussion on how murals are used to communicate stories, ideas, and symbols.
- Reflect on the project goals throughout the process.
- Judge the effectiveness of an artist’s use of composition to support the meaning and/or purpose of an artwork.
In order to work effectively within a group, it is important to understand more about yourself.

Intelligence, alertness, insight, responsibility, initiative, persistence, self-confidence, and sociability are just some of the traits that good leaders have. Problem solving, social judgment, knowledge, motivation, and performance are some skills that good leaders can acquire through experiences.

Take some time to answer the following questionnaires as accurately as possible. There are no better or worse answers.
Leadership Trait Questionnaire

Instructions: The purpose of this questionnaire is to measure personal characteristics of leadership. Read each item carefully and choose the response that fits you best.

Using the following scale, to indicate the degree to which you agree or disagree with each of the 14 statements below.

Key: 1 = Strongly disagree  2 = Disagree  3 = Neutral  4 = Agree  5 = Strongly agree

1. **Articulate**: I communicate effectively with others.  
2. **Perceptive**: I am discerning and insightful.  
3. **Self-confident**: I believe in myself and my ability.  
4. **Self-assured**: I am secure with self, free of doubts.  
5. **Persistent**: I stay fixed on the goals, despite interference.  
6. **Determined**: I take a firm stand, acts with certainty.  
7. **Trustworthy**: I am authentic and inspire confidence.  
8. **Dependable**: I am consistent and reliable.  
9. **Friendly**: I show kindness and warmth.  
10. **Outgoing**: I talk freely and get along well with others.  
11. **Conscientious**: I am thorough, organized, and controlled.  
12. **Diligent**: I am persistent and hardworking.  
13. **Sensitive**: I show tolerance, am tactful and sympathetic.  
14. **Empathic**: I understand others and identifies with others.

Total the numbers

---

**Scoring Interpretation**

The scores you received on this test provide information about how you see yourself as a leader. The chart allows you to see where your perceptions are.
Skills Inventory

*Instructions:* Read each item carefully and decide whether the item describes you as a person. Indicate your response to each item by circling one of the five numbers to the right of each item. Answer as close to how you feel as possible by recollecting past experiences.

Key: 1 = Not true  2 = Seldom True  3 = Occasionally true  4 = Somewhat true  5 = Very true

1. I enjoy getting into the details of how things work. 1 2 3 4 5

2. As a rule, adapting ideas to people’s needs is easy for me. 1 2 3 4 5

3. I enjoy working with abstract ideas. 1 2 3 4 5

4. Technical things fascinate me. 1 2 3 4 5

5. Being able to understand others is the most important part of my work. 1 2 3 4 5

6. Seeing the big picture comes easy for me. 1 2 3 4 5

7. One of my skills is being good at making things work. 1 2 3 4 5

8. My main concern is to have a supportive communication climate. 1 2 3 4 5

9. I am intrigued by complex organizational problems. 1 2 3 4 5

10. Following directions and filling out forms comes easily for me. 1 2 3 4 5

11. Understanding the social fabric of the organization is important to me. 1 2 3 4 5

12. I would enjoy working out strategies for my organization’s growth. 1 2 3 4 5

13. I am good at completing the things I’ve been assigned to do. 1 2 3 4 5

14. Getting all parties to work together is a challenge I enjoy. 1 2 3 4 5

15. Creating a mission statement is rewarding work. 1 2 3 4 5

16. I understand how to do the basic things required of me. 1 2 3 4 5

17. I am concerned with how my decisions affect the lives of others. 1 2 3 4 5

18. Thinking about organizational values and philosophy appeals to me. 1 2 3 4 5
The skills inventory is designed to measure three broad types of leadership skills: technical, human, and conceptual. Score the questionnaire by doing the following.

1. Sum the responses on items 1, 4, 7, 10, 13, and 16. This is your technical skill score.

2. Sum the responses on items 2, 5, 8, 11, 14, and 17. This is your human skill score.

3. Sum the responses on items 3, 6, 9, 12, 15, and 18. This is your conceptual skill score.

Total scores:

Technical skill

Human skill

Conceptual skill

Scoring Interpretation

23–30 High Range
14–22 Moderate Range
6–13 Low Range

The scores you received on the skills inventory provide information about your leadership skills in three areas. By comparing the differences between your scores, you can determine where you have leadership strengths and where you have leadership weaknesses. Your scores also point toward the level of management for which you might be most suited.
BRAINSTORMING QUESTIONS

Answer these questions to generate a great idea for the mural.
WHAT DO YOU KNOW?

Write or draw what you know about Willow Springs, Prescott, Girl Scouts, nature in the area, camp life, or anything else you find interesting about camp; a story, poem, picture or memory?
WHAT DO YOU SEE?

Using direct observation, take some time to look around you and write or draw what you see. Ask yourself why is it here? And how did it get here?
What kinds of things, regarding Willow Springs and Girl Scouting, do you want to know more about? How can you find answers?
WHY IS THIS NECESSARY?

Think about the significance of this mural project. How is it important? Will it have meaning to the location, environment, and the people? Why?
WHAT HAVE YOU DISCOVERED?

Write every word that comes to mind when you think of Willow Springs, Camp, and Girl Scouts. Circle the four most important ones to you.
CHOOSING A TOPIC

Great ideas take a lot of work and a good topic keeps you enthusiastic, creative and eager to create more.
Use the Great Topic Tree to map out your own tree plan for the mural. Present this map to the group.
COMPOSITION!

The arrangement of visual elements in an image.

GOAL: To emphasize the subject/mood/action of an image and make it both easily understood and aesthetically pleasing to the viewer.

Composition includes: Color, Shape, Line, Contrast, Proportion, Positioning, Cropping, Viewpoint, Rhythm, Perspective, and Geometry, AND MORE!

Basically, it includes everything in an image!

[that’s why it’s so tough to master; you have to keep track of a bunch of stuff]
Rhythm & Repetition

Repeating the same types of shapes or lines within your image creates a pleasing rhythm and flow...

...which you can also strategically break, to create a focal point or show contrast.

Repeating similar elements in an unexpected arrangement emphasizes structure and formality...

...unless clustering similar elements creates a more natural layout.

Cropping

The way you crop your image helps give it context. Plus, some types of images look more natural in a horizontal or vertical layout. When you have a choice, use this to your advantage.

Landscape often work well in a horizontal or vertical layout. When a figure is drawn into the background, the crop must reflect the spatial orientation of the environment rather than the figure.

Cropping out unnecessary objects or backgrounds can help bring focus to your subject. SNAP! SNAP! SNAP!

Leaving room in front of a character adds scale. If a background or figure is too large, it can look flat.

What are we looking at?

Cropping some extra space in the direction of movement can help create "pace." (Called "pace line")

The viewer will tend to identify with whatever character is most visible. Generally this is the character that is closer to the viewer, but could also be the character with the most meaningful action.

Keep this in mind if you are trying to draw a hero/villain showdown!
After a day of working as a group, it is important to take detailed notes and reflect on the process. Take some time to write a brief response to the questions provided. You may add additional comments as well.
**Day 1:** What have you learned today that will provide you with useful direction throughout this project?

**Day 2:** What did you do today to meet the goals of the project, your own personal goals, and the goals of the group?
**Day 3:** Skills to help in the mural process can range from good communication to being a good artist and even creating innovative ideas. What other skills do you think will be necessary to complete the mural project?

**Day 4:** What were some suggestions that were made to solve problems or alter processes? Who made them and what were they? Are you and the group happy with the choices so far?
**Day 5:** So far, how do you feel about the mural, processes, communication, or anything else you want to add? Have you learned a new skill? If so, what is it?

**Day 6:** What is your role in the project? Are you making a significant impact by providing ideas or suggestions? What are they?
**Day 7:** Describe how the group is working together? Is this an effective process? Why are why not?

**Day 8:** Why is it important to work together to complete this mural? Have you noticed a change in group dynamic throughout the project? If so, describe this change?
**Day 9:** So far has the process been easy for you to understand? Describe how it has or hasn’t been easy.

**Day 10:** If we continued this project and created another mural, what could we do differently?
**Day 11:** Are you encouraged to do another project like this? Why or why not? What are some projects you would like to do in the future? What have you learned about yourself throughout this project?
You took similar leadership questionnaires in the beginning. Now, let’s investigate to see if your leadership skills, traits, and styles have changed. Remember to answer accurately. There is no better answer than the others.
Leadership Trait Questionnaire

Instructions: The purpose of this questionnaire is to measure personal characteristics of leadership. Read each item carefully and choose the response that fits you best.

Using the following scale, have each individual indicate the degree to which you agree or disagree with each of the 14 statements below.

Key: 1 = Strongly disagree  2 = Disagree  3 = Neutral  4 = Agree  5 = Strongly disagree

1. **Understanding**: I am perceptive and observant.  
   
2. **Communicate**: I speak clearly and concisely with others.
   
3. **Well-balanced**: I am secure with myself and free of hesitation.
   
4. **Self-assured**: I trust my abilities and thoughts.
   
5. **Firm**: I take a strong stand, and act with confidence.
   
6. **Insistent**: I stay stable with the goals, despite changes.
   
7. **Reliable**: I am consistent and dependable.
   
8. **Responsible**: I am trustworthy and inspire self reliance.
   
9. **Social**: I am outgoing and get along well with others.
   
10. **Welcoming**: I show compassion and kindness.

11. **Meticulous**: I am persistent and careful.

12. **Thorough**: I am hardworking, organized, and controlled.

13. **Empathic**: I recognize and identify with others.

14. **Sensitive**: I show open mindedness, am insightful and understanding.

Total __________

First questionnaire total __________

Check back to the first test and rewrite the score

Is there a difference? Where? Why do you think this happened?
Skills Inventory

Instructions: Read each item carefully and decide whether the item describes you as a person. Indicate your response to each item by circling one of the five numbers to the right of each item. Answer as close to how you feel as possible by recollecting past experiences.

Key: 1 = Not true          2 = Seldom True           3 = Occasionally true        4 = Somewhat true       5 = Very true

1. I enjoy working with non-concrete ideas. 1 2 3 4 5
2. I enjoy getting into the specifics of how things work. 1 2 3 4 5
3. As a rule, adjusting ideas to people’s requests is easy for me. 1 2 3 4 5
4. Seeing the big picture comes easy for me. 1 2 3 4 5
5. Practical and Procedural things fascinate me. 1 2 3 4 5
6. Being able to comprehend others is the most important part of my work. 1 2 3 4 5
7. I am interested in complex structural problems. 1 2 3 4 5
8. I have a skill of making things work. 1 2 3 4 5
9. Its best for me to have teamwork with good communication. 1 2 3 4 5
10. I enjoy working out tactics for my team’s growth. 1 2 3 4 5
11. I can follow directions and fill out form easily. 1 2 3 4 5
12. For me, it is important to understand the social dynamic of the team. 1 2 3 4 5
13. Creating a mission statement is rewarding work. 1 2 3 4 5
14. I am good at completing the things I’ve been assigned to do. 1 2 3 4 5
15. I enjoy the task of getting people to work together. 1 2 3 4 5
16. Thinking about structural values and philosophy appeals to me. 1 2 3 4 5
17. It is easy for me to understand the basic things required of me. 1 2 3 4 5
18. I am concerned when my decisions affect the lives of others. 1 2 3 4 5
**Scoring**

The skills inventory is designed to measure three broad types of leadership skills: technical, human, and conceptual. Score the questionnaire by doing the following.

3. Sum the responses on items 1, 4, 7, 10, 13, and 16.  
   This is your conceptual skill score.

4. Sum the responses on items 2, 5, 8, 11, 14, and 17.  
   This is your technical skill score.

5. Sum the responses on items 3, 6, 9, 12, 15, and 18.  
   This is your human skill score.

Total scores: Day one Today

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**Scoring Interpretation**

23–30 High Range
14–22 Moderate Range
6–13 Low Range

Is there a difference in your scores? Where? Why do you think this happened?
From mud to mosaic
Leadership in a Collaborative Mural

Written child assent form

My name is Aimee Marcinko and I am a student Arizona State University. I am asking you to take part in a research study because I am trying to learn more about leadership in art projects. I want to learn about the types of leadership skills and traits that are impacted when young girls your age collaborate to create a mural. Your parent(s) have given you permission to participate in this study.

If you agree, you will be asked to keep a written journal of reflections throughout the eleven day mural project during the “Ultimate Art Experience”. You will also be asked to answer questions about leadership on a personality questionnaire at the beginning and end of the project. This questionnaire will take no more than 15 minutes. It will ask a variety of questions regarding communication, self-confidence, responsibility, motivation, and social judgment just to name a few. You do not have to answer any questions that make you uncomfortable.

During the session, the instructors and I will keep written observations of leadership behavior that you display. At the end of the project, the instructors and I will compare all of the documents to see if the mural project impacted your leadership abilities.

You do not have to be in this study. No one will be mad at you if you decide not to do this study. Even if you start the study, you can stop later if you want. You may ask questions about the study at any time.

If you decide to be in the study I will not tell anyone else how you respond or act as part of the study. Even if your parents or teachers ask, I will not tell them about what you say or do in the study.

Signing here means that you have read this form or have had it read to you and that you are willing to be in this study.

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<tr>
<th>Signature of Subject</th>
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<td>Signature of Investigator</td>
<td>Investigator's Printed Name</td>
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APPENDIX E

SLIDES FROM PREZI PRESENTATION
Gaining Perspective
Murals From History
- History of Mexico by Diego Rivera
- The Great Wall of Los Angeles
- Deep Eddy Mural Project
- Philadelphia Mural Project

Identifying Our Own History
- Girl Scouting
- Willow Springs
Making the Mural

Once the image is drawn out, each person will be responsible for creating many tiles to add to the mosaic.
Dear Mary Erickson:

On 5/19/2014 the ASU IRB reviewed the following protocol:

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<th>Initial Study</th>
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<tr>
<td>Title:</td>
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</tr>
<tr>
<td>Investigator:</td>
<td>Mary Erickson</td>
</tr>
<tr>
<td>IRB ID:</td>
<td>STUDY00001082</td>
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<tr>
<td>Category of review:</td>
<td>(7)(b) Social science methods</td>
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<tr>
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Documents Reviewed:
- Child Assent Form, Category: Consent Form;
- Parental Consent Form, Category: Consent Form;
- Application for IRB, Category: IRB Protocol;
- Leadership Trait and Skills Questionnaire, Category: Measures (Survey questions/Interview questions /interview guides/focus group questions);
- Reflection Questions, Category: Measures (Survey questions/Interview questions /interview guides/focus group questions);
- Letter of Approval From Girl Scouts, Category: Off-site authorizations (school permission, other IRB approvals, Tribal permission etc);
- Publications Permission to Use Materials, Category: Off-site authorizations (school permission, other IRB approvals, Tribal permission etc);
The IRB approved the protocol from 5/19/2014 to 5/18/2015 inclusive. Three weeks before 5/18/2015 you are to submit a completed “FORM: Continuing Review (HRP-212)” and required attachments to request continuing approval or closure.

If continuing review approval is not granted before the expiration date of 5/18/2015 approval of this protocol expires on that date. When consent is appropriate, you must use final, watermarked versions available under the “Documents” tab in ERA-IRB.

In conducting this protocol you are required to follow the requirements listed in the INVESTIGATOR MANUAL (HRP-103). Sincerely,

IRB Administrator

cc: Aimee Marcinko
    Mary Erickson
From mud to mosaic
Leadership in a Collaborative Mural

PARENTAL LETTER OF PERMISSION

Dear Parent:

I am a graduate student in the Herberger Institute for Design and Arts at Arizona State University studying under the direction of Dr. Mary Erickson. I am conducting a research study to determine how a collaborative mural project impacts leadership in young girls.

I am inviting your child's participation in the study that will involve every day of the “Ultimate Art Experience”, which is eleven days. Your child's participation in this study is voluntary. If you choose not to have your child participate or to withdraw your child from the study at any time, there will be no penalty. It will not affect your child’s participation in Camp Willow Springs programs. Likewise, if your child chooses not to participate or to withdraw from the study at any time, there will be no penalty. The results of the research study may be published, but your child's name will not be used.

During the study, your child will be asked to take a pre questionnaire to determine existing leadership traits and skills. They will then work together to create a tile mosaic mural writing a short reflection at the end of each day. I will observe their behaviors taking note of leadership traits and skills. On the final day, they will take a post questionnaire to determine the impact, if any, of the collaborative project.

Although there may be no direct benefit to your child, the possible benefit of your child's participation can expand current research on leadership in collaborative art projects. There are no foreseeable risks or discomforts to your child’s participation.

Your child’s confidentiality will be maintained by keeping all data in a secure location protected by locks and passwords. The instructors of the program and I will be the only individuals recording and viewing data. Responses throughout the study will be confidential and an assigned number ID will be used to protect identity.

The results of this study may be used in reports, presentations, or publications but your child's name will not be used. If you have any questions concerning the research study or your child's participation in this study, please call me at 480-323-0647 or anmarcin@asu.edu or Dr. Erickson at 480-961-3193 or m.erickson@asu.edu.

Sincerely,

Aimee Marcinko
By signing below, you are giving consent for your child, (child's name) to participate in the above study.

<table>
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<tr>
<th>Parent/Guardian Signature</th>
<th>Parent/Guardian's Printed Name</th>
<th>Date</th>
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</table>

If you have any questions about you or your child's rights as a subject/participant in this research, or if you feel you or your child have been placed at risk, you can contact the Chair of the Human Subjects Institutional Review Board, through the Office of Research Integrity and Assurance, at 480-965-6788.
APPENDIX H

PUBLISHER APPROVAL
This is a License Agreement between Arizona State University ("You") and SAGE Publications, Inc. Books ("SAGE Publications, Inc. Books") provided by Copyright Clearance Center ("CCC"). The license consists of your order details, the terms and conditions provided by SAGE Publications, Inc. Books, and the payment terms and conditions.

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Academic institution

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yes
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APPENDIX I

REFLECTION ASSESSMENT GUIDE
## Scoring Guide of Guidebook Reflection Questions

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<tr>
<th>Indicator</th>
<th>No Evidence: 0</th>
<th>Limited: 1</th>
<th>Satisfactory: 2</th>
<th>Proficient: 3</th>
<th>Exceeds: 4</th>
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<tbody>
<tr>
<td><strong>Day 1:</strong> What have you learned that will provide you with useful direction throughout this project?</td>
<td>No response or the response is not relevant.</td>
<td>Provides some information about what was learned. Or explains what she liked or didn’t like.</td>
<td>Provides information about what was learned and/or connects it to the mural.</td>
<td>Provides information about what was learned, connects it to the mural, or explains what she did or didn’t like.</td>
<td>Provides detailed information about what was learned, connects it to the mural project, and explains what she liked and didn’t like.</td>
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<tr>
<td><strong>Day 2:</strong> What did you do today to meet the goals of the project, your own personal goals, and the goals of the group?</td>
<td>No response or response is not relevant</td>
<td>Describes the processes that meet one goal.</td>
<td>Describes the processes that meet two goals.</td>
<td>Describes the processes that meet all three-goal types.</td>
<td>Describes in detail the processes that meet all three goal types.</td>
</tr>
<tr>
<td><strong>Day 3:</strong> What other skills do you think will be necessary to complete the mural project?</td>
<td>No response or response is not relevant</td>
<td>Responds with two or fewer skills but does not connect them to the project. Or connects just one skill to the project.</td>
<td>Responds with four or fewer skills but does not connect them to the project. Or connects two skills to the project.</td>
<td>Responds with three skills and connects it to the project.</td>
<td>Responds with four or more skills and connects them to the project.</td>
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<tr>
<td><strong>Day 4:</strong> Were suggestions made to solve problems or alter processes? Who made them and what were they? Are you and the group happy with the choices so far?</td>
<td>No response or response is not relevant</td>
<td>Some questions are answered with limited context.</td>
<td>Each question has simple or one word answers.</td>
<td>Each question has answers. Supporting details are limited.</td>
<td>Each question has answers with supporting details.</td>
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<tr>
<td><strong>Day 5:</strong> So far how do you feel about the mural, processes, communication, or anything else you want to add? Have you learned a new skill? If so, what is it?</td>
<td>No response or response is not relevant</td>
<td>Answers one question with a simple statement or list.</td>
<td>Provides a simple statement of feelings and lists new learned skills.</td>
<td>Provides a description about feelings for the project and describes a new skill.</td>
<td>Provides a detailed description for personal feelings about the project and describes a new learned skill and how it applies to the project.</td>
</tr>
<tr>
<td><strong>Day 6:</strong> What is your role in the project. Are you making a significant impact by providing ideas or suggestions? What are they?</td>
<td>No response or response is not relevant</td>
<td>Answers some questions with little to no descriptions of contributions.</td>
<td>Answers all questions with a limited description of contributions.</td>
<td>Answers all questions and provides a description of contributions they made to the group project.</td>
<td>Answers all questions with significant details of contributions that they made to the group project.</td>
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<tr>
<td><strong>Day 7:</strong> Describe how the group is working together? Is this an effective process? Why are why not?</td>
<td>No response or response is not relevant</td>
<td>Answers only one question with simple explanations.</td>
<td>Explains the group dynamic and describes the effectiveness or ineffectiveness of the project so far.</td>
<td>Explains the group dynamic, discusses one other person’s role, and discusses the effectiveness or ineffectiveness of the processes.</td>
<td>Explains the group dynamic with details. Provides descriptions of more than one person’s role in the project and talks about the effectiveness of the processes.</td>
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### Day 8:
**Why is it important to work together to complete this mural? Have you noticed a change in group dynamic throughout the project? If so, describe this change?**

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<th>Response Type</th>
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<td>No response or the response is not relevant</td>
<td>Limited explanation of the importance of working together and/or simple explanation of group dynamic.</td>
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<td>Explains the importance of working together and indicates whether or not there was a change in the group dynamic.</td>
<td>Explains the importance of collaboration in the project, and describes the change in the group.</td>
</tr>
<tr>
<td>Explains the importance of collaboration by using this project as an example and describes the group change with supporting details.</td>
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### Day 9:
**So far has the process been easy for you to understand? Describe how it has or hasn’t been easy.**

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<td>No response or the response is not relevant</td>
<td>Answers with a yes or no only.</td>
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<td>Answers with a yes or no. Provides simple description of how the project has been easy or hard to understand.</td>
<td>Answers with a yes or no. Provides a detailed description of one way the project has been easy or hard to understand or provides a simple description of more than one way the project has been easy or hard to understand.</td>
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<tr>
<td>Answers with a yes or no. Provides a detailed description of more than one way the project has been easy or hard to understand. Or provides a description of how it has been hard AND easy to understand.</td>
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### Day 10:
**If we continued this project and created another mural, what could we do differently?**

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<td>No response or the response is not relevant</td>
<td>Provides a simple description of a different approach or provides a description that is not different than the tile mosaic mural project.</td>
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<tr>
<td>Describes in detail one different approach to the project.</td>
<td>Describes two or more approaches to mural making that are different.</td>
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<tr>
<td>Describes in detail three or more approaches that are different.</td>
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### Day 11:
**Are you encouraged to do another project like this? Why or why not? What are some projects you would like to do in the future? What have you learned about yourself?**

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<td>Answers some of the questions with limited responses or incomplete thoughts.</td>
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<td>Provides limited answers to all of the questions</td>
<td>Provides answers to all of the questions in detail.</td>
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<tr>
<td>Provides significant and detailed answers to all of the questions.</td>
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APPENDIX J

TRAIT TABLE
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<td>Mission statement</td>
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<td>5</td>
<td>4</td>
<td>5</td>
<td>5</td>
<td>3</td>
<td>2</td>
<td>3</td>
<td>N/A</td>
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<td>5</td>
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<td>18</td>
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<tr>
<td>Technical total</td>
<td>22</td>
<td>27</td>
<td>26</td>
<td>27</td>
<td>29</td>
<td>30</td>
<td>27</td>
<td>27</td>
<td>28</td>
<td>20</td>
<td>23</td>
<td>N/A</td>
<td>21</td>
<td>22</td>
<td></td>
</tr>
<tr>
<td>Human total</td>
<td>23</td>
<td>29</td>
<td>19</td>
<td>28</td>
<td>28</td>
<td>30</td>
<td>22</td>
<td>24</td>
<td>23</td>
<td>20</td>
<td>20</td>
<td>N/A</td>
<td>25</td>
<td>26</td>
<td></td>
</tr>
<tr>
<td>Conceptual total</td>
<td>25</td>
<td>24</td>
<td>29</td>
<td>26</td>
<td>27</td>
<td>29</td>
<td>21</td>
<td>24</td>
<td>13</td>
<td>8</td>
<td>22</td>
<td>N/A</td>
<td>20</td>
<td>16</td>
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</tr>
</tbody>
</table>

*Pre- and post- test total was not calculated for participant 6.

**Red – Technical skill**
**Blue- Score increase**
**Pink- Human skill**
**Green- Score remains the same**
**Grey- Conceptual skill**
**Yellow- Score decrease**
APPENDIX L

REFLECTION ANSWERS TABLE
## Reflection Answers Table

<table>
<thead>
<tr>
<th>Reflection Questions</th>
<th>Participant 1</th>
<th>Participant 2</th>
<th>Participant 3</th>
<th>Participant 4</th>
<th>Participant 5</th>
<th>Participant 6</th>
<th>Participant 7</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Day 1: What have you learned that will provide you with useful direction throughout this project?</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>4</td>
<td>1</td>
<td>0</td>
<td>2</td>
<td>10</td>
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</tr>
<tr>
<td>Day 2: What did you do today to meet the goals of the project, your own personal goals, and the goals of the group?</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>0</td>
<td>2</td>
<td>10</td>
</tr>
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</tr>
<tr>
<td>Day 3: What other skills do you think will be necessary to complete the mural project?</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>10</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Day 4: Were suggestions made to solve problems or alter processes? Who made them and what were they? Are you and the</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>9</td>
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</tr>
<tr>
<td>Day 5: So far how do you feel about the mural, processes, communication, or anything else you want to add? Have you learned a new skill? If so, what is it?</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>3</td>
<td>11</td>
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<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Day 6: What is your role in the project? Are you making a significant impact by providing ideas or suggestions? What are they?</td>
<td>2</td>
<td>3</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>12</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Day 7: Describe how the group is working together? Is this an effective process? Why are why not?</td>
<td>3</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>12</td>
</tr>
</tbody>
</table>

### Notes
- **0-No Evidence**: No evidence of the reflection question being addressed.
- **1-Limited**: Limited evidence of the reflection question being addressed.
- **2-Satisfactory**: Satisfactory evidence of the reflection question being addressed.
- **3-Proficient**: Proficient evidence of the reflection question being addressed.
- **4-Exceeds**: Exceeds expectations with evidence of the reflection question being addressed.

- **Reflected Communication**: Discussed communication.
- **Learned about mosaics and why people made them**: Learned about mosaics and why people made them.
- **Wrote about the ideas for the mural**: Wrote about the ideas for the mural.
- **Recap of what was learned**: Recap of what was learned.
- **Helped to decide on a final plan**: Helped to decide on a final plan.
- **Sketched a Native American**: Sketched a Native American.
- **Lists two skills**
- **Lists two skills: communication and ambition**: Lists two skills: communication and ambition.
- **Lists and describes one skill**: Lists and describes one skill.
- **Lists three skills**: Lists three skills.
- **Police, don’t be stubborn, and work well with others**: Police, don’t be stubborn, and work well with others.
- **Answers one question with two suggestions**: Answers one question with two suggestions.
- **Listed the person who changed an idea. Yes she is happy**: Listed the person who changed an idea. Yes she is happy.
- **Very limited answers. Group is happy and solved problems**: Very limited answers. Group is happy and solved problems.
- **No suggestions are listed that solved problems**: No suggestions are listed that solved problems.
- **Describes a small change, but didn’t answer the other questions**: Describes a small change, but didn’t answer the other questions.
- **Lists good progress on mural**: Lists good progress on mural.
- **Simple statement and lists a new skill: how to make tiles**: Simple statement and lists a new skill: how to make tiles.
- **Feels good making the mural. Everyone is working hard and making good choices**: Feels good making the mural. Everyone is working hard and making good choices.
- **Wrote about communication and how the group is lacking passion for the project. No new skill**: Wrote about communication and how the group is lacking passion for the project. No new skill.
- **Does not write about a new skill**: Does not write about a new skill.
- **Mural is great. Confident in leadership**: Mural is great. Confident in leadership.
- **Lists what she did on the project**: Lists what she did on the project.
- **Listed what she is working on**: Listed what she is working on.
- **Yes. Provided ideas and made good things**: Yes. Provided ideas and made good things.
- **Wrote about her role as a major contributor**: Wrote about her role as a major contributor.
- **Lists what she is doing in the project**: Lists what she is doing in the project.
- **Wrote that she is working on the past Willow Springs photo frame**: Wrote that she is working on the past Willow Springs photo frame.
| Day 8: Why is it important to work together to complete this mural? Have you noticed a change in group dynamic throughout the project? If so, describe this change? |
|---|---|---|---|---|---|
| 3 | 1 | 1 | 0 | 0 | 0 | 5 |
| Writes about communication and teamwork. The group converses together and works separately. | It is important to work together to finish the mural. | Only answers one question. Does not talk about a change in group dynamic. |

| Day 9: So far has the process been easy for you to understand? Describe how it has or hasn’t been easy. |
|---|---|---|---|---|---|
| 3 | 2 | 2 | 0 | 0 | 0 | 9 |
| Writes about how the process is easy because she has experience. | Lists three processes of making the mural. | It is easy because the group is working together. | Yes it is easy to understand, but motivation is starting to dwindle |

| Day 10: If we continued this project and created another mural, what could we do differently? |
|---|---|---|---|---|---|
| 2 | 0 | 0 | 3 | 0 | 0 | 5 |
| Opinions are strong. | Describes two different ways with explanations. |

| Day 11: Are you encouraged to do another project like this? Why or why not? What are some projects you would like to do in the future? What have you learned about yourself? |
|---|---|---|---|---|---|
| 2 | 0 | 3 | 0 | 0 | 0 | 5 |
| Learned about compromising, communication and that a group project can be hard especially for an only child. | Answers all questions with details. |

| Total Scores | 21 | 13 | 15 | 27 | 9 | 4 | 11 |
APPENDIX M

LEADERSHIP WORDS AND PHRASES IN CATEGORIES
<table>
<thead>
<tr>
<th>Traits and Skills</th>
<th>Participants’ Written Words or Phrases in Guidebooks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supportive communication and articulate</td>
<td>Communication (x 2) Communicate (x 3)</td>
</tr>
<tr>
<td>Working with others</td>
<td>Teamwork (x 2) Working together (x 3) Work Well with others (x 4) Do it together Socialization</td>
</tr>
<tr>
<td>Adapting ideas to others</td>
<td>Compromise Give people time to think Polite skills</td>
</tr>
<tr>
<td>Friendly Understanding others empathic</td>
<td>Friendship Support Acceptance Understanding</td>
</tr>
<tr>
<td>Self-assured</td>
<td>Being Yourself Empowering I am a major contributor</td>
</tr>
<tr>
<td>Ambitious Determined</td>
<td>Women are powerful Motivation Want to do a lot of things Want to know more</td>
</tr>
<tr>
<td>Understanding basic things Perceptive</td>
<td>Knowledge (x 2) Have experience Can find the answers</td>
</tr>
<tr>
<td>Working out Strategies Conscientious</td>
<td>Resourceful Creative Providing ideas I suggested to I helped to decide</td>
</tr>
<tr>
<td>Self-confidence Determined</td>
<td>Confident Speak out Opinionated</td>
</tr>
<tr>
<td>Get people to work together Trustworthy</td>
<td>Supervising I am a supervisor I am in charge Leadership (x 2) Leading</td>
</tr>
<tr>
<td>Persistent Making things work</td>
<td>Productive Productive day Good Process (x 2) Work hard</td>
</tr>
<tr>
<td>Completing assignments</td>
<td>Achievement Rewarding</td>
</tr>
<tr>
<td>Seeing the big picture</td>
<td>Bring a community together Mural will have a positive effect</td>
</tr>
</tbody>
</table>
APPENDIX N

LETTER OF APPROVAL FROM GIRL SCOUTS
May 8, 2014

Aimee Marcinko,

Thank you for your interest in conducting your research study, From Mud to Mosaic: Leadership in a Collaborative Mural at our Willow Springs camp this summer. I understand that participation in this research will be voluntary and that you will obtain both parental consent and girl assent. I understand that you are seeking participation from 10 girls who are enrolled in the "Ultimate Art Experience" camp at Willow Springs in July.

For those who choose to participate it is my understanding that they will be asked to complete the personality questionnaire, which will take approximately 15 minutes on the first day of camp and 15 minutes on the last day of camp. In addition, the participants will be asked to answer a reflection question each day for the 11 day duration of the camp. It is anticipated that girls will spend 15 minutes per day on the reflection question. I also understand that you will provide participants with a guidebook that is intended to help them with mural ideas and art concepts.

I have reviewed the scope of your research and, on behalf of the Council, give you permission to conduct this study at Willow Springs during weeks specified.

Please provide me with a copy of your IRB approval when it is obtained.

Thank you,

Janet A. Kington
Senior Associate – Integrated Systems