The bi-directional relationships within the personal and contextual environments of adolescents are critical to the development of adolescents and their transition into adulthood. Opportunities for youth to participate in and provide leadership in meaningful programs, gain life skills, and interact with adults in sustained relationships are key features leading to positive youth development (PYD). Youth engagement in research and evaluation is described as an engaging pathway to PYD.

The purpose of this study was to measure changes in levels of PYD through adolescent participation in youth participatory evaluation and youth community action training (YPE/YCAT). Seventy-four conveniently sampled senior 4-H members from
eight Oregon County 4-H programs participated in a longitudinal study over the course of six months. Each county was represented by a treatment and comparison group. County teams in the treatment group were trained in youth participatory evaluation and youth community action (YPE/YCA). The county teams within the treatment group were expected to return to their respective counties and conduct youth participatory evaluation (YPE) projects using community issues forums.

Significantly and consistently higher levels of the PYD indicators of competence, confidence, connection, character, caring, and contribution (six Cs) were predicted for the treatment group participating in YPE/YCAT relative to the comparison group not participating in YPE/YCAT.

A multi-dimensional survey comprised of the Generalized Self-Efficacy Scale (competence), the Rosenberg Self-Esteem Scale (confidence), and Connection, Character, Caring and Contribution Scales was emailed monthly over the course of six months, via Survey Monkey, to the 74 subjects in the eight counties. Twenty-three subjects (31%) completed the survey at all six time points: 14 subjects in the treatment group and nine in the comparison group. Given the small sample size, age, gender, and ethnicity were not considered in the analysis.

The nonparametric Mann-Whitney U and Wilcoxon Signed Rank Tests were used to analyze the data. The dependent variables included competence, confidence, connection, character, caring, and contribution as indicators of PYD. The independent variable consisted of YPE/YCAT administered to the treatment group.
The one-tailed Mann-Whitney U Test found no significant and consistent differences ($p > .05$) in mean scores between the treatment and comparison groups relative to the six Cs following the training of the treatment group in YPE/YCA. The one-tailed Wilcoxon Signed Rank Test found no significant and consistent differences ($p > .05$) in scores within the treatment group relative to the six Cs following the training of subjects in YPE/YCA.

The treatment group’s participation in YPE/YCAT did not significantly and consistently affect the levels of competence, confidence, connection, character, caring, and contribution as indicators of PYD.
The Effects of Youth Participatory Evaluation and Youth Community Action Training on Positive Youth Development

by
David J. White

A DISSERTATION

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the requirements for the
degree of
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APPROVED:

________________________________________________________________________

Major Professor, representing Education

________________________________________________________________________

Dean of the College of Education

________________________________________________________________________

Dean of the Graduate School

I understand that my dissertation will become part of the permanent collection of Oregon State University libraries. My signature below authorizes release of my dissertation to any reader upon request.

________________________________________________________________________

David J. White, Author
ACKNOWLEDGEMENTS

I reached a poignant milestone on November 13, 2009. On the eve of my youthful colleagues’ groundbreaking presentation to an audience of evaluators at the American Evaluation Association, I presented my final chapter to my major professor.

Many people deserve my gratitude and appreciation. At the risk of failing to acknowledge friends and colleagues I encountered along the way, I offer these words of thanks. I hope they do justice to the time, effort, and expertise you invested in my education and this work. I trust I will be forgiven by those whose names may have temporarily escaped my memory. I am forever in your debt.

Dr. Michael Dalton, you are a patient man. I could not have asked for a better major professor. You challenged my thinking, provided encouraging words, graciously reviewed numerous drafts and, above all, you believed in me and never gave up on me. I will make it my life’s endeavor to honor you and the degree. Dr. Chris Ward, Dr. Mary Katherine Deen, and Dr. Darlene Russ-Eft, thank you for serving on my graduate committee. The comments and edits you provided on drafts were rich in content and critical to the dissertation’s clarity. Dr. Leslie Richards, thank you for representing the graduate school. Dr. Roger Rennekamp and Dr. Mary Arnold, one of you yawned while the other uttered the fateful word “boring.” Regardless of who claims ownership of specific events, I appreciated your honest appraisal of my initial dissertation topic. The opportunity to immerse myself in the world of PYD and YPE has profoundly solidified my belief in the capacity of youth to surpass societal expectations. Roger, thank you for allowing me to pursue an academic dream.
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DEDICATION

My wife, Deb and son, Taylor made many selfless sacrifices over the course of several years to support my dreams and aspirations. Too many days, nights, and weeks were taken from them in this endeavor. Even so, they cheered me on with words of encouragement and gave me hugs when I needed them most. I owe them a husband and father worthy of their love, understanding, and patience. I trust once this unfinished business is complete, I can offer them the normal family life they so richly deserve. To them, I dedicate this work and the rest of my life. My love for them is abiding and everlasting.

To my mother, Virginia and father, Ken I dedicate my life’s work. Whatever moral and ethical virtues others may see in me, I owe to them. They provided me with a rich life full of challenges and opportunities. I never wanted for anything. They gave me everything. I love them both dearly.

When sustained by faith and courage, life has true meaning. My mother-in-law and father-in-law, Jan and Sim, provided a remarkable demonstration of grace and dignity when faced with adversity. I trust I can do the same when called upon. To them I dedicate my life as husband and father to their daughter and grandson.
Assuring that youth are provided positive youth development (PYD) supports and opportunities is in the best interest of society. Providing youth with these supports requires engaging them in ways that make productive use of otherwise potentially unproductive time. The health and well-being of society, the nation, and its economy relies on a cadre of youth that enter adulthood skilled, competent, healthy physically, intellectually, psychologically, emotionally, socially, and economically (Eccles & Gootman, 2002; Newman, Smith & Murphy, 2001).

The sometimes challenging transition from adolescent to adulthood is not bound by race, ethnicity, or socio-economic class. Adolescents from all races, ethnicities, and socio-economic classes encounter a variety of challenges. Larson (2000) proposed that white, working, and middle-class youth, a group assumed to have the greatest advantage, are equally as bored, disconnected, and alienated as adolescents in general. Like their contemporaries, they exhibit delinquent behaviors. The lack of meaningful engagement is an indication of deficient opportunity across a diverse demographic, socio-economic, and ethnic plain for PYD (Larson).

There are nearly 54 million youth in the United States between 5 and 17 years of age (U.S. Census Bureau, 2009). Annually, there are 1,920 hours in which a young person looks for something to do. On a daily basis, outside of sleeping (8.88 hours or 37%), school and maintenance (7.20 hours or 30%) nearly a quarter of a 24-hour period (5.28 hours, 22%) is left to the discretion of the individual youth (Newman et
al., 2001). Others contend this discretionary time may well reach 42% to 50% of 
youth’s waking hours (Eccles, McLaughlin & Pittman, 2003; Edna McConnell Clark 
Foundation, 2007; Mahoney, Eccles & Larson, 2004).

Substantial investments have been made by the federal government and others 
to promote youth health and well-being. For example, First Focus (2009) reported the 
federal government in 2008 allocated a total of 238.3 billion dollars to mandatory and 
discretionary programs.

First Focus (2009) reported that mandatory programs received the bulk of 
funds – 161.6 billion. Categories included Income Support (Veterans Affairs: 34.7 
billion), Safety (Safe Routes to School: 1.83 billion), Nutrition (Supplemental 
Nutrition Assistance Program: 54 billion), Child Welfare (Payments to States for 
Adoption Assistance: 2.2 billion), Health (State Children’s Health Insurance Program: 
10.6 billion), Education (No Program Specified: 2.9 billion).

First Focus (2009) also reported investments in discretionary programs totaled 
76 billion dollars. Categories included Training (Job Corps: 1.7 billion), Housing 
(Consolidated Runaway and Homeless Youth: .97 billion), Safety (Juvenile Justice 
Programs: .37 billion), Nutrition (Commodity Assistance Program: .23 billion), Child 
Welfare (Youth at Risk: .08 billion), Health (Community Health Centers: 2 billion), 
Education (21st Century Community Learning Centers: 1 billion).

According to First Focus (2009), policy makers portray themselves as 
defenders and supporters of youth. The federal budget appears to reflect a commitment 
to the health and well-being of youth. However, the federal government will spend
less than 10% of its 2009 budget on programs designed to meet the needs of America’s youth.

The researcher believes the programs being funded are interventions and preventions that address immediate needs. Rather than focus on PYD as a true long-term solution, the federal budget still reflects a deficit reduction approach to youth development. The growing volume of PYD research and literature supporting a view of youth as resources to be developed goes largely ignored.

While national data are available, the investments made by states in youth development are difficult to track. The information that is available is related to education and entitlements (Newman et al., 2001). Stern (1992) speaks to the impossibility of obtaining nationwide funding data specific to youth issues at the state and local levels. If Newman et al. are correct however, the 50 states need to invest more than 144 billion dollars annually in programs dedicated to the 6 to 17 years old population.

Even with the programmatic and financial efforts of the federal government, nonprofit intermediaries, state, and more localized programs such as sports, community centers, service clubs, schools, faith based organizations, and museums, the developmental needs of millions of youth too often go unmet.

The National Collaboration for Youth (2009) lists more than 50 national nonprofit intermediaries that provide programs and services to help meet the needs of 40 million youth (e.g., National 4-H Council, Camp Fire USA, Girl Scouts of the USA). These nonprofit youth development intermediaries employ more than 100,000
staff to work with over six million volunteers. The annual investment in staff hours to youth development is more than 6.7 billion dollars based on an average 2006 annual income of $67,795 for holders of bachelor’s degrees (Baum & Ma, 2007). In 2007, the six million volunteers contributed an additional 4.27 billion dollars based on the 2007 value of volunteers from the Independent Sector (2009) and hours volunteered from the Corporation for National and Community Service (2007).

There is no compulsory out-of-school youth development system that parallels public education (Newman et al., 2001). The drive by adolescents to fill the vacuum of unmet needs can often lead youth down anti-social pathways with devastating consequences to their physical, intellectual, psychological, emotional, social, civic, and economic health and well-being. Although, when youth are given the right set of developmental supports and opportunities, they make positive decisions about the use of unproductive time (Newman et al.).

Providing PYD programs, services, support systems, and public education for all youth would cost about $9,624 per youth per year ($115,488 over 12 years); the return, however, from 40 years of gainful employment is estimated to be $1,213,722. This conservative estimate is the tangible economic benefit of a comprehensive PYD system. In addition, there are other benefits to society through contributions made by healthy thriving individuals to their family and their community (Newman et al., 2001).
Significance of Study

The adolescent development literature suggests the convergence of opportunities to participate in leadership activities, to develop life skills, and to cultivate youth/adult relationships (Lerner, 2007; Lerner & Lerner, 2006) creates the psycho-social supports necessary for PYD. This convergence provides the foundation for the development of PYD models capable of engaging adolescent minds, bodies, and spirits in ways that promote PYD. One such model gaining prominence is YPE (Checkoway & Richards-Schuster, 2004; Delgado, 2006; Flores, 2008; Sabo, 2003).

According to the Wheeler (2005), youth engagement in research and evaluation is fertile ground on which “lies the seed of tremendous positive development for young people…” (p. 5). The ability for youth to participate in a research and evaluation process positively impacts their communities through youth-led actions. Youth participatory evaluation empowers young people to engage in political discourse through information gathering, expression of ideas, and freedom of association. Ultimately, youth participation in evaluative processes increases adolescent understanding of socially just and democratic processes by providing them opportunities to develop knowledge and gain access to information essential to competent citizenship (Checkoway & Richards-Schuster, 2003).

A growing body of research has supported a dramatic shift in developmental models believed integral to PYD. In the past, the field and practice of youth development invested in reactionary, fragmented, and disjointed attempts to fix youth problems. This deficit reduction model attempted to measure, track, and prevent
certain behaviors. When instead an asset model was needed that measured, tracked, and supported youth strengths that more effectively engaged the minds, bodies, and spirits of youth (Ferber, Gaines & Goodman, 2005; Lerner et al., 2005). This recent research is based on a growing understanding that problem-free youth are not necessarily youth fully prepared for adolescence or transition into adulthood (Pittman, Irby & Ferber, 2000; Roth & Brooks-Gunn, 2003).

This positive perspective of youth development is theoretically, conceptually, and empirically supported. Developmental systems theory links PYD to the personal↔contextual or bi-directional relationships that shape and form positive behaviors across the life span (Lerner & Lerner, 2006). All youth possess the latent resources for positive development (King et al., 2005; Lerner, Brentano, Dowling, & Anderson, 2002; Roth & Brooks-Gunn, 2003). The conceptual features of youth development programs integral to PYD are leadership, skill building, and sustained youth/adult partnerships (Lerner & Lerner, 2006; Lerner, 2007). When aligned, these features greatly increase a young person’s prospect of healthy psycho-social development. More recently, Lerner, Lerner and Phelps (2008), Arnold and Dolenc (2008), and Arnold, Meinhold, Skubinna, and Ashton (2007) have added to the empirical evidence supporting PYD through quantitative studies that link engagement in youth development programs to the functionally valued behavioral indicators of PYD. These are commonly known as the six C outcomes of competence, confidence, connection, character, caring, and contribution (Lerner, 2007).
Given this view of PYD, there are several significant reasons for conducting a study that investigates the promotion of PYD:

1. The focus of policymakers and society is still rooted in deficit reduction versus asset development (Lerner & Lerner, 2006; Newman et al., 2001; Roth & Brooks-Gunn, 2003; Sabo, 2003).

2. In order for PYD to gain a foothold in the policy and funding arenas, a more contemporary, research-based terminology and conceptual understanding of youth development will be necessary (Benson & Pittman, 2001; Newman et al., 2001).


4. The absence of widespread evaluations of PYD programs suggests more is needed to be known about youth voice and its place in the development of programs to promote PYD (Eccles & Gootman, 2002; O’Donoghue, Kirshner & McLaughlin, 2002).

5. Youth involvement in research and evaluation processes is in the initial stage of development (Fetterman, 2003; Gong & Wright, 2007).

Need for Study

This study of PYD through YPE/YCAT was motivated by several factors:

2. Youth voice is rarely embraced in research processes (Checkoway, Dobbie & Richards-Schuster, 2003; Kirshner & O’Donoghue, 2001).


4. No known studies investigate the effects of YPE/YCAT as a promoter of PYD (B. Checkoway, personal communication, February, 2009).

Purpose of Study

The literature suggests that YPE is a PYD strategy that has the potential to develop a generation of critical thinkers, change agents, and stewards of their communities (Checkoway & Richards-Schuster, 2003; London et al., 2003). Youth participatory evaluation provides the personal↔contextual relationships necessary to support opportunities for youth to practice leadership, gain valuable life skills, and develop sustained youth/adult partnerships that promote PYD. London et al. (2003) discuss supporting youth development educators with “concrete models of practice in which youth play leadership roles in addressing community issues” (p. 33).

The purpose of this study is to determine the effects of YPE/YCAT on PYD. The primary question being asked is: Does YPE/YCAT provide the personal↔contextual relationships supportive of leadership, skill development, and youth/adult partnership believed necessary to promote PYD?
Hypotheses

Whether PYD can be attributed to participation in YPE/YCAT is explored through two hypotheses.

H$_1$: There are significantly and consistently higher levels of competence, confidence, connection, character, caring, and contribution for the treatment group relative to the comparison group following the treatment group’s training in youth participatory evaluation and youth community action.

H$_2$: The treatment group’s levels of competence, confidence, connection, character, caring, and contribution increase significantly and consistently following training in youth participatory evaluation and youth community action.

Population Rationale

This study’s exploration of PYD is conducted within the context of the Oregon 4-H program. While 4-H programs are designed to promote PYD on a national scale, they engage a highly diverse cadre of high-school-age 4-H members in differing programmatic approaches to PYD. The youth development mission mandates that bind state 4-H programs in a unified national effort do not bind the states to a predetermined single model of program delivery. Each state is unique.

Land grant universities in each state act as the sole arbiters of their 4-H youth development programs. The urban, suburban, and rural demographic complexities within thousands of counties and county-equivalents across all states require differing approaches to 4-H program delivery. Extension Service youth development educators
in the counties, parishes, and boroughs are responsible for developing, promoting, and implementing community-based programs relevant to the needs of their youth.

The demographic complexity and inherent differences in a multi-state sample population were predicted to limit the study’s validity and consequently the results (Eccles & Gootman, 2002). It was a justifiable choice to restrict the study to an Oregon population for methodological reasons. The study participants brought with them the totality of their personal and contextual worlds bound by common experiences in the Oregon 4-H program. It was possible to consciously and cautiously draw a convenient sample from counties that were perceived to be minimally different from the overall state 4-H program. The quasi-experimental, non-equivalent, no treatment comparison group, longitudinal interrupted time series, pretest posttest design methodology employed in this study used a convenient sample of a recognizable and easily defined population of subjects with similar demographic characteristics, personal and social attributes, and preconceived levels of indicators of PYD. The responses to surveys were therefore predicted to reflect the six C indicators of PYD inherent in 4-H members across the state.

Definitions

The research and program vocabulary associated with PYD is not consistent. For purposes of this study, specific definitions are applied to PYD as a philosophical approach, field of study, form of practice, and developmental outcome. This study is relevant to a subset of youth regarded as adolescents.
Adolescence

The transitional period of growth and maturation of youth categorized by early (10-14 years), middle (15-17 years), and late (18-21 years) marked by developmental milestones and tasks with respect to physical growth, intellectual and cognitive development, autonomy, body image, peer group, and identity development.

4-H Model

A PYD program helping young people learn and grow through a process that builds competence, confidence, connection, character, and caring which prepares them for economic and social success as adults while making positive contributions to their communities.

4-H Programming

A community-based system of youth development based on a belief that positive outcomes for young people don’t happen by chance. Instead, parents, schools, youth organizations, and the entire community help them learn and grow through a system that promotes PYD.

Positive Youth Development

Positive youth development is a field, practice, approach, and theory of youth development that focuses on the talents, strengths, interests, and future potential of all youth. The conceptualized benefits of participation in PYD programs include the promotion of the functionally valued behaviors of competence, confidence, connection, character, caring, and contribution indicative of PYD (Lerner, 2007).
1. Competence: Conduct that reflects academic ability and the ability to think, feel, work, and practice a healthy lifestyle.

2. Confidence: Conduct that proves goals can be achieved as long as concerted effort is made toward the goals.

3. Character: Conduct that demonstrates a sense of right and wrong, consistency, reliability, and equality of treatment.

4. Connection: Conduct that validates youth contribution to the well-being of parents, peers, siblings, teachers, coaches, and other adults, and they, in turn, contribute to the well-being of youth.

5. Caring: Conduct that expresses the ability to feel another’s joys and pains while feeling good about the joys and bad about the pains.

6. Contribution: Conduct that exhibits the desire and capacity to give back to the people and programs.

Youth Participatory Evaluation

A process of knowledge and skill development through: (a) youth research and evaluation of issues, agencies, or institutions; (b) youth planning and conducting their own research and evaluation projects; and (c) youth working in intergenerational teams.

Summary

This study is conducted through the lens of a 4-H youth development educator in the context of the Oregon 4-H program. This study sought the pre-treatment and post-treatment voices of youth as they reflected on their competence, confidence,
connection, character, caring, and contribution as indicators of PYD prior to and
following training in YPE/YCA. The study provides practical information to scholars,
policy makers, and youth development educators within a 4-H context that can
contribute to the future direction and focus of programs to promote PYD. The study
provides meaningful information to youth development educators, formal educators
and policy makers at the local, state, and national levels about best practice, future
directions, and focus of PYD programs.

Experimental studies such as this provide valuable information. Researchers
studying PYD will need exemplars of studies that test the production of knowledge,
skills, and understanding leading to medium-term behavioral changes and long-term
PYD.

The next chapter reviews the relevant literature associated with the historical
and contemporary views of youth development. Theoretical perspectives and
developmental concepts are explored that support the growing belief that the relative
plasticity of youth across their life span makes them resources worthy and capable of
development. The components of youth development programs believed essential to
placing youth on a trajectory of PYD are described. The functionally valued
behaviors indicative of PYD, known as the six Cs, are examined within the context of
YPE/YCAT as a 4-H community-based PYD strategy.

The review of literature is followed by a comprehensive exploration of the
methods and procedures used to explore the two hypotheses. Chapter four gives voice
to the 23 subjects by detailing the results of this quasi-experimental study.
Finally, the discussion and conclusions drawn are intended to add to the PYD and YPE literature relevant to PYD programs.
CHAPTER TWO: LITERATURE REVIEW

Overview

This literature review will lay the foundation for this study which focuses on the predicted promotion of PYD in adolescents through YPE/YCAT. This chapter reviews the theory-based and conceptual framework literature related to developmental science, youth development, and adolescent development. It then examines the literature specific to PYD, 4-H as a PYD program, YPE, and YPE as a pathway to PYD.

This study examines the promotion of PYD predicted to result from YPE/YCAT through two hypotheses.

H₁: There are significantly and consistently higher levels of competence, confidence, connection, character, caring, and contribution for the treatment group relative to the comparison group following the treatment group’s training in youth participatory evaluation and youth community action.

H₂: The treatment group’s levels of competence, confidence, connection, character, caring, and contribution increase significantly and consistently following training in youth participatory evaluation and youth community action.

This study adds to the literature base by expanding the scholars, policymakers, and practitioner’s theoretical understanding of the personal↔contextual relationships influential in promoting PYD; conceptual understanding of leadership opportunity, skill development, and youth/adult interactions as components of youth development
programs predicted to promote PYD; and YPE/YCAT as a youth development strategy capable of promoting PYD.

The literature relevant to YPE began to appear more than 25 years ago (Delgado, 2006). The beginning of the 21st century ushered in a more formalized role for YPE. Fetterman (2003) noted that YPE is becoming a more conventional practice within the field of evaluation. What was once a largely academic undertaking is now being used by communities and others to find practical solutions to pressing issues (Delgado).

The literature addresses what youth bring to a research and evaluation process and the life skills gained through their active engagement in research and evaluation. However, no research has been conducted that focuses primarily on the promotion of PYD through YPE. More specifically, no research has been conducted that examines the promotion of PYD resulting from YPE/YCAT.

This study adds to the literature base from which youth development educators, formal educators, and policymakers can draw resources about best practice, future directions, and the focus of privately and publically funded youth development programming predicted to promote PYD.

Developmental Science

**Developmental Science Antecedents**

The seminal works of Hall (1904), John Dewey (Enfield, 2001), Freud (1969), Lev Vygotsky (Sabo, 2003), Piaget (Piaget, 1997), and Erickson (1972), provided the
initial theoretical frameworks that continued to shape the principles and practice of youth development into the 21st century.

The work of Hall (1904), proposed adolescence was a developmental stage in which youth had to conquer their basic animal instincts during a stormy and stressful period. Regarded as the first phase in the study of adolescence (Lerner, 2005), Lerner et al. (2008) proposed that Hall’s two volume text on adolescence started the field off “on the wrong foot” (p. 5).

In the same time period, Dewey’s instrumentalism, according to Enfield (2001) broadened the accepted wisdom. He conceptualized knowledge as an engaging experience when the interaction between self and the environment is influenced by past experiences which in turn moderate future experiences.

Anna Freud (1969) regarded adolescence as a period of disturbance. She suggested adolescent development was a product of turmoil in drive states, family and peer relationships, self-esteem and self-worth defenses, attitudes, and values.

Vygotsky’s theory of social interaction was based by his concept of zones of proximal development (Sabo, 2003). Sabo described Vygotsky’s belief in the assistance of a more knowing other to be critical in youth development. In Vygotsky’s theory, the ability for youth to accomplish tasks as individuals in the future required assistance in the present.

Cognitive development theory (Piaget, 1997) suggests youth develop in four stages. While the sensorimotor and pre-operational stages define the periods of birth and early adolescence, concrete and formalized stages define the periods of
adolescence and adulthood. Abstract thoughts and rational judgments about concrete operations eventually give way to formal hypothetical and deductive operations.

Erickson’s psychosocial stage theory (Erikson, 1972) identified eight developmental periods in which crises must be resolved before transitioning to the next stage. As described by Cross (2001), the lack of resolution means the crises are carried forward to the next stage. The transition from adolescence to adulthood pits identity against role confusion. Pubertal changes affect the child’s concepts of who they were as children and currently are as adolescents (Cross).

These theories, however, were products of the prevailing notion that adolescence was still a stormy and stressful period and that youth were broken and in need of fixing (Lerner, 2005). Overton (1998) proposed that these models of human development and particularly youth development used deficit theories incapable of fully explaining the integrated and relational character of human development.

Deficit Developmental Theories

Theories of youth development that were prominent in the first half of the 20th century incorporated Hall’s ideas of this rather tense time in the lives of adolescents and embraced the deficit conceptions of youth development. It was not until the 1960s that this view of the second decade of life was seriously questioned (Lerner, 2005). The second phase in the study of adolescence began.

Until the second half of the 20th century, programs designed to promote adolescent growth and maturation were based on a deficit model. Programs designed
to promote the health and well-being of youth reflected the notion that adolescents were broken, becoming broken, and in need of fixing (Lerner, 2005).

The principles and practices developed in the 20th century that focused on single issue, problem behaviors and their amelioration failed to withstand the test of practice (Silliman, 2007).

The field of youth development had invested too many years in evaluating, monitoring, and intervening or preventing adolescent antisocial behaviors instead of measuring, tracking, and promoting positive behaviors that more effectively engaged the minds, bodies, and spirits of youth (Ferber et al., 2005).

Little support and credence was given to a positive perspective of adolescence which considered youth capable of being developed (Roth & Brooks-Gunn, 2003). The growing body of literature developed late in the 20th century, produced by researchers and increasing numbers of youth development educators, has led to the conclusion that the deficit-reduction paradigm applied to youth development as late as the 1990’s was flawed (Ferber et al., 2005). These pathological approaches to adolescent development had failed (Lerner & Lerner, 2006).

As suggested by Lerner (2005), the failure to fully understand adolescent development during this time can be attributed to the lack of scholarly efforts tied to major theories. Research, he noted, was associated with ego identity development, formal operations, adolescent egocentrism, moral development, social development, or parent-adolescent relations. The increased interest in individual development across
the second decade of life however, pushed the study of adolescence away from fixing negative young lives toward the enhancement of their lives (Lerner, 2005).

According to Lerner (2005), the interrelations of individuals and context, seen as the primary shapers of change across the second decade of life, began to impact developmental science in the 1970s. The focus on PYD began the second phase in the study of adolescent development. It was this interest in adolescence and developmental systems theory that resulted in the transition to the third phase in the study of adolescence and PYD.

**Developmental Systems Theory**

The third phase in the study of adolescent development involves three foci as described by Lerner (2005):

1. A focus on developmental systems theory as a framework for research and application,
2. Interaction among researchers and youth development educators in the field of youth development; and
3. Interest in ideas associated with PYD perspectives that contribute to the scholarly community and enhancement of policies and programs for youth within the youth development educator’s community.

Developmental systems theory emphasizes the linkages between the integrated levels of organization within the human ecology (Lerner, 2005). The theory emphasizes the importance of bi-directional relationships between the individual’s physical, intellectual, psychological, and social development as defined by Eccles and
Gootman (2002) and the contextual domains of families, peers, schools, communities, and culture that change across the life span described by Lerner and Lerner (2006).

According to Lerner (2005) developmental systems theory is defined by several features:

1. There are no splits between the components of human development (e.g., nature versus nurture);
2. All levels of organization within the ecology of human development are fused;
3. Development occurs through bi-directional connections among all levels of the developmental systems;
4. The fundamental unit of analysis is the reciprocal or bi-directional relationship (person↔context) entered into by adolescents as they interact with their environments;
5. The developmental system is characterized by the potential for systematic change or plasticity across time;
6. The relative plasticity within the developmental system both facilitates and constrains opportunities for change.
7. Variables within the developmental system will vary across individuals and groups;
8. Planned attempts to enhance developmental trajectories (i.e., PYD) may be achieved by aligning the strengths of person↔contexts; and
9. The integrated levels of organization comprising the developmental system require collaborative analysis by scholars from multiple disciplines.

The personal↔contextual relationship suggests there is always a potential for systematic change in behavior. The strength of plasticity within all people, according to Lerner and Lerner (2006) directs science and its application. Involving adolescents in YPE provides the optimal engagement of their minds, bodies, and spirits and their real-world ecologies. This engagement creates the potential for positive change and the promotion of PYD.

**Positive Youth Development Theory**

What many contemporary youth development educators and researchers believed to be true is being validated by a growing body of evidence (Ferber et al., 2005; Lerner et al., 2008). The realization that problem-free youth were not necessarily fully-prepared youth (Pittman, Irby & Ferber, 2001) set into motion a reframing of conventional wisdom. It was not until the 1990’s that certain sets of principles, philosophies, and approaches were correlated with PYD. The 21st century ushered in alternative explanations for an adolescent’s successful transition to and contribution in adulthood (Lerner et al., 2002).

The current literature relevant to PYD is personally, socially, practically, and contextually based. According to King et al. (2005), PYD is an outcome of processes through which youth have the capacity to act in ways that support personal needs and societal expectations. Hamilton, Hamilton and Pittman (2004) suggest PYD is a reference to natural processes, principles, and practices. Kress (2004) claims PYD is
the bi-product of programs that intentionally integrate opportunities for mastery, belonging, independence, and generosity. Roth and Brooks-Gunn (2003) contend PYD is rooted in goals, environment, and activities. The Search Institute (Benson, 2002) published a comprehensive list of 20 external and 20 internal assets that characterized PYD and when fully developed, contribute to good and healthy life.

These and other developmental scientists made significant contributions to the advancement of the frameworks associated with PYD as a field, practice, and approach. From the perspective of Lerner (2005), the promotion of PYD is fully integrated into the theoretical personal↔contextual relationships found in youth development programs supporting three conceptual components: (a) participation in and leadership of activities, which (b) lead to the development of life skills, within (c) the context of sustainable and enduring youth/adult partnerships. This study’s foundation is built upon developmental systems theory, three conceptual components, and the belief that “every young person has the potential for successful, healthy development and the belief that all youth possess the capacity for positive development” (Lerner & Lerner, 2006, p. 446).

Summary

The building of a theory and conceptual framework to explain youth development was much more stressful and stormy than the actual period the antiquated theories attempted to explicate. Lerner et al. (2002) proposed that prior to the new millennium, what characterized youth were issues of applied interest only. According to Steinberg (1995), investigations into logical and moral reasoning were
conducted through a Piagetian perspective. Identity development was viewed through an Ericksonian lens. Rarely did social science consider the changes in adolescence over time or the bidirectional linkages between and within childhood, adolescence, and adulthood (Steinberg). The science of youth development was secondary to the prevailing belief that the management of adolescents was primary to their thriving and well-being. According to Lerner and Lerner (2006), this line of thinking separated science from application and “[I]t also disembedded the adolescent from the study of normal or healthy development” (p.447).

More recently, PYD is seen as an outcome of bi-directional personal↔contextual relationships that conceptually engage adolescents in active leadership, life skill development, and sustained youth/adult partnerships. The promotion of PYD within the period of adolescence is based on the adolescent’s awareness and understanding of his or her environment, being able to successfully apply his/her new knowledge to change personal behaviors and actions within that environment, and doing so in sustained interactions with adults.

**Contemporary Views of Youth Development**

Contemporary youth development is perceived in different ways. Benson and Saito (2001) contend that youth development is characterized by its promotion of adolescent health and well-being through community systems that build developmental strengths such as competency, mastery, identity, resilience, caring, connection and belonging. Hamilton et al. (2004) see youth development as a natural process that regards youth as resources capable of development in a principled
movement away from deficit models that allow youth to develop their physical, intellectual, psychological, emotional, and social selves.

Delgado (2002) proposed:

Youth development…views youth both as partners and central figures in interventions. The interventions systematically seek to identify and utilize youth capacities and meet youth’s needs. They actively seek to involve youth as decision makers and tap their creativity, energy, and drive; and they also acknowledge that youth are not superhuman – that they therefore have needs that require a marshaling of resources targeted at youth and at changing environmental circumstances (family and community) person←→contexts.

Positively changing environments that are toxic and antithetical to youth capacity enhancement requires the use of a wide range of strategies – tailored to fit local circumstances ranging from advocacy to consciousness raising and political mobilization. (Researcher’s emphasis, p. 48)

Pittman, O’Brien and Kimball (1993) considered youth development to be:

…the ongoing process in which all youth are engaged in attempting to (1) meet their basic personal and social needs to be safe, feel cared for, be valued, be useful, and be spiritually grounded, and (2) to build skills and competencies that allow them to function and contribute in their daily lives. (p. 94)

Additionally, Perkins (1997) viewed youth development as a process designed to meet youth needs and prevent anti-social behaviors, while increasing the skills and competencies necessary for healthy adult contribution. Youth development at the most basic level is a matter of survival according to Jordan and Norman (2006), suggesting that youth will pursue and meet the needs they perceive to be necessary to survive. As Blyth (2006) suggested, youth will develop positively or negatively, planned or not.

What these beliefs have in common is a sense that within youth development programs there exits the structure and opportunity for leadership, youth/adult relationships, and skill building that allows youth to function as their own facilitators
in their growth and maturation (Lerner & Lerner, 2006; Mahoney et al., 2004; Eccles & Larson, 2004).

Engagement in PYD programs help youth develop the knowledge, skills, and social capital (Roth & Brooks-Gunn, 1998) necessary to adapt and function in the present and in the future as responsible and contributing adults. Youth development is ultimately, according to Jordan and Norman (2006), a building process and not a short, medium, or long-term goal (Hamilton, Hamilton & Pittman, 2004) through which adolescents seek out the necessary assets to navigate the transition into adulthood.

While youth development’s rise to theoretical prominence and focus of research began in the first decade of the 20th century (Lerner et al., 2008), the later part of the 1900’s and the beginning of the 21st century ushered in a new era of thinking. Yet, the scientific foundation for youth development, according to Benson and Saito (2001), still lacked the “kind of systematic inquiry necessary to guide, shape, refine, and fuel the approach” (p. 143). Relatively few studies evaluated the critical components of youth development programs and how they enhance youth development (Eccles & Gootman, 2002; Lerner & Lerner, 2006; Roth & Brooks-Gunn, 2003).

Perspectives on Adolescent Development

Historical Antecedents

Crockett (1997) indicated that contemporary adolescence is a product of preindustrialization. In the 16th and 17th centuries, young people were of great economic benefit to the growing agrarian economy. A young person’s capacity to
work alongside adults contributed heavily to the health and well-being of the family. Kett (cited by Crockett, 1997) suggested colonization in the late 1700s brought with it a definition of youth as semi-independent with reduced dependence on adults.

Industrialization changed the relationships between youth and adults. The growing industrial complex of the 1800s and 1900s required less child labor, the need for more education, and a different understanding and concept of youth. Technological advances replaced the need for youth labor, school was increasingly seen as a pathway to affluence, and sentimental versus economic views of youth became a moral imperative (Crockett, 1997). The personal-contextual ecologies of youth were profoundly affected by the altered states of an increasingly industrialized society. Crockett noted school became compulsory in the second decade of the 20th century and child labor laws prohibited youth under the age of sixteen from obtaining full-time employment. According to Crockett, the expanding divide between youth and adult societal roles created the institutional foundation for the emergence of a new class of citizen known as the adolescent.

**Defining Adolescence**

The term youth may well define the period between childhood and adulthood, but it does not adequately describe what can arguably be referred to as the most critical and formative transitional period in life: a period of change and purpose and a period in which youth grow into maturity (Steinberg, 1995). The definitions applied to adolescence are inconsistent. This period of storm and stress described by Wienke and Holmbeck (2001) is defined as the second decade of life (Lerner, 2001). DelCampo
(2005) defined adolescence through a subdivision of ages: early (12 to 14 years), middle (14 to 17 years), and late (17 to 19 years). For Stang and Story (2005), the years are similar: 11 to 14, 15 to 17, and 18 to 21. Barnett (2005) identified early adolescence as occurring from age 10 to 14 with late adolescence developing from the age 15 to 18.

Society relies on educational distinctions such as middle school and high school, and in some cases college (Barnett, 2005; Dusek, 2001). Religions and cultures confer rites of passage (Steinberg, 1985). Stefanis (2001) noted several inconsistencies in her quest for a unifying definition. The federal and state governments constitutionally and administratively grant adulthood to those 18 years of age by bestowing voting rights and mandating selective service registration. States reserve the power to extend adulthood to the age of 18 to 21 for purchasing and consuming alcohol and tobacco. States also confer the privilege of driving at the age of 16.

Regardless of its temporal beginning and ending, the period called adolescence is a time during which significant biological, psychological, and social changes take place.

Research on Late Adolescent Development

According to Barnett (2005) and Perkins (2001), adolescence is the period in a young person’s life when he or she gets the answers to several abstract questions: Who am I? Am I normal? Am I competent? Am I lovable and loving? What am I good at?
How do others perceive me? What will I do in the future? What kind of person am I? What are my personal characteristics?

The inevitable biological changes that start to occur in the pre-teen years initiate a process leading to psychological development and social independence. The physical changes to male and female bodies brought about by increases in testosterone and estrogen are frightening, quick, confusing, dramatic, and behavior altering (Barnett, 2005; Lerner, 2001; Stefanis, 2001). Teens tend to wake up late owing to the increased physiological demands on their bodies, appear awkward and clumsy as limbs outpace torso growth, and seem overly concerned about body image as they gain weight or fall behind early bloomers (Huebner, 2000; Stefanis, 2001).

The changes in body shape and features begin to alter the maturing adolescent’s perceptions of self-esteem and self-efficacy. According to Huebner, (2000) the adolescent brain is not yet completely developed in the early teen years. Emotional, physical and mental capacities and abilities are just coming into play. For the first time, young people start to question what they look like and how they feel (Barnett, 2005; Lerner, 2001).

The psychological changes taking place within teen minds evolve from concrete realities moderated by parents in the childhood years to more abstract, hypothetical, and theoretical concepts. As neurons connect, maturing adolescents start to contemplate and interact with their environments while maintaining an inward focus (Stefanis, 2001). In this stage of development, Stefanis contended that teens customarily play to an imaginary audience believed to always be looking at them. This
self-centered view causes many teens to develop false senses of security and increased risk taking. For adolescents, this stage of maturity is a search for identity. In the quest for personal knowledge, teens begin to uncover who they are, discover that they are normal, develop competence in various endeavors, and reassess strained family relationships (Perkins, 2001).

Biological, psychological and sociological developments converge in late adolescents as this age group starts to critically analyze their ecologies; develop bi-directional contextual relationships with peers, families, schools, and communities; and acquire the internal and external assets defined by Benson (2005) necessary to develop an identity consistent with socially defined norms.

According to Perkins and Borden (2003), the 15 to 18 years old cadre has a significant amount of free time to explore their surroundings. Adolescents able to engage their minds, bodies, and spirits in meaningful person↔contexts are far less likely to engage in antisocial behaviors. In other words, communities can provide meaningful opportunities to constructively occupy this age group, or they can leave this rich resource to develop socially on its own terms with, at times, devastating consequences.

*Global Perspectives on Youth Development*

While this literature review is presented through a western-centric lens, the researcher recognizes that the concept of youth development is shaped by cultural groups through their historical ethnic values placed on gender and heritage within the domains of peers, families, schools, neighborhoods, and communities. This does not
mean the principles and practice of youth development don’t have a place in the lives of citizens within a culturally diverse society (Delgado, 2006). It does mean, however, that personal-contextual relationships are unique to socio-cultural norms.

Sabo (2003) noted that locally and globally, society’s relationship to youth as citizens indirectly affected youth development. Outside the United States, youth were starting to impact policy made by public and private entities. As examples, Meucci and Schwab (1997) described how European youth helped design public spaces and improve the environment. Hart (1997) explained how South American and Filipino youth influenced the use of public space and city planning processes.

Hamilton and Hamilton (2009) note that the transition from adolescence to adulthood is globally prolonged. In South America and the Middle East, for example, the ability for the late adolescent to afford education, enter into marriage, and find a job places the adolescent in developmental purgatory. The dream of a good job and wealth through education are out of phase with the job market. Low paying jobs are taken in the hope of future opportunity. Therefore marriage and class within society are years removed. Consequently, in these countries, thriving and well-being, contribution, and idealized personhood are complicated by upward mobility.

R. Lerner (personal communication, January, 2009) suggested contributors to the forthcoming *Handbook of Adolescent Psychology* (Lerner & Steinberg, 2009) can add to the global debate relevant to youth development. The handbook addresses issues of transition to adulthood; ethnicity and immigration; cross-cultural issues; globalization, societal change, and adolescence across the world.
Summary

The transition to adulthood is a period of tremendous biological and psychological change for adolescents. The coinciding social and cultural influences that are also encountered by adolescents significantly alter the personal↔contextual relationships within the adolescent ecology. Crockett (1999) proposed that “The settings in which young people develop, the skills they are expected to acquire, and the way in which their progress toward adulthood is marked and celebrated depend on the cultural and historical contexts” (p. 2).

Contemporary Positive Youth Development Programs

Positive Youth Development Paradigm

The burgeoning PYD paradigm that views youth as having resources to be developed requires multiple levels of understanding. The personal, biological, cognitive, social, and ecological world experiences that are encountered by youth are moderated by and in turn moderate the family, school, community, and organization contexts that promote thriving and well-being (Benson, 2002; Blyth, 2006; Damon, 2004; Ferber et al., 2005; Lerner et al., 2002; Lerner & Lerner, 2006; MacDonald & Valdivieso, 2001; Perkins, 1997; Pittman et al., 2001; Roth & Brooks-Gunn, 1998; Roth & Brooks-Gunn, 2003).

Positive youth development as an outcome is attributed to prolonged youth involvement in activities that provide opportunities for active engagement in leadership, skill building opportunities, and positive youth/adult partnerships (Lerner & Lerner, 2006). Embedded within these components are opportunities and support
systems conducive to physical, intellectual, psychological, emotional, and social development of youth (Eccles & Gootman, 2002). More specifically, these components are as noted by Eccles and Gootman:

1. physical and psychologically welcoming and safe environments;
2. opportunities for belonging through meaningful participation and engagement;
3. appropriate structure that emphasizes democratic power sharing;
4. social norming through critical reflection of interpersonal and social/political processes;
5. supportive and sustained relationships with adults;
6. skill building that affords participation in change processes; and
7. efficacy and mattering through the integration of personal and community level commitment, opportunity, and involvement.

When the components align in organized activities, Kress (2004) suggested opportunities for mastery, belonging, independence, and generosity help youth academically, psychologically, socially, and behaviorally. They do better in school; have fewer emotional problems; have lower rates of delinquency, alcohol, and drug use; and have lower rates of aggression (Mahoney et al., 2004).

Indicators of Positive Youth Development

The United States Department of Health and Human Services (1998) suggested PYD promotes bonding; resilience; social, emotional, cognitive, behavioral, and moral competence; self-determination; spirituality, self-efficacy; clear and positive identity;
belief in the future; recognition for positive behavior and opportunities for pro-social involvement, and pro-social norms. More specifically, adolescent thriving and well-being are associated with the well publicized PYD indicators known as the six C outcomes of competence, caring, connection, confidence, character, and contribution described by (Eccles & Gootman, 2002; Hamilton et al., 2004; Lerner, 2007; Lerner et al., 2002; Lerner & Lerner, 2006; Lerner et al., 2005; Pittman et al., 2001; Roth & Brooks-Gunn, 2003).

The personal↔contextual relationships within the adolescents’ personal and social ecologies suggest youth development is a time of shaping and reshaping. It is this “plasticity” (Lerner et al., 2005, p. 20) of personal and social ecologies that align with leadership, skill building, and youth/adult partnerships capable of promoting PYD through the enhancement of the six C outcomes as functionally valued behaviors.

What is currently known about 4-H programming and its impact on the six Cs is derived from three studies. The first study conducted by Lerner et al. (2008) is a multi-year, longitudinal study of 4-H youth from across the nation. Lerner and his colleagues used established scales to measure the six indicators of PYD: the Harter Self-Perception Profile for Children; the Industry subscale from the Ericksonian Psychological Inventory; and other scales created by the Search Institute to measure school engagement, achievement motivation, and social competencies (Arnold & Meinhold, 2004). The 2008 Lerner et al. study, according to Arnold and Meinhold (2004), provided the first empirical evidence linking engagement in PYD programming to the six indicators of PYD.
The results from the first four years of the 4-H study of PYD showed strong evidence that the alignment of leadership opportunity, skill building, and youth adult interactions with families, school and communities leads to adolescent thriving (Lerner et al., 2008). Youth in 5th, 6th, and 7th grades with high levels of PYD were more likely to contribute to family and community. They were less likely to engage in risky behaviors and were less likely to exhibit symptoms of depression. The study also found that sports alone did not promote PYD. The combination of sports and asset-based youth development programs was the most effective way to promote PYD and prevent anti-social behaviors. The results indicated that youth engaged in 4-H had higher PYD scores than their contemporaries in matched groups. According to Lerner et al., “The true value of 4-H programs comes not from short-term results or even the effects over a few years. It comes from the programs’ influence on lifelong pathways of development” (p. 15).

The second study was conducted by Arnold, Meinhold, Skubinna and Ashton (2007). Their study examined PYD in a more specific context – county fairs. To measure PYD in the 199 participants, Arnold and her colleagues used the Rosenberg Self-Esteem Scale (Rosenberg, 1989) and the Proactive Coping Scale (Greenglass, Schwarzer, & Taubert, 1999), and four scales created by Arnold and Meinhold (2004) to measure connection, character, caring, and contribution.

The authors were able to link the effects of fair participation to the PYD indicators of character, caring, and contribution. They were not able to connect participation in fairs to the development of competence, confidence, or connection as
indicators of PYD. In order for fairs to be an intentional educational experience leading to PYD, they concluded more attention needed to be placed on educational design. They suggested planning fairs around a logic model that clearly articulates the connection between fairs and the intended outcomes.

The third study conducted by Arnold and Dolenc (2008) evaluated the effects of a residential summer science camp on PYD using the Positive Youth Development Inventory (PYDI) created by Arnold and Meinhold (2007). The PYDI consisted of 51 items that measured the PYD indicators of competence, confidence, character, caring, and connection. Composite PYD scores were derived by combining the scores from each of the scales. Arnold and Dolenc found no significant differences in PYD for gender. Significant changes in PYD were noted for grades.

This study is more specific. It examines the effectiveness of YPE/YCAT to promote competence, confidence, connection, character, caring, and contribution as indicators of PYD. According to Arnold and Meinhold (2004) some debate continues as to the inclusion of contribution as the sixth C. Pittman, Irby and Ferber (2001) question whether contribution should be included as an indicator of PYD while Lerner (2004) proposed that contribution results in the continued development of competence, confidence, connection, character, and caring. This study includes contribution as an outcome indicative of PYD.

Arnold and Meinhold (2004) proposed that the composite scores for connection, character, caring, and contribution reflected an underlying feature they
called a PYD feature. Given the refinements to and introduction of additional scales and additional analysis of the PYDI, the PYD feature is not explored in this study.

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Summary

What was once believed to be a period of storm and stress (King et al., 2005), largely attributed to biological, psychological, and social aspects of adolescent development, has given way to a theoretical and conceptual understanding of a new youth development paradigm.

Youth development educators and policy makers have known for some time that problem-free youth are not necessarily fully-prepared youth. The deficit-reduction models and assumptions that dominated the past, and to a certain extent the present, have focused on the reduction and elimination of negative behaviors such as drug abuse, early sexual activity, alcohol dependency, crime, youth violence, teen pregnancy, drug abuse, animal abuse, and a host of other antisocial and destructive behaviors (Pittman et al., 2002; Damon, 2004; Delgado, 2006; Lerner & Lerner, 2006; Roth & Brooks-Gunn, 2003).

Deficit-reduction methods of intervention and prevention designed to reduce or rid youth of negative and undesirable social behaviors are giving way to initiatives that
view youth as having resources and skills to be developed through designing their own meaningful solutions to persistent adolescent social issues.

Positive youth development as an outcome surfaces as youth interact, critically, experientially, and reflectively within the contexts of their social and environmental ecologies. The field, approach, and practice of PYD is a positive and progressive attempt to change the adolescents’ environment and engage youth on multiple levels such as age, gender, developmental readiness, sexual orientation, environment, and culture (Pittman et al., 2001; Eccles & Gootman, 2002).

Pittman et al. (2001) make it clear that in order for youth to become fully prepared to meet challenges, access opportunities, and contribute to society, youth development educators must move beyond the deficit models. They encourage the field of youth development to go beyond the status quo, to go beyond prevention, quick fixes, basic services, schools and school buildings, school days, youth professionals, recipients, labeling, and pilot programs.

For more than 100 years, 4-H has embraced the PYD paradigm. The 4-H programs provide the dynamic supports and opportunities that encourage personal↔contextual relationships through opportunities and challenges that successfully engage the minds, bodies, and spirits of youth in leadership, skill building, and sustained youth/adult partnerships.
4-H as a Positive Youth Development Program

The National 4-H Council (2009) website considers 4-H “…a community of 6 million young people across America learning leadership, citizenship, and life skills” (p. 1). Oregon 4-H (2008) website, in greater detail, states:

Research shows that by participating in 4-H, young people prepare themselves for economic and social success in adulthood. 4-H teaches young people about a wide array of subject matter. Learning through 4-H augments what is learned in the classroom and opens doors to career pathways. Life skills enable young people to function effectively in a complex world. (p. 2)

According to Smith (2002), 4-H programming is an intentional process within the context of families, peer groups, schools, neighborhoods, and communities that promotes positive outcomes through opportunities, choices, relationships, and supports that allow youth to fully develop their social capital and ultimately contribute to society. Arches and Fleming (2006) and O’Donoghue et al. (2002) have suggested that an intentional process that engages youth in social action enhances PYD.

The recognizable and definable features in 4-H, important for healthy adolescent development are the personal↔contextual relationships that successfully integrate leadership, skill building, and intergenerational partnerships with youth, families, schools, neighborhoods, and communities.

Theoretically and conceptually, YPE places youth in the personal↔contextual relationships necessary to provide opportunities for leadership, skill building, and sustained youth/adult relationships. The alignment of these components is believed to be conducive to the promotion of adolescent confidence, compassion, connection,
character, connection, and contribution. Youth participatory evaluation, a form of systematic inquiry, is becoming increasingly popular as a model that promotes PYD.

**Systematic Inquiry**

Systematic inquiry is a broad research category which leads to a greater understanding of the interconnectedness of the human condition and its environmental and social ecology. This type of inquiry involves some degree the interaction of the researcher, the practitioner, and the stakeholder to produce practical and transformative outcomes (Cousins & Whitmore, 1998). While various forms of systematic inquiry share similar characteristics, they differ in goal or function, control of decision making, participant selection, and participant engagement (Cousins & Whitmore). Cousins and Whitmore identified several forms of systematic inquiry: transformative and practical participatory evaluation, stakeholder-based evaluation, school-based evaluation, democratic evaluation, developmental evaluation, empowerment evaluation, participatory action research, emancipatory action research, and cooperative inquiry. Other authors have noted additional forms of systematic inquiry: community evaluation research (Checkoway & Richards-Schuster, 2003); process evaluation, outcome evaluation, and theory-based evaluation (Eccles & Gootman, 2002); democratic evaluation (Ryan, 2005); participatory evaluation (Garaway, 2004; Iyer, 2001); youth-adult research collaborations (Kirshner & O’Donoghue, 2001); youth mapping, youth-led research, youth civic engagement, youth leadership, youth organizing (London et al., 2003); youth-led research
This study utilizes a form of systematic inquiry known as YPE popularized by the writings of Arnold and Wells (2007), Flores (2008), and Sabo (2003). Borrowing from the fields of transformative and practical participatory evaluation (Cousin & Whitmore, 1998; Sabo, 2003), YPE serves the field and practice of research and evaluation by adding a youth component to a largely adult-dominated industry (Delgado, 2006).

Youth participatory evaluation is both practical and transformative. According to Cousins and Whitmore (1998), YPE is practical because of the relevance and ownership the youth participants bring to the process. Youth participatory evaluation has the goal of effecting change in programmatic, political, and organizational decision making. Cousins and Whitmore suggested YPE becomes transformative by empowering youth in three ways. First, youth construct and respect their knowledge of adolescent issues. Second, youth determine how the research and evaluation process is carried out. Third, youth begin to view social issues in a broader context based on their personal biases.

According to Delgado (2006) youth involvement in research and evaluation “serves to break down significant social, psychological, economic, and cultural barriers between research respondents and researchers and thrusts youth into a position of power and influence over the outcomes resulting from their research finding” (p. 20). Cousins and Whitmore (1998) proposed that youth are ultimately “responsible for
organizing and implementing the evaluation, disseminating its results, systematizing
group interpretations, conducting group decision making about project change, and
ensuring that action is taken” (p. 9).

Summary

Garaway (2004) noted that evaluation, since the 1960’s, has grown in
“approaches, models, and persuasions” (p. 250). Smith (2007) called evaluation
“whatever we collectively construct it to be” (p. 169). The growing presence of youth
development educators as researchers and evaluators has created opportunities to
redefine the purpose of systematic inquiry. Youth participation in research and
evaluation is valuable, yet unevenly studied, under-developed, under-theorized,
insufficient, and in need of long-term study and a broader base of empirical evidence
showing impact on youth and communities (Checkoway & Richards-Schuster, 2003;
Delgado, 2006; Kirshner & O’Donoghue, 2001; and O’Donoghue et al., 2002).

Checkoway et al. (2003) advocated that the acquisition of knowledge is not
limited to an adult context. Sabo (2003) noted that within the past 15 years, the field of
youth development has encouraged the expansion of youth-led initiatives, particularly
those integrally tied to community development, action research, participatory
research, and the broadening field of PYD. According to Sabo, involving youth in
research and evaluation is an outcome of constructs and practices that include
community development, action research, participatory evaluation, and PYD.
Youth Participatory Evaluation as a Pathway to PYD

Youth roles as social change agents came into prominence with the ratification of the 1989 United Nations Convention on the Rights of the Children [CRC] (Delgado, 2006; Earls & Carlson, 2001; O’Donoghue et al., 2002; Sabo, 2003). The CRC universally positioned youth not as objects or recipients of public policy and adult-constructed interventions and preventative measures, but as the constructors and framers of their own abilities to contribute to their well-being and that of the communities in which they live. Prior to this time, youth were often undervalued, disenfranchised, underrepresented, and essentially transparent (Checkoway et al., 2003; Delgado, 2006). The United Nation CRC, although unenforceable and as yet not ratified by the United States, does provide a framework from which to start thinking about youth engaged as citizens and not just subjects.

Wheeler (2005) identified eight key elements of a successful pathway to PYD suggesting that within “…genuine, effective youth engagement in social change – lies the seed of tremendous positive development for young people” (p. 5). The eight key elements of the pathway include: (a) youth service, (b) youth research and evaluation, (c) youth media, (d) youth organizing, (e) youth civic and political engagement, (f) youth philanthropy, (g) youth decision making and governance, and (h) youth leadership.

Youth participatory evaluation as a pathway to PYD draws its strength by reducing the influences of the professional evaluators in favor of processes that capitalize on the resources of creativity and knowledge in youth to find solutions and
remedies to their most pressing needs and future concerns (Garaway, 2004). The YPE process engages young people in the critical exploration and examination of the youth development systems designed to serve them (Flores, 2008). Increasingly, YPE is being recognized by theorists and youth development educators for its capacity to support youth leadership development, youth civic engagement, youth as social change agents, youth community organizers, and most importantly healthy youth (Sabo, 2003).

The linkages between YPE, youth development and successful transition to adulthood are simple according to Delgado (2006). Youth as evaluators and researchers gain competencies and discipline as they acquire the knowledge and understanding required to conduct social research. The skills and abilities gained as researchers and evaluators are portable and applicable to personal-contextual relationships that place youth on a trajectory of thriving and well-being. Checkoway and Richards-Schuster (2002) identified five benefits to youth through engagement in research and evaluation: (a) gaining methods to obtain knowledge for social action, (b) exercising political rights, (c) sharing in democratization of knowledge, (d) preparing for participation in a democratic society, and (e) strengthening social development (pp. 3-4). Youth in Focus (2002) identified three additional benefits: (a) facilitating good youth development, (b) strengthening organizational development and capacity building, and (c) catalyzing youth engagement in community change (pp. 2-3). London, O’Connor, and Camino (2005), advocated that youth gain social and civic competence, self confidence, social capital, and identity exploration. According to
Flores (2008), the engagement of youth in all levels of research and evaluation builds relationships between all stakeholders especially young people, adult facilitators, programs, communities, society, and the field of evaluation.

Forms of YPE have been used for multiple purposes. Delgado (2006) provided two examples. The first involved youth in the evaluation of local radio programming in Oakland, California. Their findings transformed the radio station’s programming by redressing the negative bias the station had for youth. The second example involved students in Boston, Massachusetts examining school climate. Their study provided insight to student/teacher relationships, peer relationships, and school environment. Their findings produced recommendations for practice that included opportunities for more intergenerational interaction, involvement of the community in addressing key school issues, and sustaining school structure that builds a sense of community.

London et al. (2003) provided two additional examples. The San Francisco Juvenile Justice Evaluation Project examined the reallocation of juvenile justice system dollars to support alternatives to incarceration. The findings supported citywide youth organizing to change the juvenile justice system. Youth IMPACT provided information to community organizations throughout San Francisco about services to youth from a youth perspective compared to previous adult-led processes.

Summary

Youth participatory evaluation is gaining considerable attention as researchers and youth development educators leave behind deficit-based intervention in favor of visualizing youth as having resources and skills to be developed (Checkoway &
Richards-Schuster, 2003; Fetterman, 2003; Kirshner & O’Donoghue, 2001; Mertens, 2007; O’Donoghue et al., 2002; Sabo, 2003; Saito, 2006). The growing volume of literature now suggests that youth engagement in research and evaluation at the community level can positively impact their lives (Delgado, 2006). London et al. (2003) suggested YPE as an agent in the promotion of PYD through the generation of learning for programs, organizations, and community change. Sabo supported this line of thinking in stating: “The participation of young people in research and evaluation, it would seem, could not only generate knowledge about – but also provide opportunities for – the positive development of young participants and the empowerment of their communities” (p. 5).

Providing scholars and youth development educators with concrete examples of what works best to promote PYD is important to PYD as a theory, concept, and field of practice. Youth participatory evaluation is increasingly viewed as a successful pathway designed to contribute to the development and well-being of youth.

Historically, the various forms of systematic inquiry have been viewed as largely adult-driven processes. This is changing. Youth participatory evaluation is gaining considerable attention from researchers and youth development educators as the field of youth development leaves behind deficit-based interventions and models in favor of PYD pathways and models (Checkoway & Richards-Schuster, 2003; Fetterman, 2003; Kirshner & O’Donoghue, 2001; Mertens, 2007; O’Donoghue et al., 2002; Sabo, 2003; Saito, 2006).
Youth participatory evaluation is respected as a valid approach to understanding social issues. Organized social experiences, like YPE, according to Gambone, Klem, and Connell (2002) intentionally exposes youth to certain essential and critical elements that help adolescents do better academically, practice pro-social behaviors, and develop life-long skills. The growing field of YPE is viewed as one pathway to PYD. Yet, there has not been a systematic study to date that establishes a causal relationship between YPE/YCAT and PYD (B. Checkoway, personal communication, February, 2008). This study explored this issue.

The scientific foundation for PYD, according to Benson and Saito (2001), lacks the “kind of systematic inquiry necessary to guide, shape, refine, and fuel the approach” (p. 143). Relatively few studies have evaluated the critical components of youth development programs and how they promote PYD (Eccles & Gootman, 2002; Lerner & Lerner, 2006; Roth & Brooks-Gunn, 2003).

Conclusion

PYD develops through personal↔contextual relationships within adolescent ecologies. PYD runs parallel to the biological, psychological, and social changes taking place in and upon youth in the second decade of life. PYD programs provide the opportunities for leadership, skill building, and sustained youth/adult interactions necessary for youth to transition from adolescence to adulthood.

The fundamental changes taking place in the youth development profession, according to Damon (2004), have transformed research questions, research insights, and the implications for informed practice. For these reasons, it is crucial to strengthen
the empirical evidence supporting the PYD paradigm. Concrete examples of best practice are necessary to support developmental theory, PYD concepts, and programmatic strategies. The literature confirms the need for additional research related to youth development and programs designed to support and enhance PYD. This study investigates YPE/YCAT as a possible model to enhance PYD in the 4-H context.

The next chapter describes the quasi-experimental methodology, the participants, the procedures, the YPE/YCAT program, and the analysis of data.
CHAPTER THREE: METHODS AND PROCEDURES

Overview

Youth participatory evaluation and youth community action training is believed to provide the personal↔contextual relationships supportive of opportunities for youth participation in and leadership of research and evaluation processes, research and evaluation skill development, and intergenerational relationships leading to the promotion of PYD.

Significance of Study

In order for PYD to gain a foothold in the policy and funding arenas, the political and social acceptance of asset development will need to displace the focus on deficit reduction. A more contemporary, research-based terminology and conceptual understanding of PYD will be necessary (Newman et al., 2001). Therefore, youth development programs must address adolescent development based on sound PYD principles and practice (Newman et al.). The absence of widespread evaluations of PYD programs suggests more is needed to be known about youth and their place in the development of programs to promote PYD (Eccles & Gootman, 2002; O’Donoghue et al., 2002).

Since YPE is in the initial stage of development (Gong & Wright, 2007), a study that examines the linkages between PYD and YPE/YCAT within the 4-H context will provide information that adds to the growing volume of human development literature available to formal and informal educators, youth development
educators, and policy makers about best practice, future directions, and focus of privately and publically funded youth programs predicted to promote PYD.

Need for Study

Within the field and practice of PYD, the theoretical and conceptual frameworks for understanding YPE as an asset-based youth development strategy remain inadequate and insufficient (Kirshner & O’Donoghue, 2001). This understanding is further diminished since youth voice is rarely welcomed in research and evaluation processes (Checkoway et al., 2003; Kirshner & O’Donoghue, 2001). Consequently few studies have explored YPE as a field of practice and subject of study (Checkoway & Richards-Schuster, 2003; Kirshner & O’Donoghue, 2001). More specifically, there are no studies known that investigate the effects of YPE/YCAT as a promoter of PYD (B. Checkoway, personal communication, February, 2009).

Purpose of Study

This study examines the promotion of PYD through YPE/YCAT. Youth participatory evaluation and youth community action training is predicted to promote the enhancement of competence, confidence, connection, caring, character, contribution [six Cs] (Lerner, 2005) indicative of PYD.

This chapter is presented in several sections. Each section defines a specific method or procedures used in the course of the research. The research design segment outlines the features and limitations of the quasi-experimental design. The treatment section describes YPE/YCAT, the training model, and the research and evaluation curriculum used. The data requirement section provides a demographic profile of
study subjects and an accounting of their personal and social engagement in 4-H and perceived levels of PYD. The sampling method and survey administration are outlined in the data collection section.

The following section describes the six instruments that comprised the survey. The chapter concludes with an explanation of the analysis and the nonparametric tests used to examine the data.

Hypotheses

Whether PYD can be attributed to participation in YPE/YCAT is explored through two hypotheses.

H$_1$: There are significantly and consistently higher levels of competence, confidence, connection, character, caring, and contribution for the treatment group relative to the comparison group following the treatment group’s training in youth participatory evaluation and youth community action.

H$_2$: The treatment group’s levels of competence, confidence, connection, character, caring, and contribution increase significantly and consistently following training in youth participatory evaluation and youth community action.

Research Design Methodology

Design Features

Positive youth development as an outcome builds over a period of weeks, months, or years. Therefore, this study was conducted over seven months using a quasi-experimental approach (Creswell, 2003; Fitz-Gibbon & Morris, 1987; Gall,
Gall, & Borg, 2005; Garaway, 2004; Shadish, Cook, & Campbell, 2002; and Trochim, 2006) and was designed to determine the effect of YPE/YCAT on the development of PYD. The design is summarized in Table 3.1 below.

**TABLE 3.1**

**Study Design**

<table>
<thead>
<tr>
<th>Group</th>
<th>Time Points</th>
<th>Treatment</th>
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<td></td>
<td>1</td>
<td>2</td>
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<tr>
<td>Treatment N</td>
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<td>O</td>
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<tr>
<td>Comparison N</td>
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Quasi-experimental designs differ from true experiments based on the ease in which study subjects can be recruited and the strength of internal and external validity desired. Although systematically unbiased (Gall et al., 2005) and capable of producing strong internal and external validity, true experimental designs require random assignment of participants such that each subject has an equal probability of being selected. Trochim (2006) estimates that only 10% of the social research studies conducted use randomized assignments to assess causal relationships. Additionally, random assignments create designs that are difficult to implement and intentionally thrust subjects into unsolicited, unwanted participatory roles (Trochim, 2006).

The choice to use a non-equivalent, no-treatment comparison group format was based on the frequent use of non-equivalent design in the developmental sciences and the ability to conveniently select subjects for treatment and comparison groups who are perceived to be similar and fairly comparable (Trochim, 2006).
The decision to conduct the study as a longitudinal time series was based on its power as a statistical approach (Lerner et al., 2008). Examination of the causal relationships attributable to YPE/YCAT between two similar yet distinct subject groups is better accomplished over a significant period of time. The introduction of an interruption or treatment (YPE/YCAT) provided a specific point in time from which to observe the impact of the treatment. Controlling for internal and external limitations to validity, the causal hypothesis is that differences in enhanced levels of the six Cs should be attributable to the treatment (Shadish et al., 2002).

The pretest-posttest designation with non-equivalent groups is the most widely used quasi-experimental design (Gall et al., 2005). The same survey was administered to both the treatment and comparison groups at each time point before the YPE/YCAT and again at each time point after the YPE/YCAT. Pretest scores are used to demonstrate treatment and comparison group equivalence on the six Cs. If the treatment and comparison groups can be shown to exhibit similar levels of the six Cs, the pretest-posttest design results approach the validity of true experiments (Gall et al.).

_Treatment Design_

Resources for a treatment design are growing in number. For example, Delgado (2006) has written a book entitled _Designs and Methods for Youth-Led Research_. His book is devoted specifically to youth research and evaluation and youth development. The book provides a contextual and conceptual foundation for youth involvement in research and evaluation, approaches and considerations to youth-led
research, examples of youth-led initiatives, and a discussion of challenges and implications. Flores’ (2008) book entitled *Youth Participatory Evaluation: Strategies for Engaging Young People* is more specific to the youth research and evaluation process. Her book is divided in two parts. The first part provides the reader with an understanding of the foundation of YPE. Part two instructs the reader regarding how to design and construct YPE projects. London et al. (2003) describe Youth-led Research, Evaluation, and Planning (Youth REP) as an evaluation training method developed by Youth in Focus. Youth REP engages youth in a research and evaluation cycle that includes documentation, research, and action processes, and knowledge production. The workbook entitled *Participatory Evaluation with Young People* by Checkoway and Richards-Schuster (2005) is designed specifically to engage youth in research and evaluation projects. It provides step-by-step instructions in a YPE process that can be used by youth and adults to promote action and change.

While these YPE resources could be used to develop a curriculum or implemented in their present forms to provide the treatment, this research utilized a curriculum entitled *Participatory Evaluation with Youth: Building Skills for Youth Community Action* (Arnold & Wells, 2007). The curriculum was selected for several reasons: (a) The researcher did not have the time to write and pilot test a YPE curriculum based on available resources, (b) The selected curriculum was designed by 4-H faculty at Oregon State University who understood the Oregon 4-H program, and (c) The authors offered to conduct the YPE/YCAT using their curriculum.
Youth Participatory Evaluation and Youth Community Action Training

Youth teams and their adult advisors were trained in youth participatory and youth community action using a curriculum developed by Arnold and Wells (2007) entitled *Participatory Evaluation with Youth: Building Skills for Youth Community Action*. The 14 hours of training was presented over three days.

YPE/YCAT Model

Divided into five skill building sections, the *Participatory Evaluation with Youth: Building Skills for Youth Community Action* curriculum is designed to systematically train youth and their adult partners in research and evaluation processes through the use of community issues forums.

The five sections cover youth/adult partnerships, framing issues, community forums, data analysis, and recording and action. The curriculum is designed to be presented in a workshop setting lasting two or more days. Arnold and Wells (2007) considered this intensive format ideal for generating excitement and commitment to a YPE/YCA project.

Each section contains an outline defining the research and evaluation topic to be covered, purpose, life skill development, social science skill development, materials list, preparation required, room set up, time requirement, procedure, and discussion questions. The duration of activities ranged from 20 to 90 minutes. Certain exercises within each section required the participation of the entire treatment group, small work groups, and county only work groups.
From February 29 through March 2, 2008, the treatment group representing eight Oregon counties and comprised of 37 youth and their adult partners participated in a retreat in Bend, Oregon. The 15 hours of training was facilitated by the curriculum’s authors.

**YPE/YCAT Facilitators**

Mary Arnold and Elissa Wells are the co-authors of *Participatory Evaluation with Youth: Building Skills for Youth Community Action*. Dr. Arnold, an Associate Professor, is the 4-H youth development research and evaluation specialist within the Department of Youth Development Education in the College of Education at Oregon State University. Co-author Elissa Wells is an Assistant Professor within the Youth Development Education Department in the College of Education at Oregon State University and serves as the 4-H faculty in Coos County, Oregon.

**Training Youth Researchers and Evaluators**

Seven sessions were held over the course of the three-day retreat. The initial one-hour session included welcoming comments, introductions, ice breakers, ground rules, and overview of the retreat. Those sessions that followed included warm-up activities, review of the previous sessions, and overview of upcoming sessions. Sections of the curriculum requiring more emphasis were conducted in more than one session (see Table 3.2 below).
Table 3.2
YPE/YCAT Schedule

<table>
<thead>
<tr>
<th>Day 1 (Session 1, Evening)</th>
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<tbody>
<tr>
<td>4:00 to 5:00</td>
<td>Arrival</td>
</tr>
<tr>
<td>5:00 to 6:00</td>
<td>Welcome, Introductions and Icebreakers, Schedule, Ground Rules, Overview of project</td>
</tr>
<tr>
<td>7:00 to 9:15</td>
<td>Youth/Adult Partnerships, Model Community Issues Forum</td>
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<table>
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<tr>
<th>Day 2 (Session 2, Morning)</th>
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<tbody>
<tr>
<td>8:30 to 10:15</td>
<td>Warm up Activities, Framing Community Issues</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Day 2 (Session 3, Late Morning)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>10:30 to 12:00</td>
<td>Graffiti - Recording Basics, Organizing and Analyzing Information</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Day 2 (Session 4, Afternoon)</th>
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</thead>
<tbody>
<tr>
<td>1:00 to 2:30</td>
<td>Forum Practice (Group 1)</td>
</tr>
<tr>
<td>2:45 to 4:15</td>
<td>Forum Practice (Group 2)</td>
</tr>
<tr>
<td>4:15 to 5:15</td>
<td>Introduction to Forum Planning</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Day 2 (Session 5, Evening)</th>
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<tbody>
<tr>
<td>7:00 to 9:00</td>
<td>Forum Planning in County Teams</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Day 3 (Session 6, Morning)</th>
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<tbody>
<tr>
<td>8:30 to 8:45</td>
<td>Warm up Activities</td>
</tr>
<tr>
<td>8:45 to 9:15</td>
<td>Presentation of County Forum Posters</td>
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<table>
<thead>
<tr>
<th>Day 3 (Session 7, Late Morning)</th>
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</thead>
<tbody>
<tr>
<td>9:15 to 10:45</td>
<td>Action Planning</td>
</tr>
<tr>
<td>10:45 to 11:00</td>
<td>Wrap up and Evaluation</td>
</tr>
<tr>
<td>11:00</td>
<td>Departure</td>
</tr>
</tbody>
</table>

Session I

Session one began early evening of the first day. The session covered youth adult partnerships and demonstrated a model community issues forum. An activity in this session called Take a Stand was designed to explore youth/adult partnerships. Participants were expected to learn decision making, critical thinking, and
communication skills. This activity demonstrated the data collection, data analysis, and data interpretation skills necessary for rigorous youth-led research and evaluation. Participants were encouraged to examine controversial issues and the values and perceptions held by youth and adults relevant to the issues. The youth and adults were asked to relocate themselves to a corner of the room based on their strength of agreement or disagreement with prepared statements such as: “Chocolate is the best ice cream” or “All community organizations should have youth positions on their boards or committees.” During the activity the facilitators asked participants to consider the various ways people responded to statements and the ways youth responded versus the adults. The activity concluded with the facilitators asking the group: (a) Was the activity hard? Why? (b) What was the most difficult question personally? Why? (c) What was learned from the activity? (d) How can what was learned be used when working in youth/adult partnerships?

Session II

Session two began the morning of the second day. The session was designed to help youth frame community issues forums. Participants were expected to learn social skills, communication skills, and the acceptance of differences. This activity provided practical social science skills relevant to the formulation of questions, data collection, and data analysis. For example, Three-Step Interviews helped youth identify issues that could be addressed in a community forum setting. It linked personal experience to potential research questions based on participant interests. Participants took turns interviewing, responding, and recording. The question posed was “Given what we
learned earlier about appropriate topics for community forums, what issues do you think we should pursue at our forum? Why?” Once the participants rotated through each role, the information gathered was summarized looking for common themes that were developed into potential forum topics. These topics were then written on index cards and posted around the room for all to review. The facilitators debriefed the participants by asking the group to suggest topics that might be similar and capable of being combined.

**Session III**

Session three, conducted late morning of day two, utilized an activity called *Table Top Graffiti* that helped the participants gain social science skills in organizing, summarizing, and analyzing information. Participants were expected to develop life skills associated with planning/organizing, decision making, critical thinking, and problem solving. The participants were divided into four groups. Each group was given a piece of flip chart paper on which was written one of four questions: (a) What is the best thing about being a teen today? (b) What is the biggest challenge about being a teen today? (c) What is the best thing about living in your community? and (d) What is the biggest challenge about living in your community? This brainstorming activity required individuals within each group to use post-it notes to respond to the specific question. After two minutes the groups passed their post-it note-laden flip chart papers clockwise to the next group. This process continued through four rotations until all four questions received responses from each group. Once each question was returned to its original group, each group was asked to thematically
organize the contents of the post-it notes to create informational posters. These posters were then presented to the entire group. The facilitators debriefed the participants by asking: (a) What things were learned while doing the activity? (b) What was most challenging about summarizing information? (c) How was the information analyzed? (d) How were themes determined? and (e) How were the skills developed helpful in gathering community based information?

Session IV

Given the size of the entire group, session four was conducted in two parts on the afternoon of the second day. The group was split into two sub-groups which rotated between the activity and free time. Although a community forum was demonstrated by the authors in the first session, this session, entitled Practice Forum, was the second of three activities intended to provide hands-on experience in conducting a community forum. Participants were expected to moderate, record, and assist in the process which helped them develop communication, cooperation, critical thinking, and problem solving life skills. Data collection was the primary social science skill to be developed. Moderator and recorder roles were defined and a specific set of procedures were followed. The moderator welcomed participants, introduced the recorder and assistants, and reviewed the ground rules. The moderator facilitated the dialogue while the recorder documented the audiences’ comments and insights. Periodically the process was interrupted in order to rotate as many participants through the facilitator and recorder roles as possible. The authors debriefed the process by asking participants what the facilitators and recorders did
well and what could be improved. Participants were also asked to describe what was easiest and best about their experiences. They were also asked to remember key constructs critical to successfully implement community forums.

Session V

The evening of day two concluded with session five. *Convening a Forum - Planning* was the third activity in the community forum section of the curriculum. This activity, designed to develop teamwork, leadership, communication, and decision making social skills, helped participants think through the steps and details involved in hosting and conducting a community forum. The primary social skill to be developed was data collection. County groups were formed and asked to plan their community forum. At the completion of forum planning, the county groups designed posters containing the day and time of their forums, where the forums were to be held, who was hosting the forums, and why the forums were being held. Posters were then displayed for the entire group’s viewing.

Session VI

Session six began the morning of day three. The county teams were given time to present their ideas from the previous forum planning. One example described a county group’s intention to conduct a forum that brings together junior and senior high school students. The forum was designed to answer the following question: Why do some high school graduates elect to pursue post secondary education while some of their peers elect to do otherwise?
**Session VII**

This final late morning session of day three was a two-part activity designed to help groups achieve success through data interpretation and action planning believed to lead to life skills development in planning and organizing, decision making, critical thinking, and problem solving. Part one required county team members to identify preferred roles and ways they could contribute to the team’s success. This was accomplished by asking participants to stand near statements best describing their personal strengths. For example: (a) Action planning integrates our best thinking and dreaming, (b) Action planning produces a plan of work leading to the achievement of goals, (c) Action planning helps people feel valued and integral to the work, (d) Action planning builds readiness and commitment to the work, and (e) Action planning keeps the group on task. Participants were then encouraged to verbalize reasons why they aligned with particular statements and what strengths they could bring to the action planning process.

Part two was conducted in four smaller groups. Before dividing up, the entire group was presented with a vision statement. This statement reflected a vision relevant to the entire group. Each group was then asked to respond to one of the following statements: (a) What is the end result of the action planning? (b) What are the strengths, weaknesses, opportunities, and threats to a successful action plan? (c) Who are the people, organizations, and connections that can make the plan successful? and (d) Who are the key stakeholders? The four smaller groups were asked to share their
ideas to the entire group. The facilitators then introduced the participants to action planning and implementation work sheets and followed up by asking the group to identify critical steps in action planning, surprises in the planning, and the most valuable things learned from the activity.

Data Requirements

Adolescent Study Population

Certain assumptions were made regarding the study population. The 2007-2008 Oregon 4-H program reported an enrollment of 4,927 high school youth (P. Craven, personal communication, December, 2008). The subjects for the study were recruited from the population of high school age youth enrolled in the Oregon 4-H program (N = 4,699). Females accounted for 67% of the subject population (n = 3,134). Males accounted for 33% of the subject population (n = 1,565). The male and female subjects were between 14 and 17 years of age. Their average age was just over 15 years. On average, the subjects had participated in 4-H for just over 4.5 years. More than 90% of the subjects were Caucasian (see Table 3.3 below).
### TABLE 3.3  
Sample Population (N = 4,699)

<table>
<thead>
<tr>
<th>Gender</th>
<th>N</th>
<th>Mean Years in 4-H</th>
<th>sd</th>
<th>Mean Age</th>
<th>sd</th>
<th>Ethnicity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Combined</td>
<td>4,699</td>
<td>4.61</td>
<td>2.77</td>
<td>15.27</td>
<td>1.32</td>
<td>92% Caucasian, 5% more than one race, 1% Black or African American, 1% Native American or Alaskan Native, and 1% Asian or Pacific Islander</td>
</tr>
<tr>
<td>Female</td>
<td>3,134</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Male</td>
<td>1,565</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

**Note.** No data were available for either ages or dates of birth.

The study assumed Oregon 4-H members enrolled in 4-H and entered into high school in the 9th grade at the age of 14, the 10th grade at 15, the 11th grade at 16, and the 12th grade at 17. Oregon 4-H data concerning the total number of years members were enrolled in 4-H by grade level, at the time of the study, were modified due to over reporting. The maximum number of years youth can be enrolled in the traditional 4-H program, which requires enrollment during the 4th grade, is nine years. Ninth grade students could not be enrolled members in the Oregon 4-H program for more than six years, 10th grade students for more than seven, 11th grade students for more than eight, and 12th grade students for more than nine.
Resultant Sample Population

A total of 74 high school age youth from eight Oregon counties participated in the study. The treatment group was composed of eight county teams containing a total of 40 youth while the comparison group had eight teams containing a total of 34 subjects. The female and male subjects were on average 1.83 years older than the state’s average. Subjects also participated almost two years more in the program (1.92 years). Ethnically, the 74 subjects were fairly representative of the sample population. Of the 74 subjects, females were slightly older (.21 years or 2.5 months) than their male complement. Females were also enrolled in the 4-H program nearly a year longer than the males (.84 years or 10 months). Males and females closely matched the ethnic distribution of the total subject population (see Table 3.4 below).

<table>
<thead>
<tr>
<th>Gender</th>
<th>N</th>
<th>Mean Years in 4-H</th>
<th>sd</th>
<th>Mean Age</th>
<th>sd</th>
<th>Ethnicity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Combined</td>
<td>74</td>
<td>6.53</td>
<td>2.18</td>
<td>17.10</td>
<td>1.05</td>
<td>93% Caucasian, 6% more than one race, 1% Asian or Pacific Islander</td>
</tr>
<tr>
<td>Female</td>
<td>56</td>
<td>6.73</td>
<td>1.98</td>
<td>17.15</td>
<td>1.07</td>
<td>93% Caucasian, 5% more than one race, 2% Asian or Pacific Islander</td>
</tr>
<tr>
<td>Male</td>
<td>18</td>
<td>5.89</td>
<td>2.70</td>
<td>16.94</td>
<td>1.00</td>
<td>94% Caucasian, 6% more than one race</td>
</tr>
</tbody>
</table>
Study Subjects

Within the treatment group (see Table 3.5), female subjects were on average just over nine months older than the three male subjects. In addition, participation in the 4-H program was separated by just under four months of difference. Due to the small size of the treatment group, ethnic distribution did not parallel the sample or subject populations.

<table>
<thead>
<tr>
<th>Gender</th>
<th>N</th>
<th>Mean Years in 4-H</th>
<th>sd</th>
<th>Mean Age</th>
<th>sd</th>
<th>Ethnicity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Combined</td>
<td>14</td>
<td>6.43</td>
<td>2.09</td>
<td>15.93</td>
<td>.96</td>
<td>100% Caucasian</td>
</tr>
<tr>
<td>Female</td>
<td>11</td>
<td>6.36</td>
<td>2.28</td>
<td>16.09</td>
<td>1.05</td>
<td>100% Caucasian</td>
</tr>
<tr>
<td>Male</td>
<td>3</td>
<td>6.67</td>
<td>1.53</td>
<td>15.33</td>
<td>.58</td>
<td>100% Caucasian</td>
</tr>
</tbody>
</table>

Within the comparison group (see Table 3.6), the data are misleading based on gender. Females participated for a shorter period of time, but were nearly equivalent in age. Due to the small size of the comparison group, ethnic distribution did not parallel the sample or subject populations. The comparison group’s gender, age, and ethnic distributions deviated from the sample and subject populations due to number of participants.
TABLE 3.6
Comparison Group Subjects (N = 9)

<table>
<thead>
<tr>
<th>Gender</th>
<th>N</th>
<th>Mean Years in 4-H</th>
<th>sd</th>
<th>Mean Age</th>
<th>sd</th>
<th>Ethnicity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Combined</td>
<td>9</td>
<td>7.00</td>
<td>2.06</td>
<td>17.11</td>
<td>1.17</td>
<td>89% Caucasian, 11% Asian or Pacific Islander</td>
</tr>
<tr>
<td>Female</td>
<td>8</td>
<td>6.88</td>
<td>2.17</td>
<td>17.13</td>
<td>1.25</td>
<td>88% Caucasian, 12% Asian or Pacific Islander</td>
</tr>
<tr>
<td>Male</td>
<td>1</td>
<td>8</td>
<td>---</td>
<td>17</td>
<td>---</td>
<td>100% Caucasian</td>
</tr>
</tbody>
</table>

The treatment group was younger by more than a year (15.93 vs. 17.11). The comparison group was involved in 4-H more than six months longer than the treatment group (7.00 vs. 6.43). The groups’ ethnicity was predominantly Caucasian. Gender, age, and ethnicity were not part of the analysis.

**Personal, Social, and PYD**

Treatment and comparison group subjects meeting the criteria for inclusion in the study responded to an exit survey distributed January of 2009 (see Appendix I). The subjects were engaged personally, socially, and developmentally on multiple levels.

The exit data shown in Table 3.7 indicates that 13 subjects within the treatment group and 6 within the comparison group were equally engaged with respect to projects, time devoted to projects, their seasonal involvement, involvement in other
endeavors, and time devoted to the other endeavors ($p > .05$). The comparison group tended to participate more in other youth organizations ($p < .05$) while the treatment group spent more time with other youth organizations and family based duties ($p < .05$).
Table 3.7
Exit Survey of Personal Engagement

<table>
<thead>
<tr>
<th>Personal Engagement</th>
<th>Group</th>
<th>N</th>
<th>Mean Rank</th>
<th>Mann-Whitney U</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Projects</td>
<td>Treatment</td>
<td>13</td>
<td>10.50</td>
<td>32.50</td>
<td>.28</td>
</tr>
<tr>
<td></td>
<td>Comparison</td>
<td>6</td>
<td>8.92</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Time devoted to</td>
<td>Treatment</td>
<td>13</td>
<td>10.54</td>
<td>32.00</td>
<td>.26</td>
</tr>
<tr>
<td>projects</td>
<td>Comparison</td>
<td>6</td>
<td>8.83</td>
<td></td>
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<tr>
<td>Seasonal Activity</td>
<td>Treatment</td>
<td>13</td>
<td>10.35</td>
<td>34.50</td>
<td>.33</td>
</tr>
<tr>
<td></td>
<td>Comparison</td>
<td>6</td>
<td>9.25</td>
<td></td>
<td></td>
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<tr>
<td>Other</td>
<td>involvement:</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Extracurricular</td>
<td>Treatment</td>
<td>13</td>
<td>9.54</td>
<td>33.00</td>
<td>.16</td>
</tr>
<tr>
<td></td>
<td>Comparison</td>
<td>6</td>
<td>11.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other Youth</td>
<td>Treatment</td>
<td>13</td>
<td>8.62</td>
<td>21.00</td>
<td>.03</td>
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<tr>
<td>Organizations</td>
<td>Comparison</td>
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<td>13.00</td>
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<td></td>
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<tr>
<td>Work</td>
<td>Treatment</td>
<td>13</td>
<td>10.04</td>
<td>38.50</td>
<td>.47</td>
</tr>
<tr>
<td></td>
<td>Comparison</td>
<td>6</td>
<td>9.92</td>
<td></td>
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<tr>
<td>Family</td>
<td>Treatment</td>
<td>13</td>
<td>11.08</td>
<td>25.00</td>
<td>.08</td>
</tr>
<tr>
<td></td>
<td>Comparison</td>
<td>6</td>
<td>7.67</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Time</td>
<td>devoted:</td>
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<td></td>
<td></td>
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<tr>
<td>Extracurricular</td>
<td>Treatment</td>
<td>13</td>
<td>9.04</td>
<td>26.50</td>
<td>.13</td>
</tr>
<tr>
<td></td>
<td>Comparison</td>
<td>6</td>
<td>12.08</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other Youth</td>
<td>Treatment</td>
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<td>13.58</td>
<td>17.50</td>
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<td>8.35</td>
<td></td>
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<tr>
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<td>36.50</td>
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<td>10.42</td>
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<td>Treatment</td>
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<td>11.69</td>
<td>17.00</td>
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<tr>
<td></td>
<td>Comparison</td>
<td>6</td>
<td>6.33</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Socially the treatment subjects developed their relationships through 4-H ($p < .05$). The comparison group subjects, as shown in Table 3.8, developed their relationships within the framework of extracurricular activities and other youth organizations ($p < .05$).

Table 3.8
Exit Survey of Social Engagement

<table>
<thead>
<tr>
<th>Social Engagement via:</th>
<th>Group</th>
<th>N</th>
<th>Mean Rank</th>
<th>Mann-Whitney U</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Treatment</td>
<td>13</td>
<td>8.58</td>
<td>20.50</td>
<td>.03</td>
</tr>
<tr>
<td></td>
<td>Comparison</td>
<td>6</td>
<td>13.08</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Extra-curricular</td>
<td>Treatment</td>
<td>13</td>
<td>11.54</td>
<td>19.00</td>
<td>.02</td>
</tr>
<tr>
<td></td>
<td>Comparison</td>
<td>6</td>
<td>6.67</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4-H</td>
<td>Treatment</td>
<td>13</td>
<td>8.62</td>
<td>21.00</td>
<td>.05</td>
</tr>
<tr>
<td></td>
<td>Comparison</td>
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<td>13.00</td>
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<td></td>
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<td>Treatment</td>
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<td>37.50</td>
<td>.45</td>
</tr>
<tr>
<td></td>
<td>Comparison</td>
<td>6</td>
<td>9.75</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Work</td>
<td>Treatment</td>
<td>13</td>
<td>10.96</td>
<td>26.50</td>
<td>.12</td>
</tr>
<tr>
<td></td>
<td>Comparison</td>
<td>6</td>
<td>7.92</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Although the mean scores indicated higher levels of perceived competence, confidence, connection, character, and contribution to be held by the treatment group, the scores were not significantly different ($p > .05$). Comparison group subjects perceived themselves as being more caring based on the mean score. This difference was not significant ($p > .05$). Participants within the treatment and comparison groups
were statistically similar with respect to their perceived levels of the six Cs as indicators of PYD. See Table 3.9 below.

Table 3.9

Exit Survey of PYD

<table>
<thead>
<tr>
<th>PYD</th>
<th>Group</th>
<th>N</th>
<th>Mean Rank</th>
<th>Mann-Whitney U</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Competence</td>
<td>Treatment Comparison</td>
<td>13</td>
<td>10.58 8.75</td>
<td>31.50</td>
<td>.22</td>
</tr>
<tr>
<td></td>
<td>Comparison</td>
<td>6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Confidence</td>
<td>Treatment Comparison</td>
<td>13</td>
<td>11.08 7.67</td>
<td>25.00</td>
<td>.08</td>
</tr>
<tr>
<td></td>
<td>Comparison</td>
<td>6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Connection</td>
<td>Treatment Comparison</td>
<td>13</td>
<td>10.31 9.33</td>
<td>35.00</td>
<td>.32</td>
</tr>
<tr>
<td></td>
<td>Comparison</td>
<td>6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Character</td>
<td>Treatment Comparison</td>
<td>13</td>
<td>11.04 7.75</td>
<td>25.50</td>
<td>.07</td>
</tr>
<tr>
<td></td>
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<td></td>
<td></td>
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<tr>
<td>Caring</td>
<td>Treatment Comparison</td>
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<td>9.12 11.92</td>
<td>27.50</td>
<td>.11</td>
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<tr>
<td>Contribution</td>
<td>Treatment Comparison</td>
<td>13</td>
<td>10.12 9.75</td>
<td>37.50</td>
<td>.44</td>
</tr>
<tr>
<td></td>
<td>Comparison</td>
<td>6</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Data Collection Procedures

Convenience Sampling

The youth development educators, in each of the participating counties, conveniently selected participants based on their members' interests in research and evaluation, their engagement in 4-H, and their representation of the ethnic and gender balance within the Oregon 4-H program. The non-probability sampling method
produced treatment and comparison groups in each county with the exception of two
where a comparison group and treatment group were recruited respectively.

At the point of recruitment, minors and their parents/guardians were informed
of the research and its purpose. Prior to participation, parents/guardians and minors
signed consent and assent documents in accordance to protocols established by the
Institutional Review Board at Oregon State University. The consent and assent
documents are presented in their original form in Appendix G and Appendix H. The
documents underwent project revision with the Institutional Review Board to
accommodate changes in the number of times the survey was distributed, months in
which the survey was distributed, YPE/YCAT date, and addition of an exit survey.
Parents and participants were not required to sign additional documents.

Survey Administration

The treatment and comparison groups responded to six monthly surveys,
delivered electronically through Survey Monkey, at time points in December 2007,
January, February, March, April, and June 2008. Three pre-treatment time points and
three post-treatment time points defined the series (see Table 3.10). Lerner et al.
(2008) suggested research conducted over a period of time collected data that reflected
individual changes within and between participants brought about by
personal↔contextual relationships encountered during the study period. The
pre-treatment measurements were used to determine treatment and comparison group
initial equivalence across the six C outcomes. The post-treatment measurements
tracked predicted changes in the six C outcomes between the treatment and
comparison groups and within the treatment group over a portion of the subjects’ academic year. Each time point was initiated on the 15th day of the month. Participants were given seven days to respond. Four subsequent reminders were sent via Survey Monkey to non-respondents on the 17th, 19th, 20th, and 21st days of the respective months.

**TABLE 3.10**

Survey Administration

<table>
<thead>
<tr>
<th>Group/Time Point</th>
<th>Time</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>Treatment</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treatment N</td>
<td></td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>X</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Comparison N</td>
<td></td>
<td>O</td>
<td>O</td>
<td>O</td>
<td></td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
</tbody>
</table>

**Instruments**

**Generalized Self-Efficacy Scale (Competence)**

The Generalized Self-Efficacy Scale [GSES] (Schwarzer & Jerusalem, 1995) located in Appendix A, was used to measure the subjects’ competence as an indicator of PYD. The psychometric properties of the GSES have been found to be configurally equivalent across languages and cultures in 25 countries suggesting a global underlying construct (Scholz, Dona, Sud, & Schwarzer, 2002). Luszczynska, Gutierrez-Dona, and Schwarzer (2005) defined generalized self efficacy (GSE) as an individual’s competence to tackle tasks and cope with adversity found in stressful and challenging situations. Bandura (1997) considered GSE to be an ability to develop and implement courses of action to reach personal goals. Scholz et al. proposed self
efficacy was responsible for motivation and accomplishment in individuals. These views of GSE are used to support the definition of competence as a PYD outcome to mean not just an individual’s academic ability, but his/her ability to think, feel, work, and practice a healthy lifestyle.

The GSES consists of 10 statements. Subjects were asked to answer statements regarding their experiences in the previous month using a four-point Likert-type scale. Possible responses to statements like item three, “I am certain that I can accomplish my goals” and item 10, “I can handle whatever comes my way” range from 1 = not true at all to 4 = exactly true. Non-responses were coded as missing data. Responses range from 10 to 40. Used in several different languages, Cronbach’s alpha ranged from .75 to .94 (Rimm & Jerusalem, 1999; Luszczynska et al., 2005). For this study, the internal consistency for GSE through all six time points ranged from $\alpha = .69$ to .87 (see Table 3.11).

Rosenberg Self-Esteem Scale (Confidence)

The Rosenberg Self-Esteem Scale [RSES] (Rosenberg, 1965), located in Appendix B, was used to measure the subjects’ confidence as an indicator of PYD. Harter (1990) considered the work of William James when she described self-esteem as being a direct relationship between an individual’s perceived success in a specific domain and the importance the individual assigned to success in that domain. This definition suggests confidence, as defined in this study, is an individual’s belief that a goal can be achieved as long as a concerted effort is made toward achieving the goal. Additionally, the RSES is used in this study since the internal reliability and factor
structure of the RSES is known to be psychometrically sound across languages and cultures in 53 countries (Schmitt & Altik, 2005).

The RSES consists of 10 statements. Subjects were asked to answer statements regarding their experiences in the previous month using a four-point Likert-type scale. Possible responses to statements like item two, “I feel that I have a number of good qualities” and item seven “On the whole, I am satisfied with myself” range from 1 = strongly agree to 4 = strongly disagree. Non-responses were coded as missing data. To reduce response bias, five statements, items number one, two, four, six, and seven, were recoded: 1 = strongly disagree through 4 = strongly agree. Responses range from 10 to 40. According to the Blascovich and Tomaka (1993) and Rosenberg (1986), the Rosenberg scale has high reliability. Test-retest correlations ranged from .82 to .88. The Cronbach’s alpha reported fall within a range of .77 to .88. For this study, the internal consistency of the RSE Scale through all six time points ranged from $\alpha = .80$ to .88 (see Table 3.11).

Connection, Character, Caring, and Contribution Scales

The PYD indicators of connection, character, caring, and contribution were measured using the beta version of scales that are the first of their kind according to their authors, Arnold and Meinhold (2004). Unlike the GSES and RSES that are used as analogs to competence and confidence as indicators of PYD, these scales were developed based on connection, character, caring, and contribution being PYD outcomes of PYD programming. Having been constructed and validated by 4-H PYD educators, the internal reliability and factor structure of the scales are
psychometrically sound (Arnold & Meinhold). This study and one conducted by Arnold, Meinhold, Skubinna, and Ashton (2007) are the only studies that have used the connection, character, caring, and contribution scales developed by Arnold and Meinhold.

**Connection Scale**

The Connection Scale (Arnold & Meinhold, 2004), located in Appendix C, was used to measure the PYD indicator of connection which assessed subjects’ connectedness to peers, family, teachers, and community. The scale consisted of nine statements. Subjects were asked to answer statements using a five-point Likert type scale regarding their experiences in the previous month (1 = no opinion to 5 = strongly agree). The “no opinion” responses were recoded as “0.” Non-responses were coded as missing data. The possible responses to statements like item six, “I feel I matter to people” and item eight “I matter to others in my community” range from 0 = no opinion to 4 = strongly agree. To reduce response bias, two statements, item number one, “I wish I had a wider circle of friends” and seven, “I do not feel very connected to others” were reverse coded: 1 = strongly agree through 4 = strongly disagree. Connection scale responses ranged from 9 to 36. Arnold and Meinhold reported the scale demonstrated high internal consistency with a Cronbach’s alpha of .82. For this study, the internal consistency for the Connection scale through all six time points ranged from $\alpha = .53$ to .78 (see Table 3.12).
**Character Scale**

The Character Scale (Arnold & Meinhold, 2004), located in Appendix D, which assessed the subjects’ values and integrity, was used to measure the PYD indicator of character. The scale consisted of nine statements. Subjects were asked to answer statements using a five-point Likert-type scale regarding their experiences in the previous month (1 = no opinion to 5 = strongly agree). The “no opinion” responses were recoded as “0.” Non-responses were coded as missing data. The possible responses to statements like item 1, “It is important for me to do the right thing” and item 6 “It is important for me to do my best” range from 0 = no opinion to 4 = strongly agree. To reduce response bias two statements, item number four, “If I do the wrong thing, it does not matter unless someone finds out” and five “I do not always tell the truth if I can avoid getting in trouble” were recoded: 1 = strongly agree through 4 = strongly disagree. Character scale responses ranged from 9 to 36. Arnold and Meinhold reported the scale demonstrated high internal consistency with a Cronbach’s alpha of .83. For this study, the internal consistency of the Character scale through all six time points ranged from $\alpha = .71$ to .89 (see Table 3.12).

**Caring Scale**

The Caring Scale (Arnold & Meinhold, 2004), located in Appendix E, assessing the subjects’ empathy with and sympathy for others, was used to measure the PYD indicator of caring. The scale consisted of eight statements. Subjects were asked to answer statements using a five-point Likert-type scale regarding their experiences in the previous month (1 = no opinion to 5 = strongly agree). The “no
opinion” responses were recoded as “0.” Non-responses were coded as missing data. The possible responses to statements like item three, “I care about how my decisions affect other people” and item eight, “When one of my friends hurt I hurt too” range from 0 = no opinion to 4 = strongly agree. To reduce response bias two statements, item number five, “Other people’s feelings do not matter much to me” and seven, “I do not really care too much about my friend’s feelings” were recoded: 1 = strongly agree through 4 = strongly disagree. Caring scale responses ranged from 9 to 36. Arnold and Meinhold reported the scale demonstrated high internal consistency with a Cronbach’s alpha .83. For this study, the internal consistency for the Caring scale through all six time points ranged from $\alpha = .78$ to .88 (see Table 3.12).

**Contribution Scale**

The Contribution Scale (Arnold & Meinhold, 2004), located in Appendix F, used to assess the value subjects placed on personal, peer, familial and civic contribution was used to measure the PYD indicator of contribution. The scale consisted of seven statements. Subjects were asked to answer statements using a five-point Likert-type scale regarding their experiences in the previous month (1 = no opinion to 5 = strongly agree). The “no opinion” responses were recoded as “0.” Non-responses were coded as missing data. The possible responses to statements like item four, “I have things I can offer to others” and item seven, “It is important to me to try and make a difference in the world” range from 0 = no opinion to 4 = strongly agree. To reduce response bias, one statement, item number five, “I do not see how I can have an impact in the world” was recoded: 1 = strongly agree through 4 = strongly
disagree. Contribution scale responses ranged from 7 to 28. Arnold and Meinhold reported the scale demonstrated high internal consistency with a Cronbach’s alpha .83. For this study, the internal consistency for the Caring scale through all six time points ranged from $\alpha = .65$ to .85 (see Table 3.12).

Table 3.11

Cronbach’s Alpha Internal Consistency

<table>
<thead>
<tr>
<th>Scale/Time Point</th>
<th>Comp. GSES</th>
<th>Conf. RSES</th>
<th>Conn.</th>
<th>Char.</th>
<th>Caring</th>
<th>Cont.</th>
</tr>
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<tbody>
<tr>
<td>1</td>
<td>.69</td>
<td>.82</td>
<td>.53</td>
<td>.71</td>
<td>.86</td>
<td>.65</td>
</tr>
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</tr>
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<td>3</td>
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<td>.80</td>
<td>.81</td>
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<td>.84</td>
<td>.80</td>
<td>.66</td>
<td>.83</td>
<td>.84</td>
<td>.85</td>
</tr>
<tr>
<td>6</td>
<td>.87</td>
<td>.83</td>
<td>.72</td>
<td>.89</td>
<td>.83</td>
<td>.76</td>
</tr>
</tbody>
</table>

Analysis

Researchers, policy makers, administrators, and a growing number of youth development educators in the field and study of human development look to studies for two reasons: (a) to uncover relationships between variables being studied, and (b) to observe best practice in the development and implementation of programs (Abu-Bader, 2006).

The decision to use nonparametric or parametric tests to retain or reject the two hypotheses was based on several questions:

1. Was the study population randomly or conveniently sampled?
2. Do the characteristics of the resultant sample differ from the characteristics of the population (e.g., age, gender, ethnicity, personal and social engagement)?

3. How was the dependent variable measured (e.g., nominal, ordinal, interval, ratio)?

4. How was the independent variable measured (e.g., nominal, ordinal, interval, ratio)?

5. Was the shape of the distribution curve for the dependent variable severely skewed?

6. Was the sample size large enough to support the central limit theorem?

**Nonparametric versus Parametric Tests**

Test assumptions identified by Abu-Bader (2006) precluded the selection of parametric tests to analyze the data related to the hypotheses for these reasons:

1. The study population was conveniently rather than randomly sampled.

2. The resultant sample population appeared representative. However, the 23 subjects meeting the criteria for analysis did not.

3. The dependent variables (six C outcomes) were measured at the ordinal level of measurement not at the interval or ratio level.
4. The independent variable for hypothesis one was measured at the nominal level for two groups (i.e., YPE/YCAT and no YPE/YCAT); The independent variable for hypothesis two was measured at the ordinal level since repeated measures of the same subjects were being used (i.e., pre-treatment and post-treatment scores).

5. Although the dependent variables (i.e., six Cs) did approach normal distributions based on Fisher’s Skewness Coefficient, the coefficient’s sensitivity to outliers, the outliers’ abilities to dramatically increase or decrease mean scores and standard deviations, and visual inspection of the distribution curves suggested otherwise.

6. The small sample size, 23 total subjects, was predicted to violate the central limit theorem and produce larger standard errors of the mean.

**Mann-Whitney U Test**

The Mann-Whitney U Test described by Abu-Bader (2006) proved to be the most applicable nonparametric test useful for examining hypothesis one which states: 

H$_1$: There are significantly and consistently higher levels of competence, confidence, connection, character, caring, and contribution for the treatment group relative to the comparison group following the treatment group’s training in youth participatory evaluation and youth community action.

The Mann-Whitney U Test required the dependent variables to be measured from an ordinal level of measurement and is best utilized when the independent variable is measured at the nominal level of measurement for two groups. This test
computed the mean rank scores for the treatment and comparison groups and
determined if a significant and consistent difference existed between the mean scores
for the two groups (Abu-Bader). Using this procedure, \( z \) scores and \( p \) values were
obtained for each of the six Cs for both the treatment and comparison groups at each
of the six time points.

Testing Hypothesis One

A one-tailed Mann-Whitney U Test was used to test the first hypothesis. The
dependent variables competence, confidence, connection, character, caring, and
contributions (six Cs) were tested against the independent variable YPE/YCAT. The
test was conducted to determine if the difference in the treatment group’s post-
treatment mean scores for each of the six Cs were significant and consistent relative to
those of the comparison group.

Given the small sample size, the control variables of age, gender, ethnicity,
years in 4-H, seasonal activity, number of projects, involvement other than 4-H, time
devoted to 4-H and other involvement, and relationships are not part of the analysis.
The Wilcoxon Signed Rank Test described by Abu-Bader (2006) proved to be
the most applicable nonparametric test useful for examining hypothesis two which
states:

\[ \text{H}_2: \text{The treatment group’s levels of competence, confidence, connection, character, caring, and contribution increase significantly and consistently following training in youth participatory evaluation and youth community action.} \]

The Wilcoxon Signed Rank Test is appropriate when examining the difference
between mean scores within groups for two repeated measures when the pre-test or
post-test variables are measured at the ordinal level of measurement (Abu-Bader).

**Testing Hypothesis Two**

A one-tailed Wilcoxon Signed Rank Test was used to test the second
hypothesis. The treatment group’s pre-test competence, confidence, connection,
character, caring, contribution mean scores at TP_3 (time point 3) were tested against
their respective post-treatment competence, confidence, connection, character, caring,
and contribution mean scores at TP_4 (time point 4), TP_5 (time point 5), and TP_6 (time
point 6).

Whereas the Mann-Whitney U Test examined differences between groups, the
Wilcoxon Signed Rank Test was used to examine differences in levels of the six Cs
within the treatment group across time. For example, did the treatment group’s level of
PYD increase significantly and consistently from TP_3 to TP_4 and continue through TP_5
and \( TP_6 \) across all six Cs? Using this procedure, within-group, post-treatment \( z \) scores and \( p \) values were obtained for the treatment group for each of the six Cs.

Given the small sample size, the control variables of age, gender, ethnicity, years in 4-H, seasonal activity, number of projects, involvement other than 4-H, time devoted to 4-H and other involvement, and relationships are not part of the analysis.

**Limitations**

Certain factors impacted the validity of the study regardless of its experimental design. Both true and quasi experiments lend themselves to multiple group designs and consequently the same threats or effects to and on internal and external validity apply (Trochim, 2006). Internal validity refers to the control of variables that could affect the causal relationships between the six Cs as dependent variables and the training as the independent variable. External validity is the degree to which the causal relationships can be applied beyond the sample population to the general population.

**Internal Selection Limitations**

Campbell and Stanley (1963), Trochim (2006), Fitz-Gibbon & Morris (1987) and Dalton (personal communication, June 2009) explain these limitations as:

1. Historic: The subjects continued to participate in other 4-H activities which could account for some or all of their PYD.

2. Maturation: The biological and psychological changes taking place mask the effects of the treatment and significantly impact PYD measures.
3. Testing: Since the participants completed the same survey six times, their improved responses could reflect their experiences with previous distributions of the survey.

4. Instrumentation: The survey instruments had a limited range of responses (e.g., 1-4). Lack of improvement may be the result of the limited ranges of the scales being used.

5. Statistical regression: The study subjects invariably earned mean scores on post-treatment that are closer to the true mean. The chance factors present at the pre-treatment time points are not likely to be present at the post-treatment time points.

6. Differential: The study subjects were conveniently sampled. It was possible the 4-H agent selected subjects that were highly engaged in 4-H which restricted the range of potential responses.

7. Attrition: The study subjects that continued in the study likely differed in important ways from those that opted out across time. Some subjects may have been marginally interested in the study while those that remained found it intriguing. The study only analyzed responses from participants that completed the survey at all six time points.

8. Data restriction: The study relies only on the data collected at the six time points. No implementation data was collected that may provide evidence of the level, amount, and scope of the treatment group’s involvement in research and evaluation processes following the YPE/YCAT.
9. Subject uniformity: The treatment and comparison group subjects meeting the criteria for inclusion in the study did not represent all the county 4-H programs accepting the invitation to participate in the research.

10. Curriculum: *Participatory Evaluation with Youth: Building Skills for Youth Community Action* as designed focused on research and evaluation skills. The curriculum did not include any specific training on the six Cs.

11. Time: No data was collected post-treatment to determine how much time study subjects devoted to their research and evaluation projects.

12. Confounds: The treatment group subjects were invited to YPE/YCAT lasting three days, all expenses paid. The comparison group received no such compensation.

13. Contamination: It was not possible to isolate the treatment group subjects from the comparison group subjects. The study subjects participate in the same programs and attend the same schools. Subject interactions could not be prevented.

**Internal Social Limitations**

Since the non-equivalent design involves treatment and comparison groups, Trochim (2006) introduces a set of social limitations. He categorizes them as:

1. Imitation treatment: This is similar to a contamination threat. It was not possible to keep the study subjects from interacting during the normal course of their lives.
2. Compensatory rivalry: This threat is equivalent to confounds. The comparison group might have over reported on the surveys in a competitive response to special treatment accorded the treatment group.

3. Resentful demoralization: It was possible for the comparison group subjects to have a lack luster attitude toward the experiment given the lack of like compensation for participation in the study.

4. Compensatory equalization: It was possible for the 4-H agents to offer some other form of remuneration to the comparison group subjects in exchange for their participation in the study; possibly right of first refusal to scholarships to other events.

The longitudinal, interrupted time series according to Shadish et al. (2002) is subject to a time/diffusion threat, i.e., the YPE/YCAT occurred all at once. The effect of the treatment was predicted to be immediate. There was, however, a period of time when other threats could impact the promotion of PYD. Shadish et al. proposed that 100 observations are necessary for statistical analysis. This study utilized six observations.

*External Limitations*

In order for this study to have a high level of external validity, three key features were considered. Bracht and Glass (1968) referred to them as:

1. Population validity: The criteria used to recruit resultant study subjects attempted to link the subjects’ profiles to the demographic profile of the sample population within the 4-H program.
2. Personological validity: The sampling process was believed to create treatment and subject groups that were equivalent with respect to personal and social engagement and levels of PYD.

3. Ecological validity: The sample drawn represented a cross section of the Oregon 4-H program such that the results would not be specific to one county’s population.

Summary

The quasi-experimental, non-equivalent, no-treatment comparison group, longitudinal interrupted time series, pretest posttest design was a suitable methodology based on the study subjects and data analysis. The ability to conveniently sample the study population allowed 4-H faculty to recruit subjects perceived to be representative of the Oregon 4-H program and similar with respect to personal and social engagement, and perceived levels of the six Cs. It was necessary to recruit treatment and comparison group subjects who were interested in the topic being studied. It was impractical to implement a randomized sampling of the high school aged 4-H population. The study’s time constraints associated with the school year, student extracurricular activities, level of 4-H participation, and funding considerations impacted the decision and ultimately the choice to utilize the quasi-experimental methodology.

The sample population of 4,699 high school age 4-H members produced 74 consenting participants. Of these 74, only 23 met the criteria for inclusion in the analysis. Fourteen subjects in the treatment group completed the survey at all six time
points. Nine subjects in the comparison group completed each survey at each time point.

By following the 23 subjects through a portion of their 4-H enrollment in the same academic year, measurements at specific time points took into account changes in participant development and changes between participants brought about by their interactions within their environments (i.e., personal↔contextual relationships).

The choice of instruments was based on those predicted to best represent the indicators of PYD. While the GSES and RSES are believed to be analogues for competence and confidence, the scales used to measure the PYD indicators of connection, character, caring, and contribution are the first of their kind for which they are named.

The selection of the Mann-Whitney U and Wilcoxon Signed Rank Tests as analytical tools to test hypotheses one and two was based on a criteria that took into account the convenience sampling method, nonparametric distributions, the dependent and independent variable level of measurement, and the small sample size.

The training curriculum employed as the treatment was one authored by 4-H faculty. Their experience in the field of PYD and YPE prompted its selection. The fact the authors were Oregon 4-H faculty may have allowed them to tailor the curriculum within the context of the Oregon 4-H program.

Conclusion

This study is intended to educate, inform, and encourage PYD scholars and youth development educators. Moving the field of youth-led research from infancy to
primacy and pathway to PYD will take more time. The field will need more experimentation and more publishing for YPE to become widely accepted as a valid practical or transformative pathway to PYD. This study adds to a growing literature base that will provide youth development educators with examples of best practice while encouraging them to find other pathways for youth to employ their research and evaluation skills not only for PYD, but for real youth-driven social change.

A causal relationship between the treatment and the six Cs was an anticipated outcome. Any significant differences in levels of the six Cs as a result of the treatment are intended to provide inferences that approximate or approach the truth about the promotion of PYD specific to the treatment and comparison groups. As well, the treatment effect was predicted to be significantly and consistently dispersed across all six time points with respect to each of the six Cs.

The next chapter explores in more detail the results of the one-tailed Mann-Whitney U and the one-tailed Wilcoxon Signed Rank Tests. The results have implications for the principles and practice of engaging youth development strategies that use training as a moderator of PYD. The final chapter follows with a discussion and conclusion with implications for the field, practice, and approach to PYD.
CHAPTER FOUR: RESULTS

Overview

This study examined the promotion of PYD through YPE/YCAT. Changes in the PYD indicators known as the six Cs were examined: competence, confidence, connection, character, caring, and contribution.

This chapter will provide a detailed accounting of the study’s outcomes. The Mann-Whitney U Test (MWUT) was used to examined hypothesis one. The Wilcoxon Signed Rank Test (WSRT) was used to examine hypothesis two. The results of the tests are presented in verbal, table, and figure format.

The MWUT was used to examine the differences between the treatment and comparison groups’ mean scores at pre-treatment time points one, two, and three (i.e., TP₁, TP₂, and TP₃). Differences were again examined at post-treatment time-points four, five, and six (i.e., TP₄, TP₅, and TP₆). All tests were conducted at the .95 confidence level with $t = 1.721$ at the 95th percentile, and $z = 1.645$ at the 95th percentile (Abu-Bader, 2006).

The WSRT was used to examine the differences in mean scores between the repeated measures of competence, confidence, connection, character, caring, and contribution for the treatment group. The test was run for repeated samples at paired time points TP₃-TP₄, TP₃-TP₅, and TP₃-TP₆. All tests were conducted at the .95 confidence level with $t = 1.721$ at the 95th percentile, and $z = 1.645$ at the 95th percentile (Abu-Bader, 2006).
Table 4.1 describes the number of subjects who responded to the survey at each time point. Data from the subjects that responded to the survey at all six time points were used in the analysis. Twenty-three subjects met this criterion for inclusion. Data from 14 treatment group subjects and 9 comparison group subjects were used in the following analysis.

**TABLE 4.1**

Surveys Completed by Treatment and Comparison Group Subjects

<table>
<thead>
<tr>
<th>Groups</th>
<th>TP1</th>
<th>TP2</th>
<th>TP3</th>
<th>TP4</th>
<th>TP5</th>
<th>TP6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treatment (N = 40)</td>
<td>23</td>
<td>28</td>
<td>37</td>
<td>26</td>
<td>27</td>
<td>24</td>
</tr>
<tr>
<td>Comparison (N = 34)</td>
<td>20</td>
<td>23</td>
<td>29</td>
<td>24</td>
<td>19</td>
<td>20</td>
</tr>
<tr>
<td>Total</td>
<td>43</td>
<td>51</td>
<td>66</td>
<td>50</td>
<td>46</td>
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</tr>
</tbody>
</table>

**Hypotheses**

Hypothesis one predicted there would be significantly and consistently higher levels of competence, confidence, connection, character, caring, and contribution (six Cs) for the treatment group relative to the comparison group following training in YPE/YCA. A one-tailed MWUT was used to test the treatment group against the comparison group for each of the six Cs at TP1 through TP6.

As depicted in Figure 4.1, the differences in pre-treatment mean scores for the treatment group and comparison group levels of the six Cs were expected to be insignificant and consistent from TP1 through TP3; meaning the convenience sampling method produced similar groups. The post-treatment mean scores for each of the six
Cs in the treatment group relative to the comparison group were predicted to significantly and consistently differ from TP4, through TP6. It was predicted that the comparison group’s mean scores for the six Cs would be lower than the treatment group’s mean scores and remain consistent from TP1 through TP6.

Figure 4.1

Hypothesis One Predicted Mean Scores

As depicted in Figure 4.2, hypothesis two predicted that the levels of competence, confidence, connection, character, caring, and contribution (six Cs) within the treatment group would be significantly and consistently higher for each of the six Cs following YPE/YCAT across time from TP3 to TP4, TP3 to TP5, and TP3 to TP6.

Figure 4.2

Hypothesis Two Predicted Mean Scores
Given the study’s small sample size associated with the control variables of age, gender, ethnicity, and personal and social engagement, the effects of covariance were considered untestable. The control variables are not part of the analysis.

Analysis of Hypothesis One

Hypothesis one predicted that there would be significantly and consistently higher levels of competence, confidence, connection, character, caring, and contribution (six Cs) as indicators of PYD for the treatment group relative to the comparison group following YPE/YCAT.

To retain hypothesis one, the treatment group needed to exhibit post-treatment mean score levels of competence, confidence, connection, character, caring, and contribution at TP4, TP5, and TP6 that were significantly and consistently different than those of the comparison group for the same time points. That is $t > 1.721$, $z > 1.645$, and $p < .05$ for each of the six Cs at TP4, TP5, and TP6.

Competence

The treatment group was tested against the comparison group with respect to the Generalized Self Efficacy Scale as a measure of the PYD indicator competence at the first three pre-treatment time points (TP1, TP2, TP3) and again at the remaining three post-treatment time points (TP4, TP5, TP6). The results are presented in Table 4.2 which shows the test included a treatment group containing 14 subjects and a comparison group containing 9 subjects.
Pre-Treatment Competence (TP₁)

The MWUT examined the pre-treatment level of competence at TP₁. The test showed a significant difference in competence between the treatment and comparison groups \( t_{(df21)} = 1.92; z = -1.62; p < .05 \) as shown in Table 4.2; row 1; columns 7, 8, and 9. The treatment group did have a significantly higher level of competence \( (\bar{X} = 33.86) \) than the comparison group \( (\bar{X} = 31.56) \) as shown in Table 4.2; row 1; column 4. The mean difference was 2.30 (row 1; column 6).

Pre-Treatment Competence (TP₂)

The MWUT examined the pre-treatment level of competence at TP₂. The test showed a significant difference in competence between the treatment and comparison groups \( t_{(df21)} = 2.07; z = -1.78; p < .05 \) as shown in Table 4.2; row 2; columns 7, 8, and 9. The treatment group did have a significantly higher level of competence \( (\bar{X} = 33.50) \) than the comparison group \( (\bar{X} = 31.33) \) as shown in Table 4.2; row 2; column 4. The mean difference was 2.17 (row 2; column 6).

Pre-Treatment Competence (TP₃)

The MWUT examined the pre-treatment level of competence at TP₃. The test showed a significant difference in competence between the treatment and comparison groups \( t_{(df21)} = 2.06; z = -1.94; p < .05 \) as shown in Table 4.2; row 3; columns 7, 8, and 9. The treatment group did have a significantly higher level of competence \( (\bar{X} = 33.71) \) than the comparison group \( (\bar{X} = 31.22) \) as shown in Table 4.2; row 3; column 4. The mean difference was 2.49 (row 3; column 6).
The analysis indicated the treatment and comparison groups were dissimilar with regard to *competence* at TP$_1$ through TP$_3$. The convenience sampling method did not produce equivalent treatment and comparison groups with respect to pre-treatment *competence* as an indicator of PYD.

*Post-Treatment Competence (TP$_4$)*

The MWUT examined the post-treatment level of *competence* at TP$_4$. The test showed no significant difference in *competence* between the treatment and comparison groups ($t_{(df21)} = 1.44; z = -1.56; p > .05$) as shown in Table 4.2; row 4; columns 7, 8, and 9. The treatment group did not have a significantly higher level of *competence* ($\bar{X} = 34.86$) than the comparison group ($\bar{X} = 33.11$) as shown in Table 4.2; row 4; column 4. The mean difference was 1.75 (row 4; column 6).

*Post-treatment Competence (TP$_5$)*

The MWUT examined the post-treatment level of *competence* at TP$_5$. The test showed no significant difference between the treatment and comparison groups ($t_{(df21)} = .82; z = -.89; p > .05$) as shown in Table 4.1, row 5; columns 7, 8, and 9. The treatment group did not have a significantly higher level of *competence* ($\bar{X} = 34.79$) than the comparison group ($\bar{X} = 33.67$) as shown in Table 4.2; row 5; column 4. The mean difference was 1.12 (row 5; column 6).

*Post-treatment Competence (TP$_6$)*

The MWUT examined the post-treatment level of *competence* at TP$_6$. The test showed no significant difference in *competence* between the treatment and comparison groups ($t_{(df21)} = 1.73; z = -1.45; p > .05$) as shown in Table 4.2; row 5; columns 7, 8,
and 9. The treatment group did not have a significantly higher level of *competence* \( (\bar{X} = 34.57) \) than the comparison group \( (\bar{X} = 32.00) \) as shown in Table 4.2; row 6; column 4. The mean difference was 2.57 (row 6; column 6).

Given the pre-treatment dissimilarity in *competence* between the treatment and comparison groups at TP\(_1\) through TP\(_3\), it was not possible to claim a post-treatment effect on the treatment group with respect to *competence* as an indicator of PYD (Figure 4.3). The post-treatment analysis indicated that YPE/YCAT was ineffective in significantly and consistently promoting the enhancement of *competence* as an indicator of PYD (see Figure 4.3).

Table 4.2

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Competence Mean Score Significance and Consistency

Confidence

The treatment group was tested against the comparison group with respect to the Rosenberg Self-Esteem scale as a measure of the PYD indicator confidence at the first three pre-treatment time points (TP₁, TP₂, TP₃) and again at the remaining three post-treatment time points (TP₄, TP₅, TP₆). The results are presented in Table 4.3 which shows the test included a treatment group containing 14 subjects and a comparison group containing 9 subjects.

Pre-Treatment Confidence (TP₁)

The MWUT examined the pre-treatment level of confidence at TP₁. The test showed no significant difference in confidence between the treatment and comparison groups ($t_{(df21)} = 1.08; z = -0.85; p > .05$) as shown in Table 4.3; row 1; columns 7, 8, and 9. The treatment group did not have a significantly higher level of confidence ($\bar{X} = 33.36$) than the comparison group ($\bar{X} = 31.33$) as shown in Table 4.3; row 1; column 4. The mean difference was 2.03 (row 1; column 6).
Pre-Treatment Confidence (TP₂)

The MWUT examined the pre-treatment levels of confidence at TP₂. The test showed no significant difference in confidence between the treatment and comparison groups ($t_{(df=21)} = .57; z = -.38; p > .05$) as shown in Table 4.3; row 2; columns 7, 8, and 9. The treatment group did not have a significantly higher level of confidence ($\bar{X} = 32.93$) than the comparison group ($\bar{X} = 31.56$) as shown in Table 4.3; row 2; column 4. The mean difference was 1.37 (row 2; column 6).

Pre-Treatment Confidence (TP₃)

The MWUT examined the pre-treatment level of confidence at TP₃. The test showed no significant difference in confidence between the treatment and comparison groups ($t_{(df=21)} = .64; z = -.57; p > .05$) as shown in Table 4.3; row 3; columns 7, 8, and 9. The treatment group did not have a significantly higher level of confidence ($\bar{X} = 34.14$) than the comparison group ($\bar{X} = 33.00$) as shown in Table 4.3; row 3; column 4. The mean difference was 1.14 (row 3; column 6).

The analysis indicated the treatment and comparison groups were similar with regard to pre-treatment confidence as an indicator of PYD at TP₁ through TP₃. The convenience sampling method produced equivalent treatment and comparison groups with respect to confidence as an indicator of PYD.

Post-Treatment Confidence (TP₄)

The MWUT examined the post-treatment level of confidence at TP₄. The test showed no significant difference in confidence between the treatment and comparison groups ($t_{(df=21)} = .26; z = -.10; p > .05$) as shown in Table 4.3; row 4; columns 7, 8, and
9. The treatment group did not have a significantly higher level of confidence ($\bar{X} = 33.86$) than the comparison group ($\bar{X} = 33.33$) as shown in Table 4.3; row 4; column 4. The mean difference was .53 (row 4; column 6).

**Post-Treatment Confidence (TP₅)**

The MWUT examined the post-treatment level of confidence at TP₅. The test showed no significant difference in confidence between the treatment and comparison groups ($t_{(df21)} = .56; z = -.35; p > .05$) as shown in Table 4.3; row 5; columns 7, 8, and 9. The treatment group did not have a significantly higher level of confidence ($\bar{X} = 33.57$) than the comparison group ($\bar{X} = 32.44$) as shown in Table 4.3; row 4; column 4. The mean difference was 1.13 (row 5; column 6).

**Post-Treatment Confidence (TP₆)**

The MWUT examined the post-treatment level of confidence at TP₆. The test showed no significant difference in confidence between the treatment and comparison groups ($t_{(df21)} = -.04; z = -.19; p > .05$) as shown in Table 4.3; row 5; columns 7, 8, and 9. The treatment group did not have a significantly higher level of confidence ($\bar{X} = 32.36$) than the comparison group ($\bar{X} = 32.44$) as shown in Table 4.3; row 4; column 4. The mean difference was -.08 (row 5; column 6).

The convenience sampling method produced similar treatment and comparison groups. The analysis of TP₄ through TP₆ indicated that YPE/YCAT was ineffective in significantly and consistently promoting the enhancement of confidence as an indicator of PYD (see Figure 4.4).
Table 4.3

Confidence (Rosenberg Self-Esteem)

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Figure 4.4

Confidence Mean Score Significance and Consistency

Connection

The treatment group was tested against the comparison group with respect to the Connection scale as an indicator of PYD at the first three pre-treatment time points (TP₁, TP₂, TP₃) and again at the remaining three post-treatment time points (TP₄, TP₅, TP₆).
TP$_6$). The results are presented in Table 4.4 which shows the test included a treatment group containing 14 subjects and a comparison group containing 9 subjects.

**Pre-Treatment Connection (TP$_1$)**

The MWUT examined the pre-treatment level of *connection* at TP$_1$. The test showed no significant difference in *connection* between the treatment and comparison groups ($t_{(df21)} = .58; z = -.41; p > .05$) as shown in Table 4.4; row 1; columns 7, 8, and 9. The treatment group did not have a significantly higher level of *connection* ($\bar{X} = 28.43$) than the comparison group ($\bar{X} = 27.56$) as shown in Table 4.4; row 1; column 4. The mean difference was .87 (row 1; column 6).

**Pre-Treatment Connection (TP$_2$)**

The MWUT examined the pre-treatment level of *connection* at TP$_2$. The test showed no significant difference in *connection* between the treatment and comparison groups ($t_{(df21)} = .81; z = -.96; p > .05$) as shown in Table 4.4; row 2; columns 7, 8, and 9. The treatment group did not have a significantly higher level of *connection* ($\bar{X} = 29.07$) than the comparison group ($\bar{X} = 28.11$) as shown in Table 4.4; row 2; column 4. The mean difference was .96 (row 2; column 6).

**Pre-Treatment Connection (TP$_3$)**

The MWUT examined the pre-treatment level of *connection* at TP$_3$. The test showed no significant difference in *connection* between the treatment and comparison groups ($t_{(df21)} = 1.64; z = -1.68; p > .05$) as shown in Table 4.4; row 3; columns 7, 8, and 9.
The treatment group did not have a significantly higher level of connection ($X = 30.79$) than the comparison group ($X = 28.89$) as shown in Table 4.4; row 3; column 4. The mean difference was 1.90 (row 3; column 6).

The analysis indicated that the treatment and comparison groups were similar with regard to pre-treatment connection as an indicator of PYD at TP$_1$ through TP$_3$. The convenience sampling method did produce equivalent treatment and comparison groups with respect to pre-treatment connection as an indicator of PYD.

**Post-Treatment Connection (TP$_4$)**

The MWUT examined the post-treatment level of connection at TP$_4$. The test showed no significant difference in connection between the treatment and comparison groups ($t_{(df21)} = 1.27; z = -1.14; p > .05$) as shown in Table 4.4, row 4; columns 7, 8, and 9. The treatment group did not have a significantly higher level of connection ($X = 31.07$) than the comparison group ($X = 29.67$) as shown in Table 4.4; row 4; column 4. The mean difference was 1.40 (row 4; column 6).

**Post-Treatment Connection (TP$_5$)**

The MWUT examined the post-treatment level of connection at TP$_5$. The test showed no significant difference in connection between the treatment and comparison groups ($t_{(df21)} = 1.37; z = -1.49; p > .05$) as shown in Table 4.4; row 5; columns 7, 8, and 9. The treatment group did have a significantly higher level of connection ($X = 31.07$) than the comparison group ($X = 29.22$) as shown in Table 4.4; row 5; column 4. The mean difference was 1.85 (row 5; column 6).
Post-Treatment Connection (TP<sub>6</sub>)

The MWUT examined the post-treatment level of connection at TP<sub>6</sub>. The test showed no significant difference in connection between the treatment and comparison groups (t<sub>df21</sub> = 1.09; z = -1.09; p > .05) as shown in Table 4.4; row 6; columns 7, 8, and 9. The treatment group did not have a significantly higher level of connection (X = 30.57) than the comparison group (X = 29.22) as shown in Table 4.4; row 6; column 4. The mean difference was 1.35 (row 6; column 6).

The mean scores at TP<sub>1</sub> through TP<sub>3</sub> indicated no significant pre-treatment differences in connection between the treatment and comparison groups’ levels of connection as an indicator of PYD. The groups were similar with respect to pre-treatment connection as an indicator of PYD. Further analysis at TP<sub>4</sub> through TP<sub>6</sub> indicated that YPE/YCAT was ineffective in promoting the significant and consistent enhancement of connection as an indicator of PYD (see Figure 4.5).
Table 4.4

Connection

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Figure 4.5

Confidence Mean Score Significance and Consistency

Character

The treatment group was tested against the comparison group with respect to the Character scale as an indicator of PYD at the first three pre-treatment time points (TP₁, TP₂, TP₃) and again at the remaining three post-treatment time points (TP₄, TP₅, TP₆).
TP_6). The results are presented in Table 4.5 which shows the test included a treatment
group containing 14 subjects and a comparison group containing 9 subjects.

ilibrium (TP_1)

The MWUT examined the pre-treatment level of character at TP_1. The test
showed no significant difference in character between the treatment and comparison
groups (t_{df21} = 1.43; z = -1.59; p > .05) as shown in Table 4.5; row 1; columns 6, 7,
and 8. The treatment group did not have a significantly higher level of character (\( \bar{X} = 
32.21 \)) than the comparison group (\( \bar{X} = 30.56 \)) as shown in Table 4.5; row 1; column
4. The mean difference was 1.65 (row 1; column 6).

ilibrium (TP_2)

The MWUT examined the pre-treatment level of character at TP_2. The test
showed no significant difference in character between the treatment and comparison
groups (t_{df21} = .32; z = -.80; p > .05) as shown in Table 4.5; row 2; columns 6, 7, and
8. The treatment group did not have a significantly higher level of character (\( \bar{X} = 
31.43 \)) than the comparison group (\( \bar{X} = 31.00 \)) as shown in Table 4.5; row 2; column
4. The mean difference was .43 (row 2; column 6).

ilibrium (TP_3)

The MWUT examined the pre-treatment level of character at TP_3. The test
showed no significant difference in character between the treatment and comparison
groups (t_{df21} = .94; z = -1.27; p > .05) as shown in Table 4.5; row 3; columns 7, 8, and
9. The treatment group did not have a significantly higher level of character (\( \bar{X} =
32.14) than the comparison group ($\bar{X} = 30.89$) as shown in Table 4.5; row 1; column 4. The mean difference was 1.25 (row 3; column 6).

The analysis indicated that the treatment and comparison groups were similar with regard to pre-treatment character as an indicator of PYD at TP$_1$ through TP$_3$. The convenience sampling method produced equivalent treatment and comparison groups with respect to character as an indicator of PYD.

**Post-Treatment Character (TP$_4$)**

The MWUT examined the post-treatment level of character at TP$_4$. The test showed no significant difference in character between the treatment and comparison groups ($t_{(df21)} = 1.11; z = -.99; p > .05$) as shown in Table 4.5; row 4; columns 7, 8, and 9. The treatment group did not have a significantly higher level of character ($\bar{X} = 32.50$) than the comparison group ($\bar{X} = 30.89$) as shown in Table 4.5; row 4; column 4. The mean difference was 1.61 (row 4; column 6).

**Post-Treatment Character (TP$_5$)**

The MWUT examined the post-treatment level of character at TP$_5$. The test showed no significant difference in character between the treatment and comparison groups ($t_{(df21)} = 1.01; z = -1.17; p > .05$) as shown in Table 4.5; row 5; columns 7, 8, and 9. The treatment group did not have a significantly higher level of character ($\bar{X} = 31.14$) than the comparison group ($\bar{X} = 29.56$) as shown in Table 4.5; row 5; column 4. The mean difference was 1.58 (row 5; column 6).
Post-Treatment Character (TP₆)

The MWUT examined the post-treatment level of character at TP₆. The test showed no significant difference in character between the treatment and comparison groups ($t_{(df21)} = .99; z = -.60; p > .05$) as shown in Table 4.5; row 6; columns 7, 8, and 9. The treatment group did not have a significantly higher level of character ($\bar{X} = 31.79$) than the comparison group ($\bar{X} = 30.00$) as shown in Table 4.5; row 5; column 4. The mean difference was 1.79 (row 6; column 6).

The mean scores at TP₁ through TP₃ indicated no significant pre-treatment differences between the treatment and comparison groups’ levels of character as an indicator of PYD. The $p$ values at TP₄ through TP₆ indicated the YPE/YCAT was ineffective in significantly and consistently promoting the enhancement of character as an indicator of PYD (see Figure 4.6).
Table 4.5

Character

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| 3 | TP₃ | T | C | 14 | 9 | 32.14 | 30.89 | 3.25 | 2.93 | 1.25 | .94  | -1.27 | .10 |
| 4 | TP₄ | T | C | 14 | 9 | 32.50 | 30.89 | 3.18 | 3.76 | 1.61 | 1.11 | -.99  | .16 |
| 5 | TP₅ | T | C | 14 | 9 | 31.14 | 29.56 | 3.48 | 4.00 | 1.58 | 1.01 | -1.17 | .12 |
| 6 | TP₆ | T | C | 14 | 9 | 31.79 | 30.00 | 4.37 | 3.97 | 1.79 | .99  | -.60  | .28 |

Figure 4.6

Character Mean Score Significance and Consistency

Caring

The treatment group was tested against the comparison group with respect to the Caring scale as an indicator of PYD at the first three pre-treatment time points (TP₁, TP₂, TP₃) and again at the remaining three post-treatment time points (TP₄, TP₅, TP₆).
TP₆). The results are presented in Table 4.6 which shows the test included a treatment group containing 14 subjects and a comparison group containing 9 subjects.

**Pre-Treatment Caring (TP₁)**

The MWUT examined the pre-treatment level of *caring* at TP₁. The test showed no significant difference in *caring* between the treatment and comparison groups (*t*₉₂₁ = -.43; *z* = -.10; *p* > .05) as shown in Table 4.6; row 1; columns 7, 8, and 9. The treatment group did not have a significantly higher levels of *caring* (\( \bar{X} = 28.14 \)) than the comparison group (\( \bar{X} = 28.67 \)) as shown in Table 4.6; row 1; column 4. The mean difference was -.53 (row 1; column 6).

**Pre-Treatment Caring (TP₂)**

The MWUT examined the pre-treatment level of *caring* at TP₂. The test showed no significant difference in *caring* between the treatment and comparison groups (*t*₉₂₁ = -.24; *z* = -.13; *p* > .05) as shown in Table 4.6; row 2; columns 7, 8, and 9. The treatment group did not have a significantly higher level of *caring* (\( \bar{X} = 27.93 \)) than the comparison group (\( \bar{X} = 28.22 \)) as shown in Table 4.6; row 2; column 4. The mean difference was -.29 (row 2; column 6).

**Pre-Treatment Caring (TP₃)**

The MWUT examined the pre-treatment level of *caring* at TP₃. The test showed a significant difference between the treatment and comparison groups (*t*₉₂₁ = 1.60; *z* = -1.63; *p* < .05) as shown in Table 4.6; row 3; columns 7, 8, and 9. The treatment group did have a significantly higher level of *caring* (\( \bar{X} = 29.07 \)) than the
comparison group (\( \bar{X} = 27.22 \)) as shown in Table 4.6; row 3; column 4. The mean difference was 1.85 (row 3; column 6).

The \( p \) values indicated the treatment and comparison groups were similar with regard to pre-treatment caring as an indicator of PYD at TP\(_1\) and TP\(_2\). The \( p \) value at TP\(_3\) indicated a significant difference in a pre-treatment level of caring as an indicator of PYD between the treatment and comparison groups. This suggested that the convenience sampling method did not produce equivalent treatment and comparison groups with respect to pre-treatment caring as an indicator of PYD.

**Post-Treatment Caring (TP\(_4\))**

The MWUT examined the post-treatment level of caring at TP\(_4\). The test showed no significant difference in caring between the treatment and comparison groups (\( t_{(df21)} = .55; z = -.51; p > .05 \)) as shown in Table 4.6; row 4; columns 7, 8, and 9. The treatment group did not have a significantly higher level of caring (\( \bar{X} = 29.21 \)) than the comparison group (\( \bar{X} = 28.44 \)) as shown in Table 4.6; row 4; column 4. The mean difference was .77 (row 4; column 6).

**Post-Treatment Caring (TP\(_5\))**

The MWUT examined the post-treatment level of caring at TP\(_5\). The test showed no significant difference in caring between the treatment and comparison groups (\( t_{(df21)} = -.09; z = -.06; p > .05 \)) as shown in Table 4.6; row 5; columns 7, 8, and 9. The treatment group did not have a significantly higher level of caring (\( \bar{X} = 28.21 \)) than the comparison group (\( \bar{X} = 28.33 \)). The mean difference was -.12 (row 5; column 6).
Post-Treatment Caring (TP₆)

The MWUT examined the post-treatment level of caring at TP₆. The test showed no significant difference in caring between the treatment and comparison groups \((t_{(df21)} = .15; z = -.29; p > .05)\) as shown in Table 4.6; row 6; columns 7, 8, and 9. The treatment group did not have a significantly higher level of caring \((\bar{X} = 28.43)\) than the comparison group \((\bar{X} = 28.22)\) as shown in Table 4.6; row 6; column 4. The mean difference was .21 (row 6; column 6).

The mean scores at TP₁ and TP₂ indicated similar levels of pre-treatment caring as an indicator of PYD. A significant difference between the treatment and comparison groups’ level of pre-treatment caring as an indicator of PYD was noted at TP₃. The groups were not similar with respect to pre-treatment caring as an indicator of PYD. The \(p\) values at TP4 through TP6 indicated that YPE/YCAT was ineffective in promoting the significant and consistent enhancement of caring as an indicator of PYD (see Figure 4.7).
Table 4.6

Caring

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Figure 4.7

Caring Mean Score Significance and Consistency

Contribution

The treatment group was tested against the comparison group with respect to the Contribution scale as an indicator of PYD at the first three pre-treatment time points (TP_1, TP_2, TP_3) and again at the remaining three post-treatment time points.
(TP4, TP5, TP6). The results are presented in Table 4.7 which shows the test included a treatment group containing 14 subjects and a comparison group containing 9 subjects.

**Pre-Treatment Contribution (TP1)**

The MWUT examined the pre-treatment level of contribution at TP1. The test showed no significant difference in contribution between the treatment and comparison groups ($t_{(df21)} = 1.16; z = -.95; p > .05$) as shown in Table 4.7; row 1; columns 7, 8, and 9. The treatment group did not have a significantly higher level of contribution ($\bar{X} = 23.43$) than the comparison group ($\bar{X} = 22.11$) as shown in Table 4.7; row 1; column 4. The mean difference was 1.32 (row 1; column 6).

**Pre-Treatment Contribution (TP2)**

The MWUT examined the pre-treatment level of contribution at TP2. The test showed no significant difference in contribution between the treatment and comparison groups ($t_{(df21)} = .59; z = -.41; p > .05$) as shown in Table 4.7; row 2; columns 7, 8, and 9. The treatment group did not have a significantly higher level of contribution ($\bar{X} = 22.43$) than the comparison group ($\bar{X} = 21.67$) as shown in Table 4.7; row 1; column 4. The mean difference was .76 (row 2; column 6).

**Pre-Treatment Contribution (TP3)**

The MWUT examined the pre-treatment level of contribution at TP3. The test showed no significant difference in contribution between the treatment and comparison groups ($t_{(df21)} = 1.35; z = -1.37; p > .05$) as shown in Table 4.7; row 3; columns 7, 8, and 9. The treatment group did not have a significantly higher level of contribution ($\bar{X} = 22.43$) than the comparison group ($\bar{X} = 21.67$) as shown in Table 4.7; row 1; column 4. The mean difference was .76 (row 2; column 6).
contribution \((\bar{X} = 23.86)\) than the comparison group \((\bar{X} = 22.67)\) as shown in Table 4.7; row 1, column 4. The mean difference was 1.86 (row 3; column 6).

The \(p\) values indicated the treatment and comparison groups were similar with respect to pre-treatment contribution as an indicator of PYD at TP\(_1\) through TP\(_3\). The convenience sampling method produced similar pre-treatment groups with respect to contribution as an indicator of PYD.

**Post-Treatment Contribution (TP\(_4\))**

The MWUT examined the post-treatment level of contribution at TP\(_4\). The test showed no significant difference in contribution between the treatment and comparison groups \((t_{(df21)} = .11; z = -.51; p > .05)\) as shown in Table 4.7; row 4; columns 7, 8, and 9. The treatment group did not have a significantly higher level of contribution \((\bar{X} = 23.50)\) than the comparison group \((\bar{X} = 23.33)\) as shown in Table 4.7; row 4; column 4. The mean difference was .17 (row 4; column 6).

**Post-Treatment Contribution (TP\(_5\))**

The MWUT examined the post-treatment level of contribution at TP\(_5\). The test showed no significant difference in contribution between the treatment and comparison groups \((t_{(df21)} = -.28; z = -.03; p > .05)\) as shown in Table 4.7; row 5; columns 7, 8, and 9. The treatment group did not have a significantly higher level of contribution \((\bar{X} = 22.86)\) than the comparison group \((\bar{X} = 23.33)\) as shown in Table 4.7; row 4; column 4. The mean difference was -.47 (row 5; column 6).
Post-Treatment Contribution (TP₆)

The MWUT examined the post-treatment level of contribution at TP₆. The test showed no significant difference in contribution between the treatment and comparison groups ($t_{(df21)} = -.50; z = -.25; p > .05$) as shown in Table 4.7; row 6; columns 7, 8, and 9.

The treatment group did not have a significantly higher level of contribution ($\bar{X} = 22.79$) than the comparison group ($\bar{X} = 23.44$) as shown in Table 4.7; row 6, column 4. The mean difference was -.65 (row 6; column 6).

The mean scores at TP₁ through TP₃ indicated similar levels of contribution as an indicator of PYD. The groups were regarded as similar with respect to contribution as an indicator of PYD. The $p$ values at TP₄ through TP₆ indicated the YPE/YCAT was ineffective in promoting the significant and consistent enhancement of contribution as an indicator of PYD (see Figure 4.8).
Table 4.7
Contribution

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Figure 4.8
Contribution Mean Score Significance and Consistency

Summary

The results did not support the retention of hypothesis one. At pre-treatment TP₁ through TP₃, the treatment and comparison groups were similar with respect to confidence, connection, character, and contribution as indicators of PYD indicating...
the convenience sampling method produced equivalent pre-treatment groups. The
treatment and comparison groups were found to be dissimilar with respect to
*competence* and *caring* at the first three time points suggesting that the convenience
sampling method did not produce equivalent pre-treatment groups with similar levels
of *competence* and *caring* as indicators of PYD. There were no significant and
consistent post-treatment differences between the treatment group and comparison
groups’ mean score levels of *competence, confidence, connection, character, caring,*
and *contribution* following the YPE/YCAT. Had a post-treatment causal relationship
been implied, it could only be attributed to the effect of YPE/YCAT with respect to
*confidence, connection, character, and contribution* given the initial similarity of the
two groups.

**Analysis of Hypothesis Two**

Hypothesis two predicted that the treatment group’s levels of competence,
confidence, connection, character, caring, and contribution would increase
significantly and consistently following YPE/YCAT.

To retain hypothesis two, the treatment group needed to exhibit within-group,
post-treatment levels of the six Cs with absolute *t* scores greater than 1.721 across
post-treatment time points (TP$_{4t} <$ TP$_{5t} <$ TP$_{6t}$), absolute *z* scores greater than 1.645
across post-treatment time points (TP$_{4z} <$ TP$_{5z} <$ TP$_{6z}$), *p* values (*p* < .05) that
approached zero across post-treatment time points (TP$_{4p} >$ TP$_{5p} >$ TP$_{6p}$), and mean
differences (md) that increased across post-treatment time points (TP$_{4md} <$ TP$_{5md} <$
TP$_{6md}$).
**Competence**

*Treatment Group Competence (TP\textsubscript{3}-TP\textsubscript{4})*

The results of the Wilcoxon Signed Rank Test (WSRT), displayed in Table 4.8; row 1; columns 4, 7, 8, and 9 showed a significant change in the level of competence within the treatment group from 33.71 points at pre-treatment TP\textsubscript{3} to 34.86 points at post-treatment TP\textsubscript{4} ($t$ (df=13) = -1.90; $z$ = -1.70; $p$ < .05), an increase of 1.15 points (row 1; column 6).

*Treatment Group Competence (TP\textsubscript{3}-TP\textsubscript{5})*

The results of the WSRT, displayed in Table 4.8; row 2; columns 4, 7, 8, and 9 showed a significant change in the level of competence within the treatment group from 33.71 points at pre-treatment TP\textsubscript{3} to 34.79 points at post-treatment TP\textsubscript{5} ($t$ (df=13) = -2.03; $z$ = -1.92; $p$ < .05), an increase of 1.08 points (row 2; column 6).

*Treatment Group Competence (TP\textsubscript{3}-TP\textsubscript{6})*

The results of the WSRT, displayed in Table 4.8; row 3; columns 4, 7, 8, and 9 showed no significant change in the level of competence within the treatment group from 33.71 points at pre-treatment TP\textsubscript{3} to 34.57 points at post-treatment TP\textsubscript{6} ($t$ (df=13) = -0.877; $z$ = -1.03; $p$ > .05), an increase of .86 points (row 3; column 6).

Hypothesis two predicted significantly and consistently higher levels of the treatment group’s competence following YPE/YCAT. The WSRT Test provided evidence that YPE/YCAT initially promoted the enhancement of competence as an indicator of PYD (see Figure 4.9). The results of the WSRT displayed in Table 4.8 show that the affect of YPE/YCAT deteriorated over time as the mean differences
diminished (rows 1, 2, and 3; column 6). The $t$ and $z$ scores did not increase significantly and consistently from TP$_4$ through TP$_6$ (rows 1, 2, and 3; column 7 and 8). The $p$ values did not approach zero (row 1, 2, and 3; column 9).

Table 4.8

Competence (Generalized Self-Efficacy)

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Figure 4.9

Competence Mean Score Significance and Consistency

Confidence

Treatment Group Confidence (TP$_3$-TP$_4$)

The results of the WRST, displayed in Table 4.9; row 1; columns 4, 7, 8, and 9 showed no significant change in the level of confidence within the treatment group.
from 34.14 points at pre-treatment TP\textsubscript{3} to 33.86 points at post-treatment TP\textsubscript{4} \((t_{(df=13)} = .51; z = -.52; p > .05)\), a decrease of .28 points (row 1; column 6).

**Treatment Group Confidence (TP\textsubscript{3}-TP\textsubscript{5})**

The results of the WSRT, displayed in Table 4.9; row 2; columns 4, 7, 8, and 9 showed no significant change in the level of *confidence* within the treatment group from 34.14 points at pre-treatment TP\textsubscript{3} to 33.57 points at post-treatment TP\textsubscript{5} \((t_{(df=13)} = .50; z = -.44; p > .05)\), a decrease of .57 points (row 2; column 6).

**Treatment Group Confidence (TP\textsubscript{3}-TP\textsubscript{6})**

The results of the WSRT, displayed in Table 4.9; row 3; columns 4, 7, 8, and 9 showed a significant change in the level of *confidence* within the treatment group from 34.14 points at pre-treatment TP\textsubscript{3} to 32.36 points at post-treatment TP\textsubscript{6} \((t_{(df=13)} = 2.29; z = -1.93; p < .05)\), a decrease of 1.78 points (row 3; column 6).

Hypothesis two predicted significantly and consistently higher levels of the treatment group’s *confidence* following YPE/YCAT. The WSRT provided evidence that YPE/YCAT did not promote the enhancement of *confidence* as an indicator of PYD (see Figure 4.10). The results of the WSRT displayed in Table 4.9 show the YPE/YCAT had no effect on the levels of *confidence*. The evidence suggested that the mean levels of *confidence* fell below pre-treatment levels and deteriorated over time (rows 1, 2, and 3; columns 4 and 6). A significant negative effect was noted at TP\textsubscript{6} (row 3; column 9). The \(t\) and \(z\) scores did not increase significantly and consistently (rows 1, 2, and 3; column 7 and 8). The \(p\) values at TP\textsubscript{4} through TP\textsubscript{6} did not approach zero (row 1, 2, and 3; column 9).
Table 4.9

Confidence (Rosenberg Self-Esteem)

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<td>t: .51</td>
<td>z: -.52</td>
<td>p: .30</td>
</tr>
<tr>
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<td>TP3, TP5</td>
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<td>X: 34.14, 33.57</td>
<td>SD: 3.51, 3.41</td>
<td>MD: -.57</td>
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<td>TP3, TP6</td>
<td>N: 14</td>
<td>X: 34.14, 32.36</td>
<td>SD: 3.51, 3.97</td>
<td>MD: -1.78</td>
<td>t: 2.29</td>
<td>z: -1.93</td>
<td>p: .03</td>
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</table>

Figure 4.10

Confidence Mean Score Significance and Consistency

Connection

Treatment Group Connection (TP3-TP4)

The results of the WSRT, displayed in Table 4.10; row 1; columns 4, 7, 8, and 9 showed no significant change in the level of connection within the treatment group from 30.79 points at pre-treatment TP3 to 31.07 points at post-treatment TP4 (t(df=13) = -.67; z = -.66; p > .05), an increase of .28 points (row 1; column 6).
Treatment Group Connection (TP₃-TP₅)

The results of the WSRT, displayed in Table 4.10; row 2; columns 4, 7, 8, and 9 showed no significant change in the level of connection within the treatment group from 30.79 points at pre-treatment TP₃ to 31.07 points at post-treatment TP₅ (t (df=13) = -.43; z = -.45; p > .05), an increase of .28 points (row 2; column 6).

Treatment Group Connection (TP₃-TP₆)

The results of the WSRT displayed in Table 4.10, row 3; columns 4, 7, 8, and 9 showed no significant change in the level of connection within treatment group from 30.79 points at pre-treatment TP₃ to 30.57 points at post-treatment TP₆ (t (df=13) = .33; z = -.12; p > .05), a decrease of .22 points.

Hypothesis two predicted significantly and consistently higher treatment group levels of connection following YPE/YCAT. The WSRT provided evidence that YPE/YCA did not promote the enhancement of connection as an indicator of PYD (see Figure 4.11). The results of the WSRT displayed in Table 4.10 show that YPE/YCAT had no effect on the levels of connection. The results indicated that the mean levels of connection were initially above pre-treatment levels then deteriorated over time (rows 1, 2, and 3; columns 4 and 6). An insignificant negative effect was noted at TP₆ (row 3; column 9). The t and z scores did not increase significantly and consistently (rows 1, 2, and 3; column 7 and 8). The p values at TP₄ through TP₆ did not approach zero (row 1, 2, and 3; column 9).
Table 4.10

Connection

<table>
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<th>SD</th>
<th>MD</th>
<th>t</th>
<th>z</th>
<th>p</th>
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<td>-.66</td>
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<td>TP3-5</td>
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<td>14</td>
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<td>31.07</td>
<td>2.61</td>
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<td>-.45</td>
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<td>.33</td>
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</table>

Figure 4.11

Connection Mean Score Significance and Consistency

Character

Treatment Group Character (TP3-TP4)

The results of the WSRT, displayed in Table 4.11; row 1; columns 4, 7, 8, and 9 showed no significant change in the level of character within the treatment group from 32.14 points at pre-treatment TP3 to 32.50 points at post-treatment TP4 ($t_{(df=13)} = -1.07; p > .05$), an increase of .36 points (row 1; column 6).
Treatment Group Character (TP\textsubscript{3}-TP\textsubscript{5})

The results of the WSRT, displayed in Table 4.11; row 2; columns 4, 7, 8, and 9 showed no significant change in the level of *character* within the treatment group from 32.14 points at pre-treatment TP\textsubscript{3} to 31.14 points at post-treatment TP\textsubscript{5} ($t_{(df=13)} = 1.32; z = -1.31; p > .05$), a decrease of 1.0 points (row 2; column 6).

Treatment Group Character (TP\textsubscript{3}-TP\textsubscript{6})

The results of the WSRT, displayed in Table 4.11; row 3; columns 4, 7, 8, and 9 showed significant change in the level of *character* within the treatment group from 32.14 points at pre-treatment TP\textsubscript{3} to 31.79 points at post-treatment TP\textsubscript{6} ($t_{(df=13)} = .48; z = -.18; p > .05$), a decrease of .35 points (row 3; column 6).

Hypothesis two predicted significantly and consistently higher levels of the treatment group’s *character* following YPE/YCAT. The WSRT provided evidence that YPE/YCAT did not promote the enhancement of *character* as an indicator of PYD (Figure 4.12). The results displayed in Table 4.11 indicated that the mean levels of *character* were unchanged at TP\textsubscript{4} through TP\textsubscript{6}. The mean scores for character fell below the pre-treatment level at TP\textsubscript{5} and TP\textsubscript{6} (rows 1, 2, and 3; columns 4 and 6). The $t$ and $z$ scores did not increase significantly and consistently from TP\textsubscript{4} through TP\textsubscript{6} (rows 1, 2, and 3; column 7 and 8). The $p$ value did not approach zero (row 1, 2, and 3; column 9).
Table 4.11

Character

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<th>t</th>
<th>z</th>
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Figure 4.12

Character Mean Score Significance and Consistency

Caring

Treatment Group Caring (TP3-TP4)

The results of the WSRT, displayed in Table 4.12; row 1; columns 4, 7, 8, and 9 showed no significant change in the level of caring within the treatment group from 29.07 points at pre-treatment TP3 to 29.21 points at post-treatment TP4 ($t_{(df=13)} = -0.32$; $z = -0.30$; $p > .05$), an increase of .14 points (row 1; column 6).
Treatment Group Caring (TP₃-TP₅)

The results of the WSRT, displayed in Table 4.12; row 2; columns 4, 7, 8, and 9 showed no significant change in the level of caring within the treatment group from 29.07 points at pre-treatment TP₃ to 28.21 points at post-treatment TP₅ \( (t_{(df=13)} = 1.39; z = -1.34; p > .05) \), a decrease of .86 points (row 2; column 6).

Treatment Group Caring (TP₃-TP₆)

The results of the WSRT, displayed in Table 4.12; row 3; columns 4, 7, 8, and 9 showed no significant change in the level of caring within the treatment group from 29.07 points at pre-treatment TP₃ to 28.43 points at post-treatment TP₆ \( (t_{(df=13)} = 1.51; z = -1.44; p > .05) \), a decrease of .64 points (row 3; column 6).

Hypothesis two predicted significantly and consistently higher levels of the treatment group’s caring following YPE/YCAT. The WSRT provided evidence that YPE/YCAT did not promote the enhancement of caring as an indicator of PYD (Figure 4.13). The results displayed in Table 4.12 indicated that mean scores for caring deteriorated over time from TP₄ through TP₆. The mean scores fell below the pre-treatment level. The \( t \) and \( z \) scores did not increase significantly and consistently from TP₄ through TP₆ (rows 1, 2, and 3; column 7 and 8). The \( p \) values did not approach zero (row 1, 2, and 3; column 9).
Table 4.12

Caring

<table>
<thead>
<tr>
<th>Row/Column</th>
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<th>N</th>
<th>$\bar{X}$</th>
<th>s</th>
<th>MD</th>
<th>t</th>
<th>z</th>
<th>p</th>
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<td>-.32</td>
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<td>.38</td>
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<td>28.21</td>
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</table>

Figure 4.13

Caring Mean Score Significance and Consistency

Contribution

Treatment Group Contribution (TP3-TP4)

The results of the WSRT, displayed in Table 4.13; row 1; columns 4, 7, 8, and 9 showed no significant change in the level of contribution within the treatment group from 23.86 points at pre-treatment TP3 to 23.5 points at post-treatment TP4 ($t_{(df=13)} = .54; z = -.52; p > .05$), a decrease of .36 points (row 1; column 6).
Treatment Group Contribution (TP₃-TP₅)

The results of the WSRT displayed in Table 4.13; row 2; columns 4, 7, 8, and 9 showed no significant change in the level of contribution within the treatment group from 23.86 points at pre-treatment TP₃ to 22.86 points at post-treatment TP₅ (t (df=13) = 1.23; z = -.87; p > .05), a decrease of 1.00 points (row 2; column 6).

Treatment Group Contribution (TP₃-TP₆)

The results of the Wilcoxon Signed Rank test, displayed in Table 4.13; row 3; columns 4, 7, 8, and 9 showed no significant change in the level of contribution within the treatment group from 23.86 points at pre-treatment TP₃ to 22.79 points at post-treatment TP₆ (t (df=13) = 1.55; z = -1.35; p > .05), a decrease of 1.07 points (row 3; column 6).

Hypothesis two predicted significantly and consistently higher levels of the treatment group’s contribution following YPE/YCAT. The WSRT provided evidence that YPE/YCAT did not promote the enhancement of contribution as an indicator of PYD (Figure 4.14). The results displayed in Table 4.13 indicated that the mean levels of contribution deteriorated over time from TP₄ through TP₆. The mean scores fell below the pre-treatment level. The t and z scores did increase consistently from TP₄ through TP₆ (rows 1, 2, and 3; column 7 and 8). The p values did not approach zero (row 1, 2, and 3; column 9).
Table 4.13

Contribution

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<th>s</th>
<th>MD</th>
<th>t</th>
<th>z</th>
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<td>3.14</td>
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</table>

Figure 4.14

Contribution Mean Score Significance and Consistency

Summary

The results of the WSRT did not support the retention of hypothesis two. With respect to the promotion of significantly and consistently higher levels of within treatment group levels of competence, confidence, connection, character, caring, and contribution (six Cs) indicative of PYD following YPE/YCAT, hypothesis two was rejected.

To retain hypothesis two the treatment group needed to exhibit within group, post-treatment levels of the six Cs with absolute \(t\) scores greater than 1.721 across time
(TP4t < TP5t < TP6t), absolute $z$ scores greater than 1.645 across time (TP$_4z$ < TP$_5z$ < TP$_6z$), $p$ values ($p = .05$) that approached zero across time (TP$_4p$ > TP$_5p$ > TP$_6p$), and mean score differences that increased across time (TP$_4md$ < TP$_5md$ < TP$_6md$).

**Conclusion**

This quasi-experimental study used a convenience sample of high school aged 4-H members. The parameters of the study required the use of nonparametric tests to analyze the data. The results obtained through the use of the Mann-Whitney U and the Wilcoxon Signed Rank Tests are specific to the treatment and comparison groups.

The MWUT showed that the treatment group’s participation in YPE/YCAT was ineffective in promoting PYD. Differences between the treatment group’s mean scores and comparison group’s mean scores were insignificant and inconsistent following the treatment. The results of the study indicated that YPE/YCAT did not have an effect on the promotion of competence, confidence, connection, character, caring, and contribution indicative of PYD at three time points following the YPE/YCAT.

The results of the WSRT showed no significant and consistent changes in repeated measures of the levels of competence, confidence, connection, character, caring, and contribution following YPE/YCAT at TP$_4$, TP$_5$, and TP$_6$. The within treatment group’s pre-treatment mean scores were not significantly and consistently different than the within treatment group’s post-treatment mean scores. The results of the study indicated that YPE/YCAT did not have an effect on the promotion of
competence, confidence, connection, character, caring, and contribution indicative of PYD at three time points following the YPE/YCAT.

In the following chapter, the discussion examines the study’s methodology. The conclusion provides preliminary insight into the significance of and need for social science experiments conducted by and for youth. The acceptance of youth as a resource worthy of development sets the stage for asset-based initiatives that engage the minds, bodies, and spirits of youth in programs that promote PYD.
CHAPTER FIVE: DISCUSSION AND CONCLUSION

This chapter is comprised of six sections. The first section provides an overview of the study. The second describes the researcher’s pragmatic social constructivist lens. Section three provides a discussion of the key findings uncovered through the testing of the two hypotheses and is theoretically, conceptually and programmatically tied to the PYD and YPE literature. Section four provides recommendations for future studies using similar methodologies to study the promotion of PYD. The implications in part five are intended to provide information to formal and informal educators and policy makers about best practice, future directions, and focus of privately and publically funded PYD programs predicted to promote PYD. The chapter’s conclusion reflects the researcher’s thoughts regarding the rewards and challenges of YPE/YCA as a pathway to PYD

Overview

The major objective of this study was to examine the promotion of PYD following the training of adolescents in YPE/YCA. Youth participatory evaluation and youth community action was predicted to promote significantly and consistently higher levels of PYD in the treatment group relative to the comparison group across time. Youth participatory evaluation and youth community action was also predicted to promote significantly and consistently higher levels of PYD within the treatment group across time.

The research is based on Developmental Systems Theory (Lerner, 2005; Lerner & Lerner, 2006) which suggests the potential for systematic change in
adolescent behavior is driven by the bi-directional relationships between the adolescent’s personal and social domains of physical, intellectual, psychological, social development, race, ethnicity, religion, sexual preference (Eccles & Gootman, 2002; Lerner, 2005) and the contextual domains of families, peers, schools, workplaces, cultures, societies, historical moments, neighborhoods, and communities (Lerner & Lerner, 2006). This systematic change in behavior, according to Lerner and Lerner, occurs through actions taken by youth development programs to involve youth in three conceptual domains: (a) youth participation in and leadership of activities, (b) promotion of the development of life skills, and (c) sustained and caring youth/adult partnerships. The domains are considered fundamental to effective programming predicted to promote PYD.

The study utilizes a programmatic approach which considers youth a resource worthy and capable of development (Roth & Brooks-Gunn, 2003). According to Wheeler (2005), youth engagement in research and evaluation is a developmental pathway that provides youth the opportunity to engage in social change that in turn promotes PYD. Youth participatory evaluation is believed to be a theoretically, conceptually, and programmatically sound PYD strategy with the potential to promote systematic change in adolescent behavior by engaging the minds, bodies, and spirits of youth in transformative and practical ways (Cousins & Whitmore, 1998; Flores, 2008; Sabo, 2003). Youth participatory evaluation provides opportunities for youth to actively participate in leadership activities, and build life and social science skills
through sustained youth/adult relationships that produce results that are socially just and supportive of a democratic society.

The experiment involved a treatment group with participants receiving YPE/YCAT. Both prior to the YPE/YCAT and following the training, participants’ levels of competence, confidence, connection, character, caring, and contribution were measured against those of the comparison group that received no YPE/YCAT. In addition, a test measured the changes in levels of the six Cs within the treatment group both prior to and following YPE/YCAT. Whether the promotion of PYD between and within groups can be attributed to YPE/YCAT was explored through two hypotheses.

H1: There are significantly and consistently higher levels of competence, confidence, connection, character, caring, and contribution for the treatment group relative to the comparison group following the treatment group’s training in youth participatory evaluation and youth community action.

H2: The treatment group’s levels of competence, confidence, connection, character, caring, and contribution increase significantly and consistently following training in youth participatory evaluation and youth community action.

This quasi-experimental study was conducted using a longitudinal interrupted time series protocol. A survey designed to measure changes in the six Cs as indicators of PYD was comprised of six scales and delivered electronically at specific time points over the course of six months.
The survey was made up of the Generalized Self-Efficacy Scale (Schwarzer & Jerusalem, 1995) as a measure of competence, the Rosenberg Self-Esteem scale (Rosenberg, 1965) as a measure of confidence, and four scales developed by Arnold and Meinhold (2004) to measure connection, character, caring, and contribution.

Data were downloaded to SPSS 17.0 and analyzed using the nonparametric Mann-Whitney U Test (Abu-Bader, 2006) to test hypothesis one. It tested the treatment group against the comparison group for changes in levels of the six Cs as indicators of PYD following YPE/YCAT. The nonparametric Wilcoxon Signed Rank Test (Abu-Bader, 2006) was used to examine hypothesis two, which predicted significant and consistent changes in the levels of the six Cs within the treatment group following YPE/YCAT.

A population of 4,699 high school aged 4-H members from eight Oregon counties was conveniently sampled. The resultant subject population was made up of 74 youth distributed between a treatment group containing 40 youth and a comparison group containing 34 youth. Only 23 subjects completed the survey at all six time points. Data from 14 subjects in the treatment group and 9 subjects in the comparison group were used in the analysis.

Pragmatic Social Constructivism

The researcher’s line of reasoning is based on a belief that PYD programs or strategies must provide meaningful opportunities for youth to fully engage their minds, bodies, and spirits. This study’s development, implementation, analysis, and conclusions are viewed through the researcher’s pragmatic social constructivist lens.
and a frame of mind tempered by more than a decade of personal and professional
dedication to the health and well-being of youth. That is as suggested by Garrison
(1998) and Garrison (2001):

1. Learning should be active, moving, and interactive with people and objects;
2. Youth should be engaged in projects and inquiry as tools of learning;
3. Youth should have flexibility in investigating their natural interests;
4. Youth should do something to acquire knowledge in order to really understand
   it;
5. Youth should acquire knowledge for some real world purpose;
6. Youth social interaction is necessarily a part of the learning process;
7. Youth should be involved with the community as part of their learning;
8. Youth should understand recognized disciplinary knowledge and processes;
   and
9. Learning is a natural part of life, rather than preparation for life.

In other words, human development is a dynamic, active, social, and multi-
dimensional process wherein youth bring with them prior experiences, knowledge, and
beliefs relevant to the construction of new knowledge (Jones & Brader-Araje, 2002).

The researcher believes the survival of democracy is dependent on a cadre of
young citizens regarded as full partners in a democratic society. Rather than regarding
youth as broken objects in need of fixing, seeing them as resources worthy of
development allows them to experience engaging opportunities in transformative and
practical ways that bring meaning to their lives. By giving them voice in what they
learn, adolescents develop the six Cs (Lerner & Lerner, 2006) within their personal and social worlds that are vital to their transition from adolescence to adulthood and ultimately their contribution to the communities in which they live.

Key Findings

The key findings of the study are discussed in relationship to developmental systems theory, the conceptualized domains of PYD programs, and YPE as an engaging pathway to PYD. While the predictions proposed by the hypotheses were not supported, the results of the study lead to a better understanding of the role 4-H and 4-H programs play as pathways to and promoters of PYD.

Theoretically, Lerner (2005) suggested that the basic unit of analysis of human development is the relationship between the individual and his/her contextual environment (personal↔contextual relationships). Lerner also proposed that a combination of variables within the adolescents’ personal and contextual domains provides the foundation of the developmental process. Adolescent development will vary intraindividually and interindividually. The developmental process will be different for the each individual and therefore between individuals.

Conceptually, Lerner and Lerner (2006) suggested that the promotion of PYD within the personal↔contextual relationship is based on the ability for developmental programs to provide youth with opportunities for leadership, life skills development, and youth/adult relationships that according to Rhodes (2002) are sustained for a minimum of one year.
Programmatically, the transformative and practical nature of YPE has the capacity to empower youth and groups to utilize findings that change programs that affect the health and well-being of youth (Sabo, 2003).

The personal↔contextual relationships developed in the course of YPE/YCA, the development and practical use of YPE/YCA skills, and the youth/adult partnerships formed through YPE/YCA projects are believed to promote PYD.

The study was an ambitious attempt to link PYD to YPE/YCAT. While the researcher believes the methods and procedures used were sound theoretically, conceptually, and programmatically, the number of treatment and comparison group subjects and criteria used in the final analysis did not adequately capture the true value of YPE/YCAT as a pathway to PYD. There are several overarching reasons why the findings did not reveal or establish a causal relationship between the promotion of PYD and YPE/YCAT.

**Resultant Sample Size**

The responses from 23 subjects were used in the final analysis. The treatment group contained 14 subjects. The comparison group contained 9 subjects. Of the eight county teams that received YPE/YCAT, two completed YPE/YCA projects within the time frame of the study. Half of the data from the treatment group used in the analysis came from 7 subjects representing one county team (the researcher’s county). The remaining data came from three subjects representing a 2nd county, two from a 3rd county, and one each from a 4th and 5th county respectively. Of the 7 subjects in the first county, 3 dropped out, but all subject data were used in the final analysis.
Likewise, data from the other four counties were used. Unlike the seven subjects, it is not known whether the data represented the subjects’ active participation in YPE/YCA projects.

**Extant Empirical Support**

What the findings revealed may not reflect the true nature and power of YPE/YCAT to promote PYD. The studies conducted by Lerner et al. (2008) and Arnold et al., (2007) provided empirical evidence that 4-H, as a PYD program and deliverer of developmental programs, demonstrated the capacity of 4-H to promote PYD.

The Lerner et al. (2008) study looked at the effects of 4-H participation in general. Lerner looked at the promotion of PYD by comparing 4-H subjects with non 4-H subjects. Lerner compared 184 8th grade youth who participated in 4-H programming with 184 eighth grade youth who participated in other out-of-school activities. The 4-H subjects in the Lerner et al. study had measures of PYD and contribution that were significantly different than the comparison group ($p < .05$). 4-H members were 1.6 times more likely than the comparison group to go on to college. School grades and emotional engagement in school was also greater for 4-H participants. 4-H’ers also scored significantly higher ($p<.05$) on their civic identity/civic engagement scores for social capital/social trust, youth/adult relationships, civic duty, civic voice, civic helping, and civic activities.
As Lerner and his colleagues stated: “The true value of 4-H programs comes not from short-term results or even the effects over a few years. It comes from the programs’ influence on lifelong pathways of development” (p. 15).

The Arnold et al. (2007) study of 4-H member participation in 4-H county fairs suggested the existence of personal-contextual relationships that supported opportunities for leadership development, practical application of learned skills, and sustained youth/adult interactions that regulated the promotion of certain C outcomes. Much like this particular study, the PYD study conducted by Arnold et al., (2007) looked at the impact of 4-H youth participation in 4-H county fairs on the six Cs as indicators of PYD. Subjects participating in fairs were sampled from two counties. Of the 718 middle and high school 4-H members selected to participate in the study, responses were obtained from 199 subjects. The sample was representative of the overall Oregon 4-H program. The survey instrument included six scales: The Rosenberg Self-Esteem Scale, the Proactive Coping Scale, and four scales that measured Character, Connection, Caring, and Contribution (Arnold et. al., 2007).

Analysis indicated that fair participation had a significant impact on the 4-H members’ character, caring, and contribution. No significant effects were noted for self-esteem, proactive coping, or connection.

Based on the knowledge gained as a youth development educator for more than 10 years, the researcher knows 4-H members spend hours, days, months, and years in developmentally appropriate settings that provide opportunities for skill building, practical application of skills, and sustained youth/adult partnerships. Youth
participatory evaluation and youth community action was another opportunity to gain skills. The YPE/YCAT provided social science and life skills that could be transferred to other aspects of a 4-H career.

**Recommendations**

Social research is an inherently human endeavor. The subjects in this particular study brought with them the totality of their histories, their experiences, and their beliefs (i.e., their personal↔contextual relationships). Researchers and youth development educators must acknowledge and plan future studies of PYD that take into account the personal and social environments that influence and shape adolescent development. Several procedural and methodological recommendations are proposed that are intended to improve internal and external validity of quasi experiments.

**Internal Selection Recommendations**

**Historical**

Subject history cannot be ruled out. It is possible some youth in both groups participated in some form of physical or social science research in other contexts such as schools, work, or elsewhere that readily provided the skills, application, and relationships believed to promote PYD. Since the subjects were senior members in the 4-H program, their levels of maturity and the totality of life experiences, beliefs, and knowledge likely created historical bias. Given the impracticality of random sampling, the researcher suggests that a larger pool of conveniently sampled participants might minimize the effects of historical limitations.
**Maturation**

The subjects making up the treatment and comparison groups were late intermediate (9th grade) and senior 4-H members (10th, 11th, and 12th grade). They ranged in age from 14 to 18 years of age. Their biological, cognitive, intellectual, physical, emotional, social, and economic maturity is just coming into play. The subjects’ abilities to comprehend the hypothetical, abstract, and theoretical coincides with their maturing brains that begin to contemplate and interact with their personal↔contextual relationships. Compared to their younger contemporaries, older subjects’ perceived levels of PYD may well be a product of this significant transitional point in their life trajectories. A study that works with 11th and 12th grade adolescents may capitalize on advanced levels of maturity compared to the 9th and 10th grade cadre effectively minimizing maturity and maturation interaction.

**Testing**

The subjects may have become survey wise producing a testing limitation. The multiple scale survey was distributed systematically with no variation. It arrived at a predetermined time point, for a specified time, with no variation in scale presentation. Improved responses may have reflected their experience with previous administrations of the survey. This suggests that the survey scales could have been reordered.

The researcher suggests use of the forthcoming Positive Youth Development Inventory (PYDI) created by Arnold and Meinhold (2008). The PYDI is the first scale of its kind specifically designed to measure levels of the six Cs as indicators of PYD.
In addition, the interval between the six time points could be extended to two months pushing the study to incorporate an entire 4-H year.

**Instrumentation**

The survey responses were limited to a Likert-type scale with limited ranges of choices creating an instrumentation effect. It is possible the subjects within the treatment and comparison groups over reported their levels of the six Cs leaving no room for variation on subsequent surveys. The scales used in their present form may not be suitable for longitudinal studies. Modifying the scales to include a range of responses between 1 and 10, for example, may prove to be more informative when compared to similar studies using a Likert-type scale of 1 to 5.

**Attrition**

The attrition associated with this longitudinal study limited the number of subjects in the final analysis. Of the 74 subjects that consented to participate, a few subjects self selected out. A majority of the subjects were excluded from the study through the forced attrition by the researcher. The criteria used (completion of the survey at all six time points) in the analysis only permitted the use of responses from 23 subjects (14 treatment group subjects and 9 comparison group subjects). A larger pool of study participants might have minimized the effects of the forced attrition. In addition, it might be more prudent to initiate a survey at a time when 4-H approaches a county and statewide hiatus. In Oregon, initiating the study in late fall and early winter as compared to the late winter and early spring might have increased the response rate.
Social Networking

The researcher believes methods of social networking among adolescents change as rapidly as methods offered by the information technology industry. The survey was administered at a time when email was becoming less of a preferred method of social networking among adolescents. Design methods that more effectively incorporate current trends (e.g., text messaging, Twitter, Facebook) and other yet-to-be-marketed forms of electronic social networking need to be considered when conducting electronically administered surveys.

Differential Bias

The study subjects were conveniently sampled by county agents not the researcher. The agents solicited highly engaged 4-H members they believed willing and capable of participating in a longitudinal study. The agents’ prior knowledge and experiences with the subjects may have created a differential bias. Using a convenient sample from a non-4-H population to make up the comparison group was impractical and outside the scope of this study. Therefore, the creation of a pool of subjects through convenient means at the county level that could be randomly sampled to assign subjects to treatment and comparison groups is seen as a means to reduce differential bias.

Curriculum

The curriculum made no claims that training adolescents in YPE/YCA would promote PYD. The curriculum was designed to develop skills in systematic inquiry that promoted research and evaluation capacity in adolescents. The literature supports
the active engagement or employment of YPE skills as a pathway to PYD (Wheeler, 2005). The researcher is led to believe the promotion of PYD is a latent effect of the YPE/YCAT which suggests data needed to be collected over the course of an Oregon 4-H year (October through September).

**Temporal**

The 4-H motto is *Learn by Doing*. While it is known through the post-training survey conducted by the YPE/YCAT facilitators that knowledge and understanding of research and evaluation was a short-term outcome, the data collected only accounts for the six time points. Data were restricted due to time constraints. No effort was made to collect data that accounted for the practical application of what was learned post-treatment at TP₄, TP₅ and TP₆ or past TP₆. Flores (2008) suggested it is important that performance be an integral part of the YPE experience. Therefore, the data collected needs to reflect the practical application of what was learned over an extended period of time.

**Subject Uniformity**

Equally important is subject uniformity. County teams making up the treatment group ranged in number of subjects from 3 to 10. The data clearly indicated that a majority of subjects from the two county teams that completed YPE/YCA projects within the post-treatment time points failed to complete all surveys at the six time points. They were then subject to the forced attrition. Therefore any increased level of PYD would not be represented in the data. Subject uniformity is a function of numbers and is best sustained through the use of a larger resultant sample.
Contamination

Researchers should expect that treatment and comparison group subjects will interact at multiple levels in multiple dimensions. The treatment and comparison group subjects in this study co-participated in skill building and leadership development in club-based 4-H projects, county 4-H events (contests, retreats, fairs), statewide 4-H events (Know Your Government, OSU Summer Conference, and/or State Fair), student leadership organizations, and school or parks and recreation sports. The subjects’ personal↔contextual relationships within and outside of 4-H have a tendency to diffuse the results such that responses equalize over time. It was impractical to enforce a no contact clause to prevent treatment and comparison group subjects from interacting. A similar study that utilizes subjects from another youth development organization is seen as a means to reduce imitation and interaction. For example: conveniently sampled comparison groups could be drawn from Boys and Girls Clubs within the participating counties to be tested against treatment groups containing 4-H members.

Internal Social Recommendations

Compensatory Rivalry

The county teams making up the treatment group were invited to the YPE/YCAT retreat in Bend, OR. While effort was made to explain the differences in the roles played by the treatment and comparison group subjects, the affects of compensatory rivalry (feelings of jealously) may have caused the comparison group to respond competitively to the survey in an I'll show them who is competent,
confident... manner. In other words, the equalizing affect of the rivalry hides an actual treatment effect. Although not significant, the comparison groups’ mean scores did approach treatment group mean scores. In a few instances, the comparison groups’ mean scores were actually greater with respect to caring at TP1, TP2, and TP5; and contribution at TP5 and TP6. A possible solution is to include the opportunity for the comparison group to participate in the treatment at a later time.

**Demoralization**

While competition can affect the outcome, so can feelings of anger and discouragement (resentful demoralization) brought about by the lack of compensation. The treatment group received an all expenses paid trip to the YPE/YCAT retreat. It is also possible that once the decision was made by a subject to participate in the comparison group, the desire to have made an alternative decision caused the subject to answer based on a lack luster attitude. A form of compensatory equalization or incentive equal to the retreat might have proved beneficial. For example, the researcher could have provided comparison group subjects with monetary scholarships equal to the funds expended on treatment group subjects.

**Selection Bias**

Of particular interest is a hybrid quasi-experimental design described by Boruch (cited by Trochim, 1982) that minimizes the selection bias. The design effectively combines regression discontinuity methodology and randomized sampling. If implemented in this study, the design would have required a convenience sample of subjects believed to be equally interested in YPE/YCAT. Subjects would be assigned
to the treatment or comparison group based on pretest scores of the survey. Those subjects falling below the 40th percentile would be assigned to the treatment group. Those subjects above the 60th percentile would act as subjects for the comparison group. Subjects falling in the interval between the 40th and 60th percentile would be randomly assigned to the treatment and comparison groups.

**External Selection Recommendations**

**Population**

The 74 consenting participants that made up the treatment and comparison groups fairly represented the high school aged demographic profile of the Oregon 4-H program. Through attrition, expected and forced, the resultant subject profiles diverged from the sample population which had an effect on population validity. The small sample size used in the analysis did not reflect the overall demographics of the Oregon 4-H program. A greater effort should be placed on recruiting a larger resultant subject pool that mirrors the population being studied.

**Personological**

The convenient sampling method relied on the 4-H agents to make choices about the treatment and comparison group subjects. The agents personal knowledge of and interaction with the subjects was intended to strengthen the personological validity of the study. The subjects’ levels of personal and social engagement, and perceived PYD were assumed to be similar. The exit survey indicated the inter-group personal↔contextual relationships were remarkably homogeneous at the point of measurement. However, the levels of personal and social engagement, and perceived
PYD of treatment and comparison group subjects that dropped out or failed to meet the criteria for inclusion in the analysis were not measured. A larger sample would presumably demonstrate a greater degree of personological validity thereby reducing the likelihood the homogeneity of the personal↔contextual relationships demonstrated by the 23 participants was a chance occurrence.

*Ecological*

The study was comprised of treatment and comparison group subjects that represented the eastern, central, Columbia Gorge, and Willamette Valley counties of the Oregon 4-H program. None of the counties recruited treatment and comparison groups with the same number of subjects. Nor were the number of subjects within one county equal to the number of subjects in another county. Therefore, the study’s validity was increasingly marginalized when subjects dropped out from expected and forced attrition. The remaining subjects within the treatment and comparison groups represented only a few of the original counties in the study. The use of data in its aggregate form meant that a subject’s data from a Central Oregon county were combined with a subject’s data from a county in the Willamette Valley regardless of the subject’s engagement or non-engagement in YPE/YCAT. In other words, the results did not fairly represent all counties that participated in the study. Although difficult to control, every effort should be placed to recruit equal numbers of treatment and comparison group subjects.
Implications

This chapter’s discussion and subsequent conclusions are relevant to the treatment and comparison groups based on the responses of 14 subjects in the treatment group and 9 subjects in the comparison group. This study is believed to be significant for the field, practice, and approach to PYD while addressing specific needs relevant to the use of strategies believed to promote PYD.

Inferences

The lack of random sampling precluded the use of inferential statistics and therefore generalizability of results to the Oregon 4-H program. While ideal, the use of equal probability in the selection of subjects required a resultant sample of 355 subjects from a 4-H population of 4,699 high school aged youth to reach a confidence interval of +/- 5% and confidence level of 95%. It was impractical to randomly sample the population and assume the subjects within the resultant sample would participate in a study of PYD through YPE/YCAT.

The control variables as a source of covariance to explain the promotion of PYD were excluded due to the small resultant sample size. The demographic, personal, social, developmental, age, gender, and ethnic data associated with the small sample size were not used in the analysis.

Oregon 4-H Context

This study was conducted within the context of the Oregon 4-H program which ruled out the use of subjects belonging to other youth development organizations, agencies, or the public school system within Oregon or from other states. Since no
studies were known to explore the promotion of PYD through YPE/YCAT, the Oregon 4-H example offered a place to begin a preliminary investigation.

**More Experimentation**

Quasi-experimental designs, in comparison to descriptive, correlation, and causal-comparative research, provide more pragmatic and practical evidence of program efficacy essential to understanding the cause and effect of youth development programs predicted to promote PYD. Time and resources will be essential in the conduct of true experiments that more effectively control internal and external limitations.

**Youth Engagement**

Youth involvement in systematic inquiry is in the initial stage of development. This study actively engaged youth in their own learning by capitalizing on their interest in YPE/YCA. Studies, such as this, will make adolescent engagement in participatory evaluation as common a practice as meaningful youth involvement in program planning and program implementation (Rennekamp, 2001).

**Positive Youth Development Paradigm**

This study predicted that the promotion of PYD was linked to YPE/YCAT. For the 14 subjects in the treatment group, this prediction was not brought to bear in the analysis. Given a larger sample size, the result may have been more positive. None the less, the study does add to an otherwise inadequately and insufficiently theorized approach to PYD as it is the first known in the field and practice of YPE to examine the promotion of PYD through YPE/YCAT.
The study did add to the growing volume of literature that supports the rejection of a deficit reduction paradigm in favor of an asset-based approach to youth development. This study did support to a new vocabulary surrounding PYD as a field, practice, approach, and theory that focuses on the talents, strengths, interests, and future potential of all youth rather than their presupposed incapacities to function in a democratic society.

Youth Participatory Evaluation

With knowledge comes power and social capital through which youth can change their relationships with communities. Sabo (2001) indicated YPE has the capacity to change the ways youth and adults interact by allowing them to perform at levels beyond their current abilities. Checkoway et al. (2003) offer seven principles for youth participation in research and evaluation resulting from a symposium on Youth Participation in Community Research and Evaluation held in Wisconsin in 2002:

- Youth participation in community research and evaluation transforms its participants.
- Youth participation promotes youth empowerment.
- Youth participation builds mutually liberatory partnerships.
- Youth participation equalizes power relationships between youth and adults.
- Youth participation is an inclusive process that recognizes all forms of democratic leadership.
- Youth participation involves young people in meaningful ways.
- Youth participation is an ongoing process.
Youth participatory evaluation is an inherently personal and social enterprise. Youth researchers participate in and provide leadership of research and evaluation processes. Youth researchers develop as researchers and evaluators as they build life and social science skills. Youth researchers and evaluators build relationships with adults as they develop in accordance with the interaction of their personal and social domains and their contextual domains.

The links between YPE and PYD are formed in performance. Programs predicted to promote PYD must consider performance (Flores, 2008) as a means to raise youth voice as a critical and necessary adjunct to training. The act of performing described by Flores leads the research to believe the YPE/YCAT provided the necessary dress rehearsal, but county teams were not able to experience the opening night and repeated performances necessary to promote PYD. Flores suggested the act of performing YPE/YCA and playing the role of researcher and evaluator does not happen devoid of multiple human interactions.

The PYD studies conducted by Lerner et al. (2008) and Arnold et al. (2007) are examples of the capacity of 4-H to engage youth in multiple subjects in multiple venues. These studies supported the researcher’s contention that the promotion of PYD is not a function of a single treatment. Rather, the promotion of PYD is the product of multiple developmental opportunities that effectively engage youth in leadership, skill building, and sustained youth adult interactions over the course of many months and years. Given the evidence presented by previous research into the outcomes of participation in 4-H, there is no reason to believe that more cannot be
learned about the causal relationship between PYD and YPE/YCAT. The validation of this conclusion will require additional experimentation supported by the recommendations presented in this study.

In Oregon, the researcher recently mentored 10 4-H youth in a participatory evaluation project that sought the voices of high school youth about their post-high school plans. Through the process the youth researchers were able to solicit the opinions of students about the reasons high school graduates do or do not pursue post secondary education. They asked four questions. For high school students not planning to attend college, what are some of the reasons that they decide not to go? What changes would you suggest that high schools make that would encourage disinterested students to go to college? What changes would you suggest that colleges make that would encourage disinterested students to go to college? Where do you go now to get information regarding post-high school education options?

What they found, in part, was that some families do not provide the necessary motivation. College needs to be promoted to students in their freshman and sophomore years. Students wanted more in-school college fairs. Career classes and career centers were seen as resources for educational options.

The findings were presented to school, community college, and university administrators in an attempt to transform the ways in which post secondary education information is made available to students prior to high school graduation.

The youth have demonstrated their research and evaluation skills. They have presented their perspectives as researchers and evaluators to PYD educators and
professional evaluators at the Oregon 4-H Spring Staff Development Conference and
the American Evaluation Association Conference. Their contributions to the field and
practice of PYD and YPE are recorded in the proceedings of two conferences
(Proceedings of the 4-H Staff Development Conference, Kah-Nee-Ta, Oregon, May,
2009; Proceedings American Evaluation Association Conference, Orlando, Florida,
November, 2009). The results of their study will be reported to school district and
college administrators. Article they co-author with this study’s researcher will be
submitted for publication in peer reviewed youth development and evaluation journals.

Conclusion

Social research is a human endeavor. Youth participatory evaluation, as an
enterprise, is dynamic, fraught with challenges, rewarding, and rich in opportunities
(Delgado, 2006). Delgado proposed “…a field of practice without challenges is a field
of practice not worth practicing” (p. 241). Teaching, learning, doing, and achieving are
the ever present phenomenon of YPE.

Why do some youth achieve a level of success as youth researchers and
evaluators while others do not? The magical journey into and through the field of YPE
is a product of youth and adult interaction and perseverance. There can be no
substitute for adult mentoring in the field and practice of YPE. Youth engaged in
manifold hours of training, in any subject, fall short of achieving their goals without
adult mentoring and parental support. With YPE there comes an adult commitment to
help youth see research and evaluation projects through tough and trying times. Youth
researchers and evaluators still operate in an adult-led world where the power
differential is a significant barrier to the practical and transformative PYD benefits of YPE. Without adult assistance, motivation, and encouragement, adolescent realities and adultism negatively impact youth-led initiatives.

This study has laid the foundation for additional research dedicated to YPE and other engaging pathways to PYD. What was revealed in the findings suggested the need for more experiments that test developmental systems theory, the conceptualized features that define PYD programs, and the engaging pathways believed to promote PYD.

Youth in 4-H are engaged in multi pathways that include youth research and evaluation, youth service, youth media, youth organizing, youth civic and political engagement, youth philanthropy, youth decision making and governance, and youth leadership. These pathways exist at county, state, national, and international levels that provide the personal↔contextual relationships, conceptual domains important to PYD, and programs promoting PYD.

Scales, Benson, Leffert and Blyth (2000) suggested that thriving is a multi-dimensional process. They contend that a student who is highly successful in school, but less involved in volunteer or leadership activities is still thriving. Likewise a student with poor grades who volunteers and provides leadership can be considered thriving. It is plausible that a strong and sustained level of one C may compensate for the lack of others and still place a youth on a trajectory of positive development.

Fundamentally, it will be important for PYD researchers and educators to see engagement in youth service, leadership, decision making and governance,
philanthropy, civic and political engagement, organizing, media, or research and evaluation as the planting of a seed with a remarkable potential to promote PYD (Wheeler, 2005). Youth development will happen, planned for or not - sometimes with devastating consequence to the health and well-being of youth and the communities to which they belong (Blyth, 2006; Kress 2006).

In order for the seed of PYD to germinate and grow to maturity, the totality of the adolescent’s personal↔contextual relationships must be taken into account. The bi-directional relationships that exist and persist across the life span influence developmental outcomes. Therefore, youth development programs predicted to promote PYD must go beyond only building short term skills. The programs must provide long-term meaningful opportunities to implement new skills and support the kinds of youth/adult partnerships that appear to be integral to the health and well-being of youth (Scales, Benson & Mannes, 2006).
BIBLIOGRAPHY


APPENDICES
Appendix A

Generalized Self Efficacy Scale
Generalized Self Efficacy Scale

(Schwarzer & Jerusalem, 1995)

<table>
<thead>
<tr>
<th>Response Format (Circle only one response)</th>
<th>1 = Not at all true 2 = Hardly true 3 = Moderately true 4 = Exactly true</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 I can always manage to solve difficult problems if I try hard enough.</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>2 If someone opposes me, I can find the means and ways to get what I want.</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>3 I am certain that I can accomplish my goals.</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>4 I am confident that I could deal efficiently with unexpected events.</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>5 Thanks to my resourcefulness, I know how to handle unforeseen situations.</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>6 I can solve most problems if I invest the necessary effort.</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>7 I can remain calm when facing difficulties because I can rely on my coping abilities.</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>8 When I am confronted with a problem, I can usually find several solutions.</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>9 If I am in trouble, I can think of a good solution.</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>10 I can handle whatever comes my way.</td>
<td>1 2 3 4</td>
</tr>
</tbody>
</table>
Appendix B

Rosenberg Self-Esteem Scale
Rosenberg Self-Esteem Scale

(Rosenberg, 1965)

<table>
<thead>
<tr>
<th></th>
<th>I feel that I am a person of worth, at least on an equal plane with others.</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>I feel that I have a number of good qualities.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>2</td>
<td>All in all, I am inclined to feel that I am a failure.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>3</td>
<td>I am able to do things as well as most other people.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>4</td>
<td>I feel I do not have much to be proud of.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>I take a positive attitude toward myself.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>6</td>
<td>On the whole, I am satisfied with myself.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>7</td>
<td>I wish I could have more respect for myself.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>8</td>
<td>I certainly feel useless at times.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>9</td>
<td>At times, I think I am no good at all.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>
Appendix C

Connection Scale
Connection Scale

(Arnold & Meinhold, 2004)

Response Format (Circle only one response)
0 = No opinion 1 = Strongly disagree 2 = Disagree
3 = Agree 4 = Strongly agree

<table>
<thead>
<tr>
<th></th>
<th></th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>I wish I had a wider circle of friends.</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>2</td>
<td>I think it is important to be involved with other people.</td>
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<td></td>
<td></td>
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<tr>
<td>3</td>
<td>My friends care about me.</td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>4</td>
<td>I felt connected with my teachers.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Having friends is important to me.</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>6</td>
<td>I feel like I matter to other people.</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>7</td>
<td>I do not feel very connected to others.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>I matter to others in my community.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>I have adults in my life who are interested in me.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>My teachers do not take much interest in me.</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

*Note: This scale is a beta version. Based on the recommendation of the scale’s authors, item 10 was not used in the analysis. The PYDI developed by Arnold and Meinhold (2007) should be used.*
Character Scale

(Arnold & Meinhold, 2004)

<table>
<thead>
<tr>
<th></th>
<th>Response Format (Circle only one response)</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>It is important for me to do the right thing.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>I try to do the right thing, even when I know that no one will know if I do or not.</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>3</td>
<td>I think it is important for me to be a role model for others.</td>
<td></td>
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</tr>
<tr>
<td>4</td>
<td>If I do the wrong thing, it does not matter unless someone finds out.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>5</td>
<td>I do not always tell the truth if I can avoid getting in trouble.</td>
<td></td>
<td></td>
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<tr>
<td>6</td>
<td>It is important for me to do my best.</td>
<td></td>
<td></td>
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<tr>
<td>7</td>
<td>It is important that others can count on me.</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>8</td>
<td>If I promise to do something I can be counted on to do it.</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>9</td>
<td>I am able to behave appropriately in most settings.</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>
APPENDIX E

Caring Scale
Caring Scale

(Arnold & Meinhold, 2004)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>When there is a need I offer assistance whenever I can.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>2</td>
<td>It is easy for me to consider the feelings of others.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>3</td>
<td>I care about how my decisions affect other people.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>4</td>
<td>I try to encourage others when they are not as good at something as me.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>Other people's feelings do not matter much to me.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>6</td>
<td>I can be counted on to help if someone needs me.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>7</td>
<td>I do not really care too much about my friend's feelings.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>8</td>
<td>When one of my friends is hurting I hurt too.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>9</td>
<td>Sometimes I am not very careful about being nice to my parents.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

*Note:* This scale is a beta version. Based on the recommendation of the scale’s authors, item nine was not used in the analysis. The PYDI developed by Arnold and Meinhold (2007) should be used.
APPENDIX F

Contribution Scale
Contribution Scale

(Arnold & Meinhold, 2004)

Response Format (Circle only one response)
0 = No opinion 1 = Strongly disagree 2 = Disagree
3 = Agree 4 = Strongly agree

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>I take an active role in my community.</td>
<td></td>
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<tr>
<td>2</td>
<td>People see me as a person who gives to benefit others.</td>
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<tr>
<td>3</td>
<td>I like to work with others to solve problems.</td>
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<tr>
<td>4</td>
<td>I have things I can offer to others.</td>
<td></td>
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<tr>
<td>5</td>
<td>I do not see how I can have much impact in the world.</td>
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<td></td>
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<tr>
<td>6</td>
<td>I care about contributing to make the world a better place for everyone.</td>
<td></td>
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<tr>
<td>7</td>
<td>It is important for me to try and make a difference in the world.</td>
<td></td>
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<tr>
<td>8</td>
<td>There is not much I can do to change things in my school.</td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

Note: This scale is a beta version. Based on the recommendation of the scale’s authors, item eight was not used in the analysis. The PYDI developed by Arnold and Meinhold (2007) should be used.
APPENDIX G

Informed Consent
Project Title: The Effects of Participatory Evaluation Programs on Positive Youth Development Outcomes

Principal Investigator: Dr. Michael Dalton, Teacher and Counselor Education, College of Education, Oregon State University

Student Researcher: David J. White, Department of 4-H Youth Development, Deschutes County

WHAT IS THE PURPOSE OF THIS STUDY?
You are being invited to take part in a survey designed to help determine if a 4-H member’s participation in a community evaluation and action project really does produce the youth development outcomes of caring, connection, competence, confidence, character, and contribution. With your help, we can get closer to the truth about the outcomes associated with youth participation in 4-H programs. Not only will your input advance the local 4-H program, it will help 4-H faculty and programs throughout the state and nation through publications and professional presentations. This study is being conducted as a result of questions being asked nationally about youth participatory evaluation programs and the youth development outcomes they produce.

WHAT IS THE PURPOSE OF THIS FORM?
This consent form gives you the information you will need to help you decide whether to be in the study or not. Please read the form carefully. You may ask any questions about the research, the possible risks and benefits, your rights as a volunteer participant, and anything else that is not clear. When all of your questions have been answered, you can decide if you want to be in this study or not.

WHY AM I BEING INVITED TO TAKE PART IN THIS STUDY?
You are being invited to take part in this study because you have participated as a member to some degree and level in the 4-H program. And, you are interested in participatory evaluation and community action programs.

WHAT WILL HAPPEN DURING THIS STUDY AND HOW LONG WILL IT TAKE?
If you agree to take part in this study, you will be responding to eight surveys with approximately 80 statements each. Your involvement will be for one school year starting in October, 2007 and ending in June, 2008. You will receive the surveys and respond to the surveys through a web-based survey management program called Survey Monkey. You will be assigned to one of two teams. Each team will be made up of eight to ten youth. The seven teams will make up Group I. The other seven teams will make up Group II. About 65% of each team will be made up of females and 35% males. These percentages reflect the gender balance within the Oregon 4-H program. Prior to your participation, you will be briefed on the currently held beliefs about youth development outcomes associated with youth participatory evaluation.
The seven teams in Group I will receive the training in community evaluation and action project and will respond to the surveys. The seven teams in Group II, which will receive no training in the community evaluation and action project, will respond to the same surveys as Group I.

If you are under the age of eighteen and want to participate in research study, you will need to sign the Assent Document and have a parent or legal guardian fill in your name and sign the Consent Document. If you are eighteen years of age and older, you need only fill in and sign the Consent Document.

These documents will be provided to you. All documents must have the appropriate signatures before participation can be allowed. The signed forms will be collected by your county’s 4-H faculty member or their representative. The 4-H faculty member or representative will review procedures and ask for your verbal consent prior to your participation. Before beginning participation, please ask any questions you may have related to the research.

WHAT ARE THE RISKS OF THIS STUDY?
There are no foreseeable risks to you as a participant in the study. Your identity will not be associated with any survey responses during or after the study.

WHAT ARE THE BENEFITS OF THIS STUDY?
I do not know if you will benefit from being in this study. However, it is hoped that in the future, other people might benefit from this study because it will help youth development youth development educators understand the youth development outcomes of youth participatory evaluation and community action. Youth development youth development educators may well use the same process as a method to evaluate other programs.

WILL I BE PAID FOR PARTICIPATING?
You will not be paid for being in this research study. However, if you are selected to participate with the group receiving the training, your room, board, and travel expenses will be covered by grant funds.

WHO WILL SEE THE INFORMATION I GIVE?
The information you provide during this research study will be kept confidential to the extent permitted by law. To help protect your confidentiality, information gathered through the process will not be associated with your name. Once the data are compiled, the data will be deleted and any hard copies will be destroyed. If the results of this study are published or presented, your identity will not be made public.

DO I HAVE A CHOICE TO BE IN THE STUDY?
If you decide to take part in the study, it should be because you really want to volunteer. You will not lose any benefits or rights you would normally have if you
choose not to volunteer. You can stop at any time during the study and still keep the benefits and rights you had before volunteering.

You will not be treated differently if you decide to stop taking part in the study. You are not required to answer any or all questions asked. You are free to skip any questions that you would prefer not to answer. If you choose to withdraw from this project before it ends, the researchers may keep information collected from you and this information may be included in study reports.

If you are under 18 years of age and want to participate in the research study, your parent or legal guardian must sign this consent form.

WHAT IF I HAVE QUESTIONS?
If you have any questions about this research project, please contact David J. White at 541-548-6088 or by email at david.white@oregonstate.edu.

If you have questions about your rights as a participant, please contact the Oregon State University Institutional Review Board (IRB) Human Protections Administrator, at (541) 737-4933 or by email at IRB@oregonstate.edu.

Your signature indicates that this research study has been explained to you, that your questions have been answered, and that you agree to take part in this study. You will receive a copy of this form.

Participant's Name (printed):

__________________________________________________________________________

(Signature of Participant, Parent, Legal Guardian)   (Date)
APPENDIX H

Assent Document
I am doing a study as part of the requirement to receive a doctorate in Teacher Leadership. A research study is a special way to find out about something. I am trying to find out whether a 4-H member’s competence, caring, character, connection, contribution, and confidence really do result from participation in a year-long participatory evaluation and community action project.

This form is about the study, so you can learn about the study and decide if you want to be involved in the study or not. You can ask any questions. After all of your questions have been answered, you can decide if you want to be in this study or not.

If you decide that you want to be in this study, I will ask you to participate on one of two teams. There will be eight to ten youth on each of the teams. About 65% of the people on each team will be female and the other 35% will be males. Your team will be one of thirteen other teams recruited throughout Oregon.

I want to tell you about some things that might happen to you if you are in this study. Throughout the months of October, 2007 through June 2008 you will be asked to respond to eight surveys: one each month except January in which no survey is given. Each survey contains about 80 questions. The surveys will be delivered to you and you will respond to the surveys through a web based program called Survey Monkey. Answering each survey will take no longer than 15 to 30 minutes of your time.

Your participation in the study will provide no direct benefits to you. There may be some indirect benefits. You could help build a better 4-H program for yourself and others. But I don’t know for sure that these things will happen.

When I am done with the study, I will write up the results about what I found out as part of my dissertation. I won’t use your name in anything I write, present, or publish.

You don’t have to be in this study. It’s up to you. If you say okay now, but you want to stop later, that’s okay too. All you have to do is tell me.

If you want to be in this study, please sign your name.

I, ________________________________________________________, want to be in this research study.

(Print your name here)

_________________________________________  ____________
(Sign your name here)                        (Date)
APPENDIX I

Exit Survey
Exit Survey

1. How many 4-H Projects are you enrolled in?

   _____ 1
   _____ 2-3
   _____ 4-6
   _____ 7-9
   _____ 10 or more

2. How much time do you spend on your major projects in a typical week?

   _____ 1 to 2 hours/week
   _____ 3 to 4 hours/week
   _____ 5 to 9 hours/week
   _____ 10 or more hours/week

3. When are you most active in 4-H?

   _____ Fall
   _____ Winter
   _____ Spring
   _____ Summer

4. Besides school and 4-H, what else are you involved in? (Check all that apply)

   _____ Extra-curricular school activities (e.g. band, athletics, FFA, drama)
   _____ Other youth organizations (e.g. Boys and Girls Club, Boy Scouts, Girl Scouts, church)
   _____ Work (e.g. volunteer or paid)
   _____ Family (e.g. watching over brother[s] and/or sister[s])

5. Of only the items(s) checked in Question 4, how much time do you devote to each in a typical week?

   Extra-curricular school activities (e.g. band, athletics, FFA, drama)

   _____ 1 to 2 hours/week
   _____ 3 to 4 hours/week
   _____ 5 to 9 hours/week
   _____ 10 or more hours/week
Other youth organizations (e.g. Boys and Girls Club, Boy Scouts, Girl Scouts, church)

- 1 to 2 hours/week
- 3 to 4 hours/week
- 5 to 9 hours/week
- 10 or more hours/week

Work (e.g. volunteer or paid)

- 1 to 2 hours/week
- 3 to 4 hours/week
- 5 to 9 hours/week
- 10 or more hours/week

Family (e.g. watching over brother[s] and/or sister[s])

- 1 to 2 hours/week
- 3 to 4 hours/week
- 5 to 9 hours/week
- 10 or more hours/week

6. Of those things you are involved in, rate how they provide you with the opportunity to develop trusting relationships with parents, friends, and other adults.

Extra-curricular school activities (e.g. band, athletics, FFA, drama)

- None
- Least
- Some
- Greatest

4-H

- None
- Least
- Some
- Greatest
Other youth organizations (e.g. Boys and Girls Clubs, Boy Scouts, Girl Scouts, church)

- None
- Least
- Some
- Greatest

Work (e.g. volunteer or paid)

- None
- Least
- Some
- Greatest

Family (e.g. watching over brother[s] and/or sister[s])

- None
- Least
- Some
- Greatest

7. How do you see yourself regarding these youth development outcomes?

Competence: meaning not just your academic ability, but your ability to think, feel, work, and practice a healthy lifestyle.

- Not true at all
- Hardly true
- Moderately true
- Exactly true

Confidence: Meaning that you believe you can achieve any goal as long as you try hard enough.

- Not true at all
- Hardly true
- Moderately true
- Exactly true
Character: Meaning you have a clear sense of right and wrong, consistent and reliable,
and you treat everyone equally.

_____ Not true at all  
_____ Hardly true  
_____ Moderately true  
_____ Exactly true

Connection: Meaning that youth contribute to the well-being of parents, peers,
siblings, teachers, coaches, and other adults and they in turn contribute to your well-
being of youth.

_____ Not true at all  
_____ Hardly true  
_____ Moderately true  
_____ Exactly true

Caring: meaning the ability to feel another’s joys and pains while feeling good about
the joys and bad about the pain.

_____ Not true at all  
_____ Hardly true  
_____ Moderately true  
_____ Exactly true

Contribution: meaning your desire and capacity to give back to the people and youth
programs that gave to you.

_____ Not true at all  
_____ Hardly true  
_____ Moderately true  
_____ Exactly true