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Student as Researcher: a Process Evaluation of a Mental Health Study

Lisa Ann LoBianco

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Master of Public Health Thesis

THE STUDENT AS RESEARCHER:
A PROCESS EVALUATION OF A
MENTAL HEALTH STUDY

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2001
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THE STUDENT AS RESEARCHER:
A PROCESS EVALUATION OF A
MENTAL HEALTH STUDY

Lisa Ann LoBianco

B.A., Coastal Carolina University, 1997

A Thesis
Submitted in Partial Fulfillment of the
Requirements for the Degree of
Master of Public Health
at the
University of Connecticut
2001
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An introduction to the literature
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Concerns regarding the students’ topic
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CHAPTER 1

INTRODUCTION

This thesis will report on a community health research and evaluation project associated with an experimental educational intervention in an inner-city high school in Hartford, Connecticut. The educational intervention is intended to increase the ability and desire for students to become more active and empowered learners while investigating and learning about a health issue that affects their community.

The environment of inner-city adolescents

Many inner-city adolescents are affected by an array of community and school issues and take part in a variety of behaviors that can have a negative effect on academic achievement. Students living in inner cities are frequently exposed to violence, poverty, a lack of helping resources and inadequacies in education. Inner-city children are also more likely to live in single parent homes with one income that is usually not enough to purchase health care, childcare and meet the basic needs of children (The Children's Defense Fund, 1999). Black and Hispanic children are 40% more likely to be living in poverty and children living in poverty are more likely to drop out of school or have lower than average academic achievement (The Children’s Defense Fund, 1999).

The Connecticut School Family-Community Partnership Project (1999) describe the following about inner-city adolescents and violence: Many inner-city adolescents are regularly exposed to violence in school, at home and in their communities. When children are exposed to violence at school, such as bullying or physical assaults, they
become distracted and anxious during their classes. Students experiencing violence in school will often become physically ill or develop defense mechanisms that inhibit learning, such as tardiness and absenteeism. In a 1998 survey, Connecticut schools reported a 36% increase in violence over the past 3 years, of these 84% involved vandalism, 81% were assaults, 63% involved sexual harassment and 33% involved weapon use (The Connecticut School Family-Community Partnership Project, 1999). A violent school environment greatly hinders the chances of academic success.

The combination of violence, lack of helping resources and academic failure create situations that, if ignored, can significantly hinder the chances of success for many inner-city adolescents. In addition the reactions, survival mechanisms and coping behaviors of inner-city adolescents, are likely to increase negative outcomes.

**The behaviors of inner-city adolescents**

As a result of the many challenges with which they are faced, a significant number of inner-city adolescents are reacting or coping by engaging in risky behaviors. Students are often dropping out of high school, becoming sexually active and using drugs.

Drop out rates are on the rise in our public schools (J Schensul et. al., 1999). Students who drop out of high school seriously hinder their professional and financial futures; high school drop-outs are 72% more likely to face unemployment and will earn an average of 27% less than peers who graduate from high school (U.S. Department of Labor, 2001). Students who drop out of school lose services, educational opportunities and the chance to attain knowledge and skills vital to breaking the cycle of poverty and oppression. There are many reasons why students drop out of school but the most common reasons
include resigning to take jobs to help with finances, unexpected pregnancies and to begin parenting (Kronick, 1998).

Sexually active teens often become pregnant. The United States has the highest teen pregnancy and teen birth rates of any country in the western industrialized world (National Campaign to Prevent Teen Pregnancy, 2000). According to the Centers for Disease Control and Prevention (2000), approximately one million teenagers become pregnant in the United States each year, of these 95% are unintended and a third end in abortion. In the state of Connecticut the teen pregnancy rates are reflective of the rest of the country. Hartford, however has a higher teen pregnancy rate and a higher rate of repeat pregnancies than other cities in the state (State of Connecticut Department of Public Health, 2000). In 1998, Hartford Connecticut had the highest number of births to teens than any other city in the country and in 1999, more female teens gave birth than graduated from the three public high schools in Hartford (Breaking the Cycle, 2001).

Adolescents who are living in poverty and exposed to violence are more likely to engage in delinquent behavior and have problems with drugs later in their lives (Hawkins & Catalano, 1990). Academic achievement and an attachment to school reduce the amount of drug use and delinquent behaviors in adolescents (Hawkins & Catalano, 1990).

**Educational challenges for inner-city adolescents**

To add to the challenges faced by inner-city adolescents these environments their schools are often failing to help students. "For students at greatest risk for health problems, classrooms often are environments of failure and alienation rather than success
and binding” (Hawkins & Catalano, 1990, p.178). Instead of being a place of refuge and stability, school is, for many, an extension of unstable and challenging home life.

According to Stone (1998), the lower the socioeconomic status the lower the academic achievement. As academic expectations increase, the services and resources available to help are decreasing or unsuccessful. A variety of programs and incentives have been put into place in many schools across the country, yet success is difficult to achieve and dropping out is a common reaction. School administrators are using innovative approaches to education such as magnet schools and enrichment programs designed to increase the likelihood of success. However, the challenges facing students appear to be growing. Hartford has implemented many programs designed to increase educational opportunities and students’ aspirations to learn. Programs have been implemented to expose inner-city students to other communities, provide them with mentors and to increase their chances of academic success. Hartford has employed a “sister school program” where students from varying towns, socioeconomic backgrounds and educational environments visit with each other. There have been many attempts to improve the condition of inner-city education but there is little evidence reporting its success. The educational environment of many inner-city adolescents creates a situation where students must be extraordinary individuals in order to break barriers to academic success.

A common approach to identifying and solving problems is for experts to conduct research and propose solutions based on their results. The “researcher to subject” approach typically involves the expert researchers as the designers, data gatherers, interpreters and subsequent facilitators of a final recommendation (Whyte, et al., 1991).
An alternative is to use an approach that allows and encourages community members to conduct research on a topic that directly affects themselves and members of their community, with the guidance of expert researchers. By allowing community members to be a part of the research process, they will learn to recognize their own personal potential, while learning about problems that they encounter on a daily basis.

It is important to develop a program that provides a more active approach to education that would emphasize starting where the students are in their own community and moving on to more innovative approaches to education. By allowing adolescents to be a part of the research process, they will learn to recognize their own academic potential while learning about problems they encounter on a daily basis.

**Participatory Action Research**

Paulo Freire, a Brazilian educator, influenced researchers and educators to take on a more participatory approach to their efforts. In *Pedagogy of the Oppressed* Freire (1970), described a common dynamic between teacher and student; teachers produce information that is presented to students merely for them to memorize. Students often memorize facts like a country's capital, without really understanding the concept of a capital; Freire (1970) refers to this memorization as "banking". In banking, students are given information to be stored in their memory and filed away for later use. Instead, Freire (1970) proposes another approach called "problem posing", in which students are more "active learners" and act as "co-investigators" in the learning process. In this alternative students and teachers learn from each other and the students develop real world skills that can be applied in various situations.
Freire (1970) also argued that research must take on a more participatory approach. It was his belief that research must originate from the within the communities that are being researched. Freire also points to a conflicting thought process, where the oppressed desire positive change and freedom yet, they fear change and the potential for ongoing oppression. According to Freire, for the oppressed to overcome their oppression, they must first identify the causes and only then can a new environment be created. Overcoming oppression is possible through action research, where those who could potentially be the ‘researched’, take an active role as ‘researchers’. Active research allows individuals to recognize problems within their own societies and aids in the development of appropriate solutions (Elden & Chisholm, 1993).

In the 1970’s the term Participatory Action Research was first used in Tanzania to describe work that was being done with the help of the community members’ knowledge and expertise about their own specific culture and included three basic characteristics: 1) PAR originates within a community or population that has been oppressed or exploited historically; 2) PAR works to address concerns that are specific to that community and have contributed to the exploitation with the goal of positive social change; 3) PAR is a process that includes research, education, and action that utilizes the contributions and unique skills of all participants (Brydon-Miller, 1997).

PAR is a form of action research in which expert researchers collaborate with members of a community in order to conduct research that is studying and transforming some aspect of that particular community (Greenwood, Whyte and Harkavy, 1993). The researchers are community members with a common interest in gaining the necessary skills and knowledge to conduct research that will positively impact their own
community. When the community members take the initiative to identify and research a problem and use the results to come up with solutions for positive change, there is then a chance to overcome oppression. This differs from conventional research where “members of the community or organization are treated as passive subjects” (Whyte, 1991 p. 20).

In a study on PAR and inner-city youth, D. Schensul (1998), discusses three important aspects to keep in mind with regards to PAR: 1) Participation can and should occur at every level of research, this includes topic selection, method choices, data collection, analysis and conclusions. Participation at all levels provides participants with ownership and control over the outcome and should be considered throughout the entire research process; 2) The goal of PAR is to make changes within a given community, keeping in mind that the community should decide the problem and subsequent solutions; and 3) PAR is research and not “political activism or any other biased protest or rebellion”.

In order to distinguish PAR from “typical” research approaches, it is necessary to understand the concept of action research and “typical” approaches to research used today. The Institute for the Study of Inquiry of Education defines action research “a disciplined process of inquiry conducted by and for those taking the action. The primary reason for in engaging in action research is to assist the ‘actor’ in improving and or refining his or her actions” (Sagor, 2000, p. 3). Action research can therefore be distinguished by its call to action based on research findings. PAR is a very different approach than typical research and educational processes that take place today. An important characteristic of PAR is its ability to be altered and modified to meet the needs of any environment.
PAR has been put to use in many different communities to achieve a variety of goals. In the book *Participatory Action Research*, (1991) Whyte and Santos describe two separate industries where PAR has been implemented, Xerox Corporation in New York and Monodragon, Cooperative complex in Spain.

Xerox experienced two opposing conflicts, there were concerns regarding the company’s ability to increase revenue in a highly competitive market and there was a call to improve employee’s Quality of Work Life (QWL). In attempting to save the company millions of dollars, Xerox considered eliminating an entire department. Eliminating the department would save money but would also result in the loss of many jobs. During union negotiations, a consultant, brought in by Xerox, proposed that company create Cost Study Teams (CST). The objective of the CST was to study possible changes that could be made, internally, to cut costs instead of eradicating an entire department. The CSTs were established and made up of a diverse group of Xerox employees. In applying PAR, the CSTs were able to come up with a plan that would save Xerox millions of dollars without eliminating the department. The consultants were not the ones who identified problems and came up with solutions, instead the consultants acted as facilitators in the PAR process. The Xerox project is an example of community members with a shared interest, working together to conduct research that will provide a foundation for positive change within their community. By using PAR, the members of the Xerox community were able to identify the causes the problems, which led to a subsequent plan for improving quality of work life and the financial status of the employers.

In a second case study, Santos (1991) describes the implementation of PAR into FAGOR, a central personnel department within, Monodragon Cooperative Group. PAR
experts were called upon to identify, rethink and strategize a variety of organizational problems. The experts held roundtables, made up of members of FAGOR and similar in function to the CSTs at Xerox; this process led to the writing of a book, “as a process of synthesis, internalization and conceptualization” (Santos, 1991, p.80). In FAGOR’s case, PAR acted as a vehicle to identify problems, seek information, and to work collaboratively to analyze issues and propose solutions. According to Santos (1991), the PAR project led to more open-minded employees, greater awareness of opportunities for learning, and more insight into the human experience. FAGOR’s team concluded that the impact of PAR on the department of personnel was “uneven”, there has been no formal restructuring of the department, but it now operates with a different perspective and a proposal of long-term actions (Santos, 1991).

In a very different environment Lykes (1997), described her experiences and challenges in applying PAR to her ongoing research with Guatemalans living in a volatile, war stricken environment. Lykes (1997) analyzes her experiences in two separate projects, one taking place over ten years ago while she worked with the Asociacion de Servicios Comunitarios de Salud (ASECSA) and the second, which began in 1993 and continues today, involved Lykes’ work with a small Guatemalan women’s organization.

In Lykes’ work with the ASECSA, the action research project involved “creative workshops” for children who have been forced to remain silent about the war and violence surrounding them (Lykes, 1997). The workshops were designed to allow children a safe and “bounded” space where they could communicate feelings and create a support network (Lykes, 1997). Members of the community, who participated, included
rural promoters and childcare workers. Lykes (1997), found these participants to be extremely helpful and believed that they allowed her to better understand the daily lives of the participants. Lykes was also met with great challenges because she was carrying out PAR in a volatile community. At times it was not safe for her to interact with community members and participants often resigned due to the constraints of their community (Lykes, 1997).

In another project, Lykes (1997) joined a local women’s group, made up of women who were survivors of war and displaced from their countries. The group was formed to initiate projects targeting economics, youth and women. Lykes’ role was that of consultant, coordinator, and supervisor of community-based interventions. One intervention, developed by Lykes, was a “community photography project”, in which participants received the necessary tools and training in order to develop photographic images of women’s concerns regarding health and education. The women were provided with cameras and film to take pictures depicting health and education in their community. The pictures were transformed into collections of visual data used to evaluate and enhance new and existing health and education programs (Lykes, 1997).

Lykes’ experiences with PAR are examples of the flexibility that can be afforded while conducting PAR. In her work the most significant results were the benefits to each individual that was involved. No major changes were made in these environments, in fact, at times, the research caused problems in the environment but it gave community members the chance to express their thoughts and emotions in response to living in a very volatile and dangerous environment. Although, the environment did not change, the
members were able to process their experiences and learn that they are not alone in their world.

PAR is an effective research and educational approach that can be used in a variety of environments to reach many different goals. It is most significant in that it promotes collaboration and team environment among expert researchers and the community being researched. In addition, PAR can play a vital role in conducting original action research because it makes the researchers and the subjects more interactive during the research process. These characteristics make project development using PAR an appropriate research approach for empowering inner-city adolescents to become more active learners and to research a topic that directly affects themselves and their community.

**Project Goals**

This thesis evaluates a Community Research Project that has applied a PAR curriculum in a high school health professions academy. The project is designed to teach and empower inner-city adolescent students to research and address the health needs of their fellow students, while increasing their excitement about learning. The goals of this project are to:

1. Promote more active learners.
2. Teach scientific research methods.
3. Allow students act as co-investigators in researching a health issue that affects them on a regular basis.
4. To teach problem solving skills that can be applied to other situations.

The purpose of evaluating the Community Research Project is to determine if the application of a PAR curriculum was successful in reaching the goals of the project. In
addition, this evaluation will provide the basis for future implementation of the Community Research Project using PAR in the classroom setting.
The Community Research Project took place at the Bulkeley High School Health Professions Academy (the Academy) in Hartford, Connecticut. This chapter will describe the city of Hartford, the Hartford school system and the Bulkeley High School Health Professions Academy. In addition, this chapter will describe the collaborative efforts responsible for facilitation, curriculum development and the instructional components of the course. The methods section will describe the curriculum used to develop the community research course and the methodologies used for carrying it out.

Hartford, Connecticut

Hartford, the capital of Connecticut, is the second largest city in the state, with an estimated population of 121,578 (The United States Census, 2000). Hartford is a diverse city with more than 17 neighborhoods varying in ethnic populations. The majority of the population is Black and Hispanic (The United States Census, 2000). Approximately 38% of Hartford residents are Black and of these most are African American but a small number are West Indian American (The United States Census, 2000). Thirty-six percent of Hartford’s population is Hispanic/Latino with most being Puerto Rican American and a small number of Cuban and other Latin Americans (The United States Census, 2000). Approximately 22% of Hartford residents are White with most of them being of a western European heritage. Only 1% of Hartford residents are Asian, American Indian and Pacific Islander (The United States Census, 2000).
Connecticut is a state marked by great disparities; it is home to both the nation’s most affluent towns and most impoverished cities. Although, the per capita income in Connecticut is among the highest in the nation, Hartford has the highest poverty index rate and ranks 4th among the nation’s poorest cities (Chatel and Cimochowski, 1997). In 1990, only 28% of Hartford’s population had high school diplomas and only 17% attended college (Connecticut State Town Profiles, 1998-99). Hartford also ranks high with high school drop out rates, teenage pregnancy, and adolescent crime rates (Chatel and Cimochowski, 1997).

The Hartford School System

With a student population of approximately 22,538, the Hartford school district is the largest in Connecticut and the second largest in New England (Connecticut State Department of Education, 2000). Of the students enrolled in Hartford public school system, 53% are Hispanic and 41% are Black with most being African American (Connecticut State Department of Education, 2000).

The Hartford public school system has been faced with many serious and unique challenges. Students are likely to drop out and often fail in progressing to the next grade. In Hartford, Connecticut 45.2% of the class of 1999 dropped out of school before graduating (The State Dept of Education, 2000). Sixty-eight percent of students in Hartford public high schools fail to finish school within four years (Chatel and Cimochowski, 1997). In 1996, 95% of the 10th graders in Hartford scored below the state standards in science and math (Chatel and Cimochowski, 1997). In addition, students in Hartford are scoring well below expectations on Connecticut Academic Performance
Tests (CAPT). In the state of Connecticut all 10th grade students are required to take the CAPT, which measures student performance in the areas of mathematics, language arts, science and interdisciplinary skills (Connecticut State Department of Education, 2000). In 2000, students in Hartford scored well below state goals in all areas of the CAPT. In mathematics only 9% scored at or above state goals, in language arts only 11% scored at or above state goals, in the area of science only 6% scored at or above state goals and in the area of interdisciplinary only 25% scored at or above state goals (Connecticut State Department of Education, 2000).

The students are not the only ones facing challenges in Hartford, since 1994 the Hartford Public School System has experienced disruptive changes in demographics, personnel, and has experienced high superintendent and principal turnover (Chatel and Cimochowski, 1997). The Hartford school system also has a history of accreditation and management issues, budget cuts backs, and a reputation for instructional neglect (Chatel and Cimochowski, 1997). At one point, Hartford was known for its “dormant” math, science, technology, and literacy revisions, and curriculum guides that were dated and deemed worthless (Chatel and Cimochowski, 1997). As a result of their problems Connecticut made history by being the first public school system to be run by a private organization (Chatel and Cimochowski, 1997).

The Bulkeley High School Health Professions Academy

Bulkeley High School is one of three public schools in the Hartford school district, enrolling over 1556 students in grades 9-12 (The Strategic School Profile, 1999). In 1997 Bulkeley High School developed the Health Professions Academy to encourage inner city and minority students to pursue health and medical related careers (Guiliano, 2000).
The Academy provides a rigorous and challenging academic curriculum designed to prepare students for the SATs and a future career in the healthcare field (Guiliano, 2000).

Students are recruited into the Academy during junior high school (7th and 8th grades) and learn of its existence and mission in a variety of ways; letters are sent to parents, information and recruitment fairs are held, and faculty and staff can refer students (Guiliano, 2000). Students interested in attending the Academy must provide an application, letters of recommendation, evidence of an excellent attendance history and the motivation for academic excellence (Guiliano, 2000).

The Academy runs as its own institution separate from the main high school. Students who attend the Academy are not all BHS students as can transfer from any of the junior high or high schools in the Hartford school system. The Academy teachers work only with students enrolled in the Academy. Although the Academy runs as its own school, the Academy students do utilize the main building’s guidance department, central office, gymnasium, cafeteria, library and health services. In addition, students also take some core classes at the main building depending on the individual needs of the student. During the 2000-01 school year there were a total of 127 students enrolled in the center; 15 seniors, 33 juniors, 29 sophomores and 50 freshmen (Giuliano, 2000).

The Health Professions Academy has formed a partnership with the University of Connecticut Health Center’s Health Careers Opportunities Program. The partnership exposes students to the medical field through a variety of “hands on” programs and activities. In addition the Academy students are involved in mentoring programs with medical students, attend lectures at the hospital and take part job shadowing and laboratory experiences.
**Project Collaboration**

The Community Research Project was developed and supported by the collaborative efforts of the Health Careers Opportunities Program, and the Center for International Community Health Studies, both at the University of Connecticut Health Center and the Institute for Community Research in Hartford, Connecticut. The Health Careers Opportunities Program is intended to expose minority and disadvantaged students to the medical field and to increase the number of minority students applying to the University of Connecticut’s medical, dental and nursing schools. The Center for International Community Health Studies program was established under a grant to address international community health problems and as a resource to encourage and prepare health professionals in the United States to pursue international health careers in medicine. The program is also committed to research and programming in Connecticut’s underserved communities, in particular, Black and Hispanic neighborhoods in Hartford.

The Institute for Community Research (ICR) is a non-profit organization dedicated to developing research partnerships for addressing the health and social needs of underserved communities by conducting applied and action research within various New England Communities. Within ICR there is Student Youth Research Institute which is a six-week summer program that teaches PAR to inner city high-school students. The Student Youth Research Institute uses the “Participatory Action Research Curriculum for Empowering Youth”, developed by the National Teen Action Research Center (NTARC) of ICR. The NTARC was developed in 1996 in an attempt to empower and engage urban youth to research, investigate and make changes in communities, institutions and policies that directly affect them (Sydlo et al., 2000).
During the 1999-2000 school year, Academy students completed an introductory epidemiology course, taught by a faculty member from the Department of Behavioral Sciences and Community Health from the University of Connecticut’s Dental School. This course was the result of a relationship between the Academy and the Health Careers Opportunities Program. The Health Careers Opportunities program wanted to offer the Academy a community research course and therefore approached the director of the Center for International Community Health Studies program at the University of Connecticut.

The Community Research Project

The Community Research Project was an 8-month course, beginning November 7, 2000 and ending June 25, 2001. The student researchers were all 10th graders enrolled in the Health Professions Academy at BHS. The community research course was scheduled to meet twice a week on Monday and Wednesday during the students’ second and third periods, replacing their Biology and Bio-related technology courses. In addition there were several Tuesday classes scheduled for special activities and to accommodate guest facilitators.

The Students

There were a total of 23 10th grade students involved in the research project; 20 females and 3 males. All Academy students are separated into three groups, based on their academic ability; they include the honors group (10H), the academics (10A) and the generals (10G). The facilitators were committed to include all three groups in the course and project. The original course schedule allowed the three groups to meet together for the second and third periods twice a week. Unfortunately, the students’ schedules
changed and not all grades were available for both periods. The 10 (G) group was only available for the second period; the 10 (H) group was only available during the third period and the 10 (A) group was available for both periods.

The students came from a variety of ethnic, educational and socioeconomic backgrounds. The majority of the student researchers were Hispanic and Black there were also several Asian students. For a few of the students, this was their first year attending school in the United States.

All but two of the 10th graders expressed an interest in a future career in the health care field. The students had varying health related career interests but the majority wanted to enter into medical fields that involved direct patient care. The most common career goal among female students was to become a pediatrician, while other students hoped to enter the fields of obstetrics, nursing, physical therapy, medicine or the healthcare field in general. In talking to the students, it was apparent that many of them had picked fields similar to those of mentors, parents or other family members. One student explained that she became interested in the medical field after reading a book titled Think Big by Ben Carson, an African American pediatric neuro-surgeon who grew up in poverty and was encouraged by his mother to do something “big” with his life.

Academy teachers

There are five teachers who work at the Academy, with one also serving as the Academy Coordinator. The Biology and Bio-related technology teachers were most involved in the Community Research Project because their classes were replaced with the course. The bio-related technology teacher and the Academy Coordinator completed a six-week summer fellowship program at the University of Connecticut Health Center, in
1999. The fellowship program gave teachers the skills to take part in the implementation of a curriculum that establishes a link between epidemiology and bioethics.

**The Facilitators**

There were three primary facilitators involved in the Community Research Project, Stephen Schensul Ph.D., Nuria Ciofalo Ph.D., and Lisa LoBianco.

Dr. Schensul is an Associate Professor in the Department of Community Medicine at the University of Connecticut School of Medicine. He is also the director of the CICHS program and has worked with youth and PAR in a variety of settings.

Dr. Ciofalo works for the ICR and became involved with the NTARC. She has worked with youth using PAR to research the quality of life on the island of Oahu, Hawaii. She also wrote a curriculum entitled "A participatory and integrative community-action research curriculum", which is currently used to teach students, teachers, school counselors and youth workers at the University of Hawaii.

Lisa LoBianco is the author of this thesis and a master of public health candidate at the University of Connecticut. The Community Research Project served as the site for her filed practicum. Her role will be described later in the methods section of this thesis.

**Methodology and Curriculum**

The methodology of this thesis is divided into three main parts; the first is the educational methodology, which was developed, based on the NTARC curriculum and modified to implement into an in-school program both before and during the course. The second part is the application of the methods by students, resulting in research results and the third, an evaluation of the project.
The educational methodology

This section will provide a brief description of the Participatory Action Research Curriculum for Empowering Youth on which the BHS, Community Research Project core curriculum was based. The curriculum was designed for implementation into an after school program, therefore, changes were made to accommodate its implementation into an in-school program.

The Participatory Action Research Curriculum for Empowering Youth

The PAR Curriculum for Empowering Youth was developed by the NTARC, a center for youth within the ICR. NTARC’s mission is:

"to promote the engagement of primarily urban, multiethnic youth in applied social science research as a means of investigating and acting upon community, institutional and policy issues that affect them directly and that they would like to change" (Sydlo et al., 2000, p. intro-3)

The NTARC curriculum is made up of six modules that include an explanation of the method, the goals of the method and activity and project ideas to give students and opportunity to apply the methods. The activities are examples and can be changed and modified to meet the specific needs of the project or student researchers.

Module 1: In this section the foundation for building relationships is laid. The activities focus on the student researchers awareness of their identity within a community. When youth discover their identity and are validated for who or how they are, they will function better in their relationships (Sydlo et al., 2000). Within this module are two units “Building Relationships” and “Working with Diversity”. To help the students build better relationships, the NTARC has designed activities that build skills in problem solving, trust, self-esteem and their identity within a group. To build skills in working with
diversity, activities are designed to explore culture and ethnicity, gender, sexuality, disability, age, discrimination and multiple intelligences.

**Module 2:** This section introduces PAR and the concepts and tools necessary to actively participate in a research project. Activities in this module are intended to increase student excitement about the research process and to explore the importance of conducting research. More specifically, these activities are intended to improve observation and listening skills, introduce the research methodologies and to expose students to secondary research via Internet or literature searches.

**Module 3:** This module includes identification of a research topic, issue or problem, identification of causal factors and influences, deconstruction of the issue or problem and determination of a research focus or concentration. This is the time where “hunches” or hypotheses are developed and is referred to as “research modeling”.

**Module 4:** This module introduces students to the research methods that can be used to collect and analyze data and include the following: observations, interviews, elicitations, pile sorts, surveying, mapping and visual documentation. (these methods will be described later in this thesis)

**Module 5:** This section is intended to help students make sense of the data by organizing, managing and analyzing data from the various methods or by putting together a “whole picture”. As a result of putting the “whole picture” together, the students are then able to identify patterns or themes among the data. This module also included three stages in analyzing the data, triangulation, integration and interpretation. Triangulation is a process that allows students to determine if similar results come from different sources of data on
the same topic. Integration intends to create a picture of the findings from different data sources as it “puts together the pieces” creating a complete puzzle, so others can understand.

**Module 6:** This is that final stage in the PAR process where the data can be used for change. In this module three objectives are described as possible ways to use the data for change: the development of educational materials, advocacy and policy change and the development of intervention strategies.

*Application of Methods by Students*

The student researchers learned techniques in topic selection, data collection, data analysis, and presentation of the results. The course was interactive and utilized a variety of hands on and small group activities. The original plan called for significant classroom teacher participation and facilitation, however, this was not accomplished as teacher participation was not effectively facilitated and weakened as the course progressed. It was hoped that the teachers would be participants and learn the necessary tools and research methods, so that they could carry out instruction outside of the Community Research Project. The application of methods and teacher participation will be discussed further in the observation section.

*Topic selection*

The first step in the research process was for the student researchers to pick a health related topic affecting the BHS community. The student researchers came up with possible topics via a free listing exercise. Free listing is an elicitation method where a question is posed and the researchers focus on answers that immediately come to mind.
After a topic was selected, students were instructed in various methods to collect their data, including surveys, interviews, pile sorts and visual documentation.

**Surveys**

A survey is a set of written questions to be completed by informants and used to gather information quickly and from a large number of people. The student researchers and facilitators developed a survey that asked questions relating to their topic. The survey was distributed and completed by students in all grades enrolled at the Health Professions Academy.

**Interviews**

The students also conducted interviews with helping professions in fields relating to their topic. Students and facilitators worked together to develop a set of interview questions that they would later ask professionals in the field over the phone. The student researchers made phone appointments with many different resources and conducted comprehensive interviews regarding the services provided.

**Pile Sorts**

Pile sorts were another method used to gather information about students' issues, coping behaviors and resources for help. Pile sorts elicit categorizations of similarities among items within a group or community. Pile sorts begin with a set of index cards on which an issue or problem is written on one side and on the other side an identifying number. The cards are shuffled and given to informants who are asked to sort the cards
according to topic similarities, making as many or few piles as they would like. Special care must be taken to make sure the informants understand the issue or problem written on the cards.

**Visual Documentation**

Visual documentation is a method used to provide a closer look at an individual’s physical environment through pictures, maps or photos. It allows researchers to collect information based on an informants observations or interpretations of what they see or where they locate objects on a map. In the visual documentation group, student researchers used photos and pictures from magazines to determine the causes of mental health problems, possible coping mechanisms and resources available to help.

The student researchers worked in groups to design and pilot data collection instruments. After the data collection instruments were designed and piloted the student researchers used them to collect data from students at BHS and resources within the community. After data collection the student researchers worked with the facilitators to interpret and “make sense” of their research results. The final step was a presentation of the results to an audience representative of the BHS community.

**My role**

I entered into the Community research Project with an unspecified role knowing that it would evolve based on the needs of the project. During the first few classes I observed and took notes but soon began to assist the facilitators with course instruction, activity supervision, development of lesson plans and in working to coordinate the project with the classroom teachers.
The Community Research Project would also serve as the topic for my master’s thesis and therefore conducted interviews, developed a student examination and observed the class when possible. Although the interviews did not take place until the end of the course, I did talk with students and teachers regularly throughout the course noting their reactions, comments and suggestions. During times when I was teaching or working with a group of students I was unable to observe and therefore I relied on more reflective notes taken after the class or during conversations with participants. I also took notes during meetings, planning sessions and classes.

When data collection began I worked with the visual documentation group. I assisted the student researchers in developing their data collection instruments, collecting the data and in preparing them for presenting the results. I also worked with the other facilitators to analyze and interpret the data.

Community Research Project Evaluation

The Community Research Project was evaluated using a variety of measurement tools including observations, interviews, an examination, a final presentation of the results, and documentation of the results. The facilitators and classroom teachers worked to together to make sure the course was adequately documented for the purposes of this thesis evaluation.

Observations

Observations took place in a variety of ways. At times the class was observed and detailed notes were taken but this was not always possible. More times then not the demands of the classroom required the efforts of all facilitators making it impossible for
anyone to observe the class. To account for unobserved classes, the facilitators and classroom teachers gave detailed accounts of their experiences in working with the student researchers. Planning sessions, meetings and project related conversations were also documented and taken into consideration during the project evaluation.

**Interviews**

All participants were interviewed including students, teachers and facilitators. A total of 22 student researchers were interviewed. The interviews took place toward the end of the project and over the course of several weeks. The interviews were informal and the questions were open-ended allowing the student researchers to share their experience in detail and also to allow and encourage suggestions and feedback about the project.

The biology and bio-related technology teachers were also interviewed toward the end of the course. The interviews were focused on the teacher’s reactions to the Community Research Course and their suggestions for improvement. In addition, throughout the project feedback, comments and facilitator/teacher meetings were documented and incorporated into the project evaluation.

**Examination**

The students were given an examination midway though the course at the request of student’s biotechnology teacher. The facilitators made up the exam and based it on the notes and material covered to date in the class. Prior to taking the examination the students were given a study guide to help them to prepare.
Final presentation

As a finale, the students took the results from their research and presented it to an audience at BHS. Students, teachers and staff from BHS and the collaborating facilitators were present. Each group presented their results and the presentation was videotaped.
THE COMMUNITY RESEARCH PROJECT

The student research project was a hands-on course that taught Academy students the research methods and then applied them to investigate a health issue that affects the BHS student community. The students involved in the project learned scientific research methods, applied the methods to collect data, interpreted the results and presented their project to their community.

Community Health Researchers: November 2000

The first class took place on November 7, 2000. During the first class on the student researchers were told that at this time they were officially "community health researchers". The facilitators assured the student researchers that they would be taught the skills necessary to conduct a comprehensive research project on a health issue and would also prepare to present their results at the end of the course.

To give the students an idea of what their role meant, they defined each of the terms separately and brainstormed people, places or things that they associated with each of the terms. (See Table 3.1) In this project, the community was Bulkeley High School (BHS), the researchers were the 10th grade class and the methods were both qualitative and quantitative. The students developed the list based on their own ideas and experiences.

The brainstorming exercise gave the students a chance to show the facilitators some of the things they already knew about or associated with communities, health and research. The student researchers would be working with facilitators to investigate a health issue
and it was important for them to establish ownership over the project from the start. The brainstorming exercise allowed students to distinguish their roles on their own.

**Table 3.1. Brainstorming Exercise**

<table>
<thead>
<tr>
<th>Community</th>
<th>Health</th>
<th>Researcher</th>
</tr>
</thead>
<tbody>
<tr>
<td>Groups of people</td>
<td>Medicine</td>
<td>Information gatherer</td>
</tr>
<tr>
<td>Neighbors</td>
<td>Body</td>
<td>Looking for facts</td>
</tr>
<tr>
<td>Organizations</td>
<td>Disease free</td>
<td>Not just an opinion</td>
</tr>
<tr>
<td>Work</td>
<td>Food</td>
<td>Collecting ideas</td>
</tr>
<tr>
<td>Jamaicans</td>
<td>Taking care of oneself</td>
<td></td>
</tr>
<tr>
<td>The projects</td>
<td>Hygiene</td>
<td></td>
</tr>
<tr>
<td>Muslim</td>
<td>Sound body and mind</td>
<td></td>
</tr>
<tr>
<td>Church</td>
<td>Personal</td>
<td></td>
</tr>
<tr>
<td>Teens in Jeans</td>
<td></td>
<td></td>
</tr>
<tr>
<td>South/North end</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Religion</td>
<td></td>
<td></td>
</tr>
<tr>
<td>School</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bulkeley High School</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Topic Selection**

The topic selection process was designed to give the student researchers a chance to experience the group decision making process. The facilitators guided students in the first step of the topic selection in which students were to develop an initial list of possible topics. In the early stages of implementing PAR, an important factor is topic selection. The members of the research community “must be stakeholders in the issue to be studied” (D. Schensul, 1998). It was important for the student researchers to pick a topic that they considered to be important but also one that “sparked their interest”. There was flexibility in the topic but it had to be health related and relevant to the BHS community. Conducting PAR with adolescents who are addressing health issues provides exposure to knowledge of healthy behaviors, while at the same time making positive contributions to their community (J. Schensul et al., 1999). During this process the students are able to
learn about resources available in the community because the research is conducted in the very community in which they live, Schensul et al., (1999) refers to this as fostering “community attachment”.

To initiate the topic selection process the student researchers were instructed to list any topics that interested them or came to their mind when they thought about health issues affecting students at BHS. The student researchers worked as a group and developed a comprehensive list of possible topics. The class reviewed the list and combined similar topics and eliminated topics based on a class vote resulting in their initial list of 18 topics (See Table 3.2).

Table 3.2. Initial List of Possible Topics

<table>
<thead>
<tr>
<th>Teenage pregnancy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sexually Transmitted Diseases</td>
</tr>
<tr>
<td>Violence</td>
</tr>
<tr>
<td>Suicidal Thoughts</td>
</tr>
<tr>
<td>Substance Abuse</td>
</tr>
<tr>
<td>Stress</td>
</tr>
<tr>
<td>Depression</td>
</tr>
<tr>
<td>Family Problems</td>
</tr>
<tr>
<td>Teen parenting</td>
</tr>
<tr>
<td>Child Abuse</td>
</tr>
<tr>
<td>Relationship Abuse</td>
</tr>
<tr>
<td>Sexual Harassment</td>
</tr>
<tr>
<td>Eating Disorders</td>
</tr>
<tr>
<td>Sick Building Syndrome</td>
</tr>
<tr>
<td>Health Insurance</td>
</tr>
<tr>
<td>Skin Problems</td>
</tr>
<tr>
<td>Asthma</td>
</tr>
<tr>
<td>Diabetes</td>
</tr>
</tbody>
</table>

During the “initial topic selection” exercise it was apparent that the students were deriving topics from their own experiences and had little difficulty coming up with relevant topics. The student researchers were particularly skilled at identifying topics that
could be combined into broader terms. For example they decided to combine alcohol, smoking and drugs into one topic of substance abuse. The students learned that topic selection is a process that involves pulling ideas from past experiences, identifying goals and working as a team. As a result the student researchers now had a list of health issues to test as possible topic in the BHS community.

The first field assignment

The student researchers transferred their list of possible topics onto index cards in preparation for their first field assignment. Each student researcher took their set of cards and a ranking form (See appendix 1) into the main building and performed a ranking exercise with three BHS students (informants). Some of the student researchers conducted the exercise with BHS students in their communities and neighborhoods. The informants were approached during study hall and lunch, allowing both the time and space needed to effectively carry out the exercise. The informants reviewed the index cards, which had an issue on one side and a number on the other, and were asked to put them in numerical order based on how important they believed the issues were to the BHS community. The student researchers also asked that the informants provide reasons for their top three choices.

Prior to going into the field, the student researchers were asked to make some a hypothesis about the results of the ranking exercise. The student researchers hypothesized that the number one health issue affecting BHS students was teenage pregnancy. The student researchers believed that teen pregnancy was a problem for everyone and not just the “girl who gets pregnant”. They talked about the impact on the entire family, the
father, the baby. One student said, "Being the kid of a teenager causes a lot of stress". The students also agreed that stress can result from the following: thinking you are pregnant, finding out that you are pregnant, finding out that a friend is pregnant, telling parents and boyfriends that you are pregnant, getting a girl pregnant, and decided what to do if you get pregnant. This discussion was in a sense a "pep rally" before going out into the field and it made the students excited and eager to learn the results of the ranking exercise.

Our first findings

The student researchers completed the ranking exercise with 77 adolescents; 21 males and 54 females, with the majority being in the 10th grade. After completing the exercise, the student researchers, processed their experience in a class discussion. Most of the student researchers enjoyed the exercise stating, "it was fun", "it was easy", "It was fun to talk to the students" and asked "can we do more of this?" A few students admitted that they did not enjoy the ranking exercise. One student said we were "getting into people's business too much". Another student answered back, "Well if we want to help that what we gotta do." One student reported, "I like talking to the students, but I did not like it when they [rejected] me". The students' also brought up concerns regarding the informant's privacy and their ability to conduct appropriate interviews. The student researchers valued privacy and did not want their privacy invaded nor did they want to appear to be invading the privacy of their peers. The facilitators assured the student researchers that their concerns regarding privacy and confidentiality were valid ones and would be addressed as we moved along in the research process.
The results of the “Bulkeley High School Health Problems Ranking” were analyzed by facilitators and presented to the students in the form of a colorful bar graph making the results easier to understand (See Figure 3.1). The students were correct in their hypothesis regarding teenage pregnancy, it ranked number one among both males and females at Bulkeley High School. Sexually transmitted diseases ranked second and violence ranked third. Actual medical issues, such as skin problems, asthma and diabetes were not important issues according to the BHS community.

Of the top eight issues, three involved mental health issues with suicidal thoughts as the fourth most important issues to the BHS students. The student researchers thought it was interesting that males were more concerned with sexually transmitted diseases than females.

The student researchers also asked informants to provide reasons for their top three choices. Quotes were documented regarding teenage pregnancy, violence, suicidal thoughts, STDs and stress.

**Teen Pregnancy** is an issue “…because girls want to keep their boyfriends”, “My sister got pregnant when she was 13 and I know friends who have gotten pregnant”, “So many are having kids before graduating”, “The kids think they are responsible but they aren’t and it interferes with life”, “most of the popular girls are pregnant”, “teen just don’t care”, “teens are having unprotected sex”, “premarital sex”, “if you get pregnant you have to stay home”, “teenage pregnancy causes teens to have to stay home and drop out”.
Figure 3.1 Bulkeley High School Health Problems Ranking Health Professions Academy Research Team
Violence is an issue because “...it prevents security in the community”, “Many think it’s the only solution to problems”, “Many kids have no self-control and let the little things get to them”, “Violence is often a means of problem solving”, “there’s violence because of stress and family problems”, “there is violence between parents, boyfriends and teachers”, “there is a lot of chaos in school”, “he said she said”, “violence is mothers beating children, gangs and the drug system”, “I saw a teacher get in fight once”.

Suicidal thoughts are an issue because “...Teens feel unwanted by parents”, “it’s relief from problems causing pain”, “it’s from stress”, “don’t know how to solve problems,” “sometimes it’s the only solution”, “she thinks about it and so does her sister.” “Stress and family problems”, “problems in home and school”, “no one to talk to”, “depression”, “you stop caring about yourself”, “Sleeping and eating more is a sign.”

STDs are an issue because “...too many people are having unprotected sex”, “people don’t care who they have sex with”, “kids are having a sex with a lot of partners who are having sex with a lot of partners,” “People don’t wanna die”, “a lot of teens are dying from STDs”, “Teens are having sex at an early age”.

Stress is an issue because “...being a teen is stressful”, “life in general is stressful”.

As the class discussed the results of the ranking exercise the student researchers were not surprised to learn that the top three health concerns among the BHS community were teen pregnancy, sexually transmitted diseases and violence. The student researchers were very impressed with themselves for they had hypothesized that teen pregnancy would be among the number one concern. Now it was time to decide how to use the results in selecting a topic. The classroom teachers and facilitators discouraged the class from
pursuing a topic that involved sexuality, fearing it would create problems with parents and administrators at BHS. The student researchers wanted to take a class vote so the facilitators decided to let them vote on the top eight issues (See Table 3.3).

<table>
<thead>
<tr>
<th>Class Vote Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teen pregnancy n=0</td>
</tr>
<tr>
<td>Violence n=0</td>
</tr>
<tr>
<td>Substance abuse n=1</td>
</tr>
<tr>
<td>Depression n=0</td>
</tr>
</tbody>
</table>

The majority of the student researchers picked "suicidal thoughts" as a research topic. The facilitators found the student researchers’ topic choice very interesting because although it was on the original ranking list, there were no significant discussions about suicidal thoughts during class. During the ranking exercise the student researchers seemed to be more concerned with teenage pregnancy. The student researchers were correct in hypothesizing that teen pregnancy was a major issue for students but they were more interested in researching suicidal thoughts.

One student researcher wanted to know how we were going to approach students in an appropriate manner, “we can’t be getting all into everyone’s business, it’s a personal issue suicide” she demanded. Other students in the class agreed and the facilitators assured students that they would have the appropriate tools and resources to conduct research in a way that did not offend or invade the privacy of the informants.

An introduction to the literature

The facilitators wanted to make sure the students understood that research must start with a sense of the research on their topic therefore, the literature on suicidal thoughts
and adolescents needed to be reviewed. The facilitators decided to review *Suicide and Suicidal behavior* by Cohen et al., (1996). The students and facilitators learned that death by many diseases is decreasing yet deaths due to suicide are increasing (Cohen et al., 1996).

The class also learned about the risk factors for attempting suicide and the correlation between suicidal thoughts and actual suicidal attempts. The risk factors for suicidal thoughts include gender, ethnicity, family conflict and mental disorders. Men are more likely to have suicidal thoughts and Caucasians are three times as likely to commit suicide than Blacks (Cohen et al., 1996). The student researchers believed that men are more likely to think about suicide because they may have more stress from family and financial responsibilities. Others thought it was because men “have the guts to do it”. The student researchers were surprised to learn that, according to Cohen et al., (1996) in 1990 suicide was the leading cause of death for Hispanics aged 15-24.

Cohen et al., (1996) described the spectrum of suicidal thoughts in the following five stages: 1) roaming thoughts of suicide, 2) active suicidal contemplation, 3) active planning and preparation for an attempt, 4) an actual suicide attempt and 5) suicide completion. Approximately 30% of the population has suicidal thoughts and of those only .01% end up making an attempt (Cohen et al., 1996).

During a discussion of the article one of the participants told the class that his brother was at a local in-patient treatment facility because he had attempted to kill himself with a knife. The student’s story prompted the student researchers to begin talking about their feelings and experiences with suicidal thoughts; many of them acted as though they had
known all along how so many students had been affected by suicidal thoughts. It was becoming more and more evident that suicidal thoughts were affecting many of the community research project participants, whether directly or indirectly. As the class discussed suicidal thoughts it was becoming clear that the students felt comfortable talking with each other about such personal issues.

**Students are introduced to methods: December 2000**

To introduce the student researchers to the various research methodologies the facilitators planned a “Research Stations” activity. The concept of “Research Stations” was developed by the NTARC to expose students to the various methods used to collect data by introducing and allowing students an opportunity to learn about and apply each method. The “Research Stations” gave the students a better understanding of which methods are useful and effective for collecting different types of information and how combinations of methods can be used to gather information on one topic.

Staff from the NTARC at ICR came to the Academy to carry out the “Research Station” activity. The students were divided into five groups and visited each of the five research stations: Free Listing and Pile sorts, Interviewing, Visual Documentation, Body Mapping and surveying.

**The Free Listing and Pile Sort Station**

In the free listing station student researchers were taught how to use elicitation methods as a means of collecting data. Listing is an elicitation technique that allows researchers to understand how the informant or participant conceptually organizes a cultural domain. The students were asked to write down as many terms as they could think of that could be
included in the category of “suicidal thoughts”. After the students completed their lists a student researchers collected them and read them to the class. The facilitators explained that they were looking to find “sets” or “clusters” of similar words, items or thoughts, also known as “cultural domains”.

After identifying several cultural domains the students made “pile sorts” by taking the terms that appeared the most and writing them on index cards each with an identifying number in the back. The students took the index cards and asked BHS informants to put the cards into piles of what they considered related categories. The related categories would point out cultural domains and allow researchers to better understand how informants view their world.

**The Interview Station**

The interview station provided students with explanations of key informant interviews, in-depth interviews and focus groups. Key informant interviews are one on one interviews designed to collect data on a specific subject from a cultural expert of the research topic, the questions are broad and open-ended. In-depth interviews are conducted with key informants but are more specific and formal in nature. Focus groups are interviews that are designed to gather information on a specific topic from a group of key informants.

To familiarize the students with the method they were interviewed about “things they do not like about school”. The questions were open ended to elicit a more detailed response from informants. In another exercise the students were asked more specific and predetermined questions about drug use. Questions included the following: “How can
drugs affect your life?” “How can drugs help you?” “How can drugs harm you?” “Do you think people who use drugs should go to jail?” After, all of students completed the interviews the answers were recorded and reviewed to identify existing “cultural domains.”

The Visual Documentation Station

At the visual documentation station, students were asked to think about what types of photos could be used to learn about other people. The class reported that x-rays, photographs, video footage, computer images, ultrasounds, and the view from a telescope are possible ways photos or pictures could teach researchers about others. To demonstrate, the students completed an activity in which they were assigned an emotion and asked to portray that emotion using only facial expressions and body language. As the students acted out their emotions their pictures were taken. Once everyone in the group completed the exercise all of the photos were pasted onto a poster board and the class had to guess, by looking at the facial expressions and body language, what emotion was being portrayed.

The Body Mapping Station

In the body mapping station students learned two ways in which to use a map as a means of collecting information; a geographic map and map of the human body. To demonstrate, students were shown a picture of a human body and asked to point to areas of the body that may be associated with “low self-esteem” and “where on the body they might feel stress”. Students were then asked to think of ways in which this method would allow researchers to collect information about suicidal thoughts. The students said they
could ask informants to mark or color in a part of the body they may want to hurt most or ask what part of the body may cause you to have suicidal thoughts. Using geographical mapping, which physically locate things, students suggested mapping places where stress can come from such as the home, school or neighborhood.

The Survey Station

At the survey station, students were introduced to the types of questions that can be included on a survey for example YES/NO, a choice among alternatives, a ranking, a likert scale and an amount or an actual figure, like age height or weight. The student researchers learned that there are two types of surveys, anonymous and confidential. In an anonymous survey, informants would not use their names at all and in a confidential, names might be used but they would not be disclosed to anyone who is not a part of the research project.

The “Research Stations” gave students an idea of the various methods that could be used to collect information regarding suicidal thoughts. The student researchers felt the visual documentation method was the most fun station they visited because they could act a little silly and they were able to keep the pictures as a souvenir. Many of the students thought it was “neat” to meet and interact with “professional researchers”.

Developing The Research Model

The student researchers were now ready to develop a research model for “suicidal thoughts among adolescents”. Modeling is a means of focusing the research according to the dependant and independent domains resulting a diagram that represents the initial relationships between the domains (S Schensul et al., 1999). The dependent domain is the
problem or issue being researched, in this case suicidal thoughts and the independent domains are the perceived causes of the problem.

The student researchers worked in small groups and developed lists of possible causes of suicidal thoughts or independent domains. Each group shared their lists with the class and all the lists were combined into one list (See Table 3.4). Modeling is also the time where researchers may start to develop hypotheses about the topic they are investigating.

Table 3.4. Independent Domains

<table>
<thead>
<tr>
<th>Health insurance</th>
<th>Teen pregnancy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relationship abuse</td>
<td>Pre-marital sex</td>
</tr>
<tr>
<td>Child abuse</td>
<td>Peer pressure/popularity</td>
</tr>
<tr>
<td>Teen parenting</td>
<td>Stressful life event</td>
</tr>
<tr>
<td>Depression</td>
<td>School performance</td>
</tr>
<tr>
<td>Stress</td>
<td>Family problems</td>
</tr>
<tr>
<td>Substance abuse</td>
<td>Sexual identity</td>
</tr>
<tr>
<td>Violence</td>
<td>Romantic relationships</td>
</tr>
</tbody>
</table>

Next, the student researchers selected five independent domains from their list that would be a part of the research model. The class voted and decided to include depression, stress, popularity, family problems, and a stressful life event. The next step was to develop research models based on the dependent and independent domains.

**Horizontal Modeling**

"The goal of modeling.... is to work out a picture of the dependent domain and the central independent domains perceived to bring it about, along with the connection
between the two” (D. Schensul, 1998, p.19). The process starts with horizontal modeling, where students make connections between independent domains and the dependent variables.

Students were given five poster board circles with the independent domains written on them and an index card with the dependent domain on it. Students were able to attach and remove the domains as they worked through the process of developing a research model. The student researchers spent several classes, in their groups, developing and working through their research models. After each group felt satisfied with their model, they presented them to the class. The class voted on which model they felt was most accurate (See Figure 3.2).

The first research model of “causes of adolescent suicidal thoughts” was based on the student researchers’ hypothesis that peer pressure and family problems cause stress and depression, which can lead an adolescent to think about suicide. According to the student researchers, peer pressure or family problems alone did not cause suicidal thoughts instead it was the presence of depression or stress, which could be caused by family problems or peer pressure and popularity. The students went further to hypothesize that family problems could cause or be caused by peer pressure and popularity and the converse, peer pressure and popularity could be directly affected by family problems. The independent domains are all interconnected, with each variable having the potential to affect others.
Vertical Modeling

According to the student researchers, depression, stress, popularity, and family problems were always involved in suicidal thoughts but it was not yet clear how to measure the independent domains. The student researchers needed to conceptualize how depression, stress, popularity and family problems were to be measured. The student researchers broke into groups and completed an activity in which they expanded on or “unpacked” the independent domains. Figure 3.3 shows how the student researchers measured their independent domains. In a few cases the student researchers recorded causes of the domains instead of ways to measure them.

Figure 3.2. The Final Research Model
Figure 3.3. Vertical Modeling

The vertical modeling exercise was important because it taught the student researchers to think more critically about the perceived causes of suicidal thoughts and the importance of being able to measure the existence of the independent domains. During the exercise one group discussed how they might have measured the independent domains if they were in another country. The student researchers commented that depression, stress, popularity and family problems might be interpreted differently in another country. For example, in some countries hunting for food or finding shelter might cause stress while in the United State people often become stressed because of the clothes they wear or how much money they have. Measurement is unique to each community but it must be measured when conducting research or the presence of the independent domain cannot be determined.

A student discloses her own thoughts of suicide

In response to the students’ concerns regarding their ability to react appropriately to discussion about suicidal thoughts, the facilitators decided to review Adolescent Suicide:
Prevention and Intervention by Capuzzi (1989). The article addresses the following of the myths surrounding suicide:

- Adolescents who talk about suicide never really do it.
- Suicide often happens without warning.
- Adolescents from affluent families attempt suicide more often those from poor families.
- Once suicidal, always suicidal.
- Once an adolescent makes an attempt and survives, he or she will not likely attempt it again.
- Adolescents always leave notes, and most suicide attempts occur late at night.

During this review of the article one of the student researchers disclosed the fact that she had been having suicidal thoughts and was now in a treatment program. She wanted to share her story with her classmates in an attempt to give the student researchers a better understanding of what it is like to feel suicidal and to offer advice on what they can do if faced with a suicidal peer or friend. The facilitators and classroom teachers decided to let her talk to her classmates. The students took a break while their desks were set up into circles to make the room more comfortable for everyone. She appeared a little nervous but was able to articulate her experiences. She told classmates that she was raped and that was the main reason she began to think about suicide. She went on to explain that a lot of students acted strangely toward her and talked about her because they did not understand why she was running out of class crying, skipping school, crying in the bathroom or starting fights with classmates. She told her classmates that “there really was no right or wrong thing you could have said or done, but it would have helped if people could just be there as a shoulder to cry on or someone to talk to”. She did mention a
positive experience with a friend who helped her by “just being there for a hugs or a
phone call”. She also talked about some of the negative experiences, like students
spreading rumors or talking behind her back.

One student admitted that she at times thought the student was doing things “for
attention” and that “many other kids have these feelings and not just her”. Another
student explained that if she had told them why she was acting so strange they would not
have talked behind her back. One student expressed great frustration because of not
knowing what to do or say. She responded by saying “sometimes you don’t say anything
you just be there for me on the phone or in the bathroom”. The class ended with hugs and
a promise from students to be more supportive of each other.

The student’s disclosure was “the real thing”, her classmates were not prepared nor
did they have a plan for reacting appropriately. The student researchers did what came
naturally based on their feelings and experiences. The class was significant for many
reasons; the student who disclosed was able to explain her erratic behaviors, the student
researchers were able to ask questions and learn about suicidal thoughts from a genuine
source and the facilitators and teachers learned just how important and “close to home”
this topic was for students. It was becoming clear to the facilitators that pursuing suicidal
thoughts as a topic was going require some help from outside resources and consultation
with the experts in the field.

Concerns are raised regarding the research topic

There were three main barriers to pursuing suicidal thoughts as a research topic;
materials needed to submitted and approved by the Institutional Review Board (IRB) at
the University of Connecticut Health Center, the Health Careers Opportunities Program consulted with a psychiatrist who raised concerns about the topic and the resources inside BHS and in the community were not willing to help.

As with any research involving data collection from human subjects, the IRB needed to review the materials and approve the research. According to the IRB, in order for the students to conduct research regarding suicidal thoughts, there would need to be written approval from both parents of all participating students, this included the students conducting the research, as well as any students who were to be interviewed, surveyed or involved in the research in any capacity. This alone would be a very difficult thing to accomplish, according to the classroom teachers it is difficult to get written permission from parents and it was very unlikely that all necessary permission slips would be signed and returned. In addition, the IRB requested that a full-scale referral system for participants, during and after school be put into place before any collection of data relating to suicidal thoughts was to take place. The resources being demanded were nonexistent and could not be implement within the time frame of the Community Research Project.

The Health Careers Opportunities program also became concerned about the topic after consulting with a Psychiatrist at the Health Center. The Psychiatrist they consulted with believed that talking about suicide with adolescents may encourage thought and attempts and therefore was not recommended.

The facilitators also met resistance when approaching mental health experts within BHS and in the Hartford community. The social workers and guidance counselors at BHS
and outside resources were not willing to talk with students about suicide. No one would talk about suicide unless there was a comprehensive referral system in place for students; this did not exist nor was it possible to establish during the community research project.

**A new topic: January 2001**

The expectations necessary to continue with suicidal thoughts as topic could not met with the time remaining and the resources available. Pursuing the topic of suicidal thoughts was clearly unrealistic and the facilitators were concerned about the impact a topic change would have on the student researchers. With no reasonable alternatives the facilitators decided to meet with the student researchers and discuss a topic change.

The facilitators met with students and explained that there were serious concerns raised regarding their topic and it would have to be changed. The facilitators suggested changing the topic to a broader topic of mental health issues therefore eliminating the concerns but still indirectly covering suicidal thoughts. Other alternatives were proposed included going back to the original top three issues of teenage pregnancy, sexually transmitted diseases or violence or going back to the original ranking exercise results and taking another class vote. The students expressed their thoughts and opinions regarding the changes; one student asked, “Why people don’t wanna attack suicidal thoughts?” Another student stated, “The problem is that we already talking about it, the problem is there and people don’t wanna talk about it, it’s stupid”. One of the students responded by stating, “we wasted all this time and now we gotta do it all again”. It was ironic that facilitators had thought a sex related topic was going to cause problems and were now encouraging students to consider it as a topic. The student researchers accepted the
suggestion to change to a broader topic of mental health issues. One facilitator suggested
the topic of “knowledge about and attitude towards adolescent mental health issues”,
everyone agreed and the topic was changed.

Redirect

To redirect students to their new topic, they were asked to “free-list” places where
students in the BHS community could go for help with mental health issues. The student
researchers were asked to organize resources into four categories (See Table 3.5).

Table 3.5. Helping Resources

| Formal School: School employees trained to help. |
| Informal School: Persons at school not trained to help. |
| Formal Community: Professional in community trained to help. |
| Informal Community: Community members not trained to help. |

During the helping resource exercise the student researchers were able to identify
potential resources that might be available for help with mental health issues as well as
developing a list of potential “key informants”. Key informants are individuals with a
special expertise in the topic being researched (S Schensul, 1999).

A “Resource Fair” was planned to give the students their first experience in
conducting interviews with key informants. Using the student ‘s resource list (see table
3.6) resources were invited to the “resource fair” at the Academy. Ideally there would
have been key informants representing each of the four resource categories but many of
the invitees did not participate. A social worker, nurse and guidance counselor from BHS,
were invited but failed to show and only two Formal Community resources were able to
participate, Info line and the Community Renewal Team (CRT).

Table 3.6. Helping Resources List

<table>
<thead>
<tr>
<th>Formal School</th>
<th>Informal School</th>
<th>Formal Community</th>
<th>Informal Community</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social workers</td>
<td>Teachers</td>
<td>Health agency</td>
<td>Friends</td>
</tr>
<tr>
<td>Counselors</td>
<td>Friends</td>
<td>Provider</td>
<td>Parents</td>
</tr>
<tr>
<td>Clinic Nurse</td>
<td>Guard</td>
<td>Counselor</td>
<td>Neighbors</td>
</tr>
<tr>
<td></td>
<td>Peers</td>
<td>Church</td>
<td>Uncle/Aunt</td>
</tr>
<tr>
<td></td>
<td>Secretary</td>
<td>“Facts of life”</td>
<td>Girl/Boyfriend</td>
</tr>
<tr>
<td></td>
<td>Mentors</td>
<td></td>
<td>Sibling</td>
</tr>
<tr>
<td></td>
<td>Tutors</td>
<td></td>
<td>Grandparent</td>
</tr>
<tr>
<td></td>
<td>Principals</td>
<td></td>
<td>Cousin</td>
</tr>
</tbody>
</table>

To compensate for the low turnout at the resource fair, students and facilitators
stepped in and acted as mock resources enabling the student’s to conduct their interviews.
One of the members of CRT happened to be a pastor and agreed to be interviewed as a
pastor instead of a member of CRT. The student researchers broke into four groups and
visited each resource, interviewing and taking notes.

The student researchers had some free time remaining after the resource fair and
decided to conduct a mapping exercise based on services available in Hartford. Each
group took a photocopy of a local map of Hartford and highlighted the location of
services that they had learned about during the “Resource Fair”. In addition, students
used local phone books to locate and “map” other resources in the Hartford, Connecticut area. Afterwards the student researchers, classroom teachers and key informants had a “pizza party”.

During the party, the students reflected on their experience. Despite the lack of participation, students described the “Resource Fair” as “a favorite day” and thought it was “fun and interesting” to interview the resources. The student researchers were surprised to learn about the variety of resources available such as, babysitting classes, housing support, nutrition classes, home weatherproofing, GED classes, job training and 24-hour information services. The students also learned that most people entered into their role/job because they had been helped before and wanted to give back to the community. The students were not surprised by the lack of participation from the BHS resources; one student said “not even free food can get them over here”.

**Data collection: February and March 2001**

It was now time to begin organizing for the data collection process but before students could begin, parental consent needed to be obtained for any of the students conducting research and all interview and survey respondents. A consent form was drafted (see appendix 2) and submitted to the IRB at the University of Connecticut and the principal at BHS for approval. While waiting for approval the student researchers were organized into groups and reviewed the various methods they would be using to collect data.

The facilitators organized the data collection groups because in the past students worked only with their friends and often socialized when they should have been working. Each group was assigned a method and a facilitator and would work together throughout
the rest of the Community Research Project. Four groups were established: 1) Mental Health Resources Interview Group. 2) The Survey Group. 3) The Pile Sort Group. 4) The Visual Documentation Group. For the duration of the data collection process, these groups would work independent from each other.

*Mental Health Resources Interview Group*

In the interview group, students began by developing a list of questions to ask mental health resources during interviews (See Table 3.7). Students developed questions that would address the research topic of “knowledge about and attitudes toward adolescent health issues.”

The Interview Group selected organizations to interview in a variety of ways; student researchers gave suggestions, facilitators made contacts, and resources within BHS were contacted. Table 3.8 is a list of key informants who were contacted and scheduled for interviews. Students took turns on the phone interviewing while other classmates listened on the other end, taking notes. The students appeared very comfortable when talking with the informants and said they were “easy to talk to”.
Table 3.7. Mental Health Resource Interview Questions

- What is your name?
- What is your position?
- What kind of services do you offer?
- Where are you located?
- What did you choose to work at this agency?
- How many people request your services per day?
- Where does your funding come from?
- How many workers are there to help?
- Do your services cost anything?
- Why do you feel there is an important need for the services you provide?
- How do your services help people?
- What kind of advice do you give people?
- What questions do you ask before giving services to the people?
- What are the most frequent topics that people ask you?

Table 3.8. Key Informants for Interviews

- Infoline of Connecticut
- North Central Counseling Services
- Guidance Department of Bulkeley High School
- The Wheeler Clinic
- Catholic Family Services
- The Institute of Living at Hartford Hospital
- The Greater Hartford Rehabilitation Center
- The Community Child Guidance Clinic
- Help Line
- Hartford Board of Education Health Services
- Bulkeley High School Based Clinic
- The Capital Region Mental Health Services
At the time of data collection the BHS resources were still not participating in the student research project. The facilitators and students called guidance counselors to arrange interviews but never received a response. At one point, two facilitators and several students walked into the guidance office unannounced and asked to see a guidance counselor, they were asked to wait in the hallway. After 15 minutes, they were invited into a counselor’s office where the students explained their research project and complained about the complete lack of participation from the guidance department. The counselor apologized and told the facilitators and students that he was unaware of the project and would see that the guidance office participated in the project. The student researchers were not convinced but thanked him for his time and planned to meet again within the next week.

The survey group

The survey group wanted to design a survey that would be effective in gathering information about the” knowledge about and attitudes toward adolescent mental health issues” from the perspective of the students at BHS. First the student researchers had to decide what specific information they wanted to collect from the informants and then make up appropriate questions. The survey group also wanted to make sure they designed a survey that was interesting and understandable for the informants. The participants in the survey group made up questions that focused on the following areas: perceived causes of adolescent mental health issues, awareness of resources available for help, students’ comfort level in talking about mental health issues and their thoughts about the resources available in their community.
The final survey included questions that were developed by both facilitators and student researchers and designed to produce both qualitative and quantitative data. The types of questions included listing, ranking scales, and YES/NO questions. Once the survey was developed, the student researchers completed pilot surveys to identify problems before administering it to the informants.

The pile sort group

The goal of the pile sort group was to see how informants would categorize the domains that were developed in the vertical modeling exercise (See Table 3.3). The student researchers took their list of domains and developed three separate pile sorts: “Mental Health Problems”(See Table 3.9), “Causes of Mental Health Problems” (see table 3.10) and “Helping Resources for Mental Health Problems” (See Table 3.11). The domains were written on the sets of index cards and each was assigned an identification number.

Completing pile sorts is a time consuming process because the domains must be identified, the cards need to be made, and it takes time for the informants to carry out the exercise. In addition to the expected challenges, the pile sort group was given the wrong instructions for making the cards. The other groups in the class worked with the pile sort group to organize and develop new pile sorts.
Table 3.10. Causes of Mental Health Problems

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td>1.</td>
<td>Family abuse</td>
</tr>
<tr>
<td>2.</td>
<td>Sexual harassment</td>
</tr>
<tr>
<td>3.</td>
<td>Discrimination</td>
</tr>
<tr>
<td>4.</td>
<td>Family</td>
</tr>
<tr>
<td>5.</td>
<td>Neglect</td>
</tr>
<tr>
<td>6.</td>
<td>Boy/girlfriend</td>
</tr>
<tr>
<td>7.</td>
<td>Death loved one</td>
</tr>
<tr>
<td>8.</td>
<td>Poor health</td>
</tr>
<tr>
<td>9.</td>
<td>Crime</td>
</tr>
<tr>
<td>10.</td>
<td>Overweight</td>
</tr>
<tr>
<td>11.</td>
<td>Unpopular</td>
</tr>
<tr>
<td>12.</td>
<td>Failing</td>
</tr>
<tr>
<td>13.</td>
<td>Pregnancy</td>
</tr>
<tr>
<td>14.</td>
<td>Rape</td>
</tr>
<tr>
<td>15.</td>
<td>STDs</td>
</tr>
</tbody>
</table>

Table 3.9. Mental Health Problems

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td>1.</td>
<td>Depression</td>
</tr>
<tr>
<td>2.</td>
<td>Suicidal thoughts</td>
</tr>
<tr>
<td>3.</td>
<td>Stress</td>
</tr>
<tr>
<td>4.</td>
<td>PMS</td>
</tr>
<tr>
<td>5.</td>
<td>Eating Disorder</td>
</tr>
<tr>
<td>6.</td>
<td>Anxiety</td>
</tr>
<tr>
<td>7.</td>
<td>Schizophrenia</td>
</tr>
<tr>
<td>8.</td>
<td>Sadness</td>
</tr>
<tr>
<td>9.</td>
<td>Hyperactivity</td>
</tr>
<tr>
<td>10.</td>
<td>Loneliness</td>
</tr>
<tr>
<td>11.</td>
<td>Drug use</td>
</tr>
<tr>
<td>12.</td>
<td>Tourettes syndrome</td>
</tr>
</tbody>
</table>

Table 3.11. Helping Resources for Mental Health Problems

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Parents</td>
</tr>
<tr>
<td>2.</td>
<td>Aunt/uncle</td>
</tr>
<tr>
<td>3.</td>
<td>Sibling</td>
</tr>
<tr>
<td>4.</td>
<td>Godparent</td>
</tr>
<tr>
<td>5.</td>
<td>Cousin</td>
</tr>
<tr>
<td>6.</td>
<td>Grandparent</td>
</tr>
<tr>
<td>7.</td>
<td>Neighbor</td>
</tr>
<tr>
<td>8.</td>
<td>Friend</td>
</tr>
<tr>
<td>9.</td>
<td>Classmate</td>
</tr>
<tr>
<td>10.</td>
<td>Teacher</td>
</tr>
<tr>
<td>11.</td>
<td>Guidance</td>
</tr>
<tr>
<td>12.</td>
<td>Coach</td>
</tr>
<tr>
<td>13.</td>
<td>Principal</td>
</tr>
<tr>
<td>14.</td>
<td>School Social Worker</td>
</tr>
<tr>
<td>15.</td>
<td>Pastor/clergy</td>
</tr>
<tr>
<td>16.</td>
<td>Psychologist</td>
</tr>
<tr>
<td>17.</td>
<td>Hospital</td>
</tr>
<tr>
<td>18.</td>
<td>Mental Health</td>
</tr>
<tr>
<td>19.</td>
<td>State Social Worker</td>
</tr>
<tr>
<td>20.</td>
<td>Doctor</td>
</tr>
</tbody>
</table>
**The Visual documentation Group**

To gather their data the student researchers in the visual documentation group made three poster boards, “Places where I would go for help inside BHS”, “People to whom I would go to for help” and “When I am having a problem this is what I do”.

To make the poster board, “Places where I would go for help inside BHS”, the student researchers went into the main building and took photos of the gymnasium, the boys and girl’s bathrooms, the cafeteria, the health classroom, and the offices of the nurse, guidance counselors and student support services. The photos were pasted onto the poster board in a layout similar to the actual layout of main building. Each of the photos was given a number and a “tally sheet” for informants to check off the places they would go to for help.

The “People to whom I would go to for help”, poster board was made using pictures from magazines. The student researchers cut pictures out of magazines representing a parent, a religious person, a friend, an info line staff member, a health teacher, a doctor, a grandparent, a sibling, a classmate, a teacher and a coach. These pictures were pasted onto the poster board and assigned numbers.

The third poster board, “When I am having a problem this is what I do”, displayed pictures, cut out of magazines, indicating crying, surfing the Internet, sleeping, smoking, fighting, yelling, hugging, working out, playing sports, talking on the phone, socializing and doing homework.
Each poster was assigned a number and a tally sheet was developed for the informants to check off the relevant pictures or photos. To collect the data, students researchers set up four “poster stations” for informants to look at the pictures, decide what they would do and mark their choices on the “tally sheets”. There was a student researcher at each station to facilitate the data collection activity and answer any questions.

*Analysis of the results: April 2001*

When conducting PAR it is important to include the student researchers in the data analysis process because it provides an opportunity for the students to continue as active participants, interpret the data and increase their analytical skills. Unfortunately, time constraints and a lack of resources made it unrealistic to include the student researchers in the data analysis process.

In order to analyze the data the researchers needed appropriate statistical programs, computers for data entry and time for entering the data. Due to snow days, changes in student’s schedules and the change in research topic, the Community research Project was behind schedule. The computer presented problems as well. The computers at the Academy were not conducive to data analysis. The hard drives self-deleted at the end of each day making it impossible to store and manage the data or to load any necessary programs onto the computers. Storing data on disks was not an option because they were difficult to find at the Academy and were often left at home or misplaced by the student researchers. The facilitators considered using a laptop as they had in the past but this would only provide one workspace and there were over twenty students.
With the many obstacles in mind, facilitators decided to complete the data analysis but present it to the student researchers so they could, in turn, present the results to an audience representative of their community.
CHAPTER 4

THE RESULTS OF THE COMMUNITY RESEARCH PROJECT

At this point the facilitators had completed the implementation of the PAR curriculum and the student researchers had completed their training in the scientific methods and the collection of their data. This chapter will describe the actual results of the student researchers’ data collection.

Interviews

Student researchers interviewed a total of twelve mental health resources gathering information about their location, services provided, number of individuals served, cost of services, types of advice given, most frequent issues leading to the need for help and the ages of those served. The data from the interviews was analyzed using a form of content analysis in which text is reviewed in terms of most frequently cited statements or categories and a conclusion is made in regards to the ranking of the statements or categories in the text.

The resources interviewed were located in Rocky Hill, Enfield, Plainville, Windsor, and Manchester and the number of people served varied greatly depending on the type of service provided. Those providing information and referrals services reported serving upwards of 800 people each day while those providing direct care or counseling services served anywhere from 10-200 on a daily basis.

During the interviews the informants were asked to provide specific examples of the types of services they provide. Table 4.1. Shows the percentages of the total number of
agencies interviewed providing specific mental health services. Only 2 out of 12 (17%) offer services that are exclusive to the adolescent population. Crisis intervention was available at three out of twelve agencies.

Table 4.1. Specific Mental Health Resources Offered

<table>
<thead>
<tr>
<th>Individual Counseling</th>
<th>Group Counseling</th>
<th>Family Counseling</th>
<th>Crisis Intervention</th>
<th>Adolescent programs</th>
</tr>
</thead>
<tbody>
<tr>
<td>50%</td>
<td>50%</td>
<td>50%</td>
<td>25%</td>
<td>17%</td>
</tr>
</tbody>
</table>

The cost of services was evenly distributed among free, sliding scale and requiring payment or insurance (see table 4.2). Ability to pay did not seem to be a critical factor in determining a person’s eligibility for services.

Table 4.2. Cost for Services Provided

<table>
<thead>
<tr>
<th>Free of charge</th>
<th>Sliding scale</th>
<th>Requires pay or insurance</th>
</tr>
</thead>
<tbody>
<tr>
<td>33%</td>
<td>33%</td>
<td>33%</td>
</tr>
</tbody>
</table>

Services available included housing assistance, substance abuse treatment, mental health services, family therapy and screenings for depression. The ages were not limited, most agencies made resources available to all members of the family including infants, children, adolescents, adults and seniors. When asked about types of advice given, most
explained that their advice varied a great deal depending on the problem but usually included empowerment, behavior modification and education to increase coping skills.

**Pile sorts**

The results of the pile sorts were analyzed using ANTHROPAC, a program used to collect and analyze qualitative data by looking at cultural domains. When a respondent places a given pair of items (index cards) into the same pile, it is counted as a vote for similarity of the items (J. Schensul et al., 1999). The consensus of cultural domains, as categorized by informants, will appear as hierarchal clusters. The data was derived from three pile sorts, Mental Health Problems (See Figure 3.9), Causes of Mental Health Problems (See Figure 3.10) and Resources for Help with Mental Health Problems (See Figure 3.11).

**Mental Health Problems**

Respondents were given the appropriate pile sort (See Figure 3.9) and asked to put the cards into piles based on what they perceived to be similarities among the domains. The clusters (See Figure 4.1) identify a consensus among informants in regards to mental health problems. Loneliness, sadness, depression and stress formed a cluster, therefore this is one category of mental health problems that are emotional in nature and are feelings that a person may have when experiencing a mental health problem.

Students put anxiety and hyperactivity into another cluster which can be categorized as symptoms of mental health problems or catalysts to mental health problems (See Figure 4.1). It was interesting that informants grouped eating disorders and suicidal thought in their own separate categories. Students were collectively intrigued with
suicidal thoughts as a research topic and as a cause of mental health problems that stand alone as a cultural domain.

![Hierarchal Clustering of Mental Health Problems](image)

**Figure 4.1. Hierarchal Clustering of Mental Health Problems**

A third cluster included PMS, schizophrenia and tourettes syndrome, all diagnosable disorders or illnesses that an individual does not have control over. The students did not categorize the three illnesses or disorders with anxiety and hyperactivity. It may be that the students thought that PMS, schizophrenia and Tourettes are mental disorders and anxiety and hyperactivity are symptoms one might experience when having mental health problems.

The last cluster categorizes violence and drug use as similar domains. These are behaviors that can result from a person having mental health problems as well as problems that can cause one to have a mental health issue.
*Causes of Mental Health Problems*

Three clear categories evolved from the causes of mental health problems pile sort, causes relating to sex, social and peer relationships and familial problems (See Figure 4.2).

**Figure 4.2. Causes of Mental Health Issues**

The first cluster of causes fall under the category of sex and include sexual harassment, crime, rape, STDs and pregnancy. The categorization of crime with sex was interesting; it was not associated with violence or drug use and was not put into a category of its own. The students perceived crime as being associated with STDs and pregnancy, neither are crimes but can occur as the result of a sex crime.

Another cluster identified by the participants points to social and peer networks as a category of causes of mental health issues. The domains included discrimination, health problems, being overweight, being unpopular and failing grades.
The third cluster that emerged from the data pointed to family as its own category. The cluster included boy/girl friend problems, death of a loved one, neglect, economic problems, family abuse and family problems.

**Resources to Help With Mental Health Problems**

The third pile sort included resources for help with mental health issues domains (See Table 3.11) When analyzed, four categories emerged from the data, community agencies, school resources, informal help and informal help family (See Figure 4.3).

![Figure 4.3. Resources to Help with Mental Health Problems](image)

**Surveys**

A total of 52 students in grades 9-11 completed the surveys they were mostly 9\textsuperscript{th} grade females. Eighty-six percent of the surveys were completed by students in the ninth grade class, while only 1.9% were 10\textsuperscript{th} graders and 11.5% in the 11\textsuperscript{th} grade and 73% were females. The informants were identified by ethnicity with the following distributions: 48% were Hispanics, 15% were Black, 8% were Caucasian, 20% were other and 9% did not disclose their race.
Students at BHS are most stressed because of their families, drugs, peer pressure and school. Finances, health, religion and eating disorders are issues that do not cause the students stress. Table 4.3 shows the percentage of students who considered a particular issue to be among the top five issues that can complicate the life of an adolescent.

Table 4.3. Top Five Issues That Complicate the Life of an Adolescent

<table>
<thead>
<tr>
<th>Issue</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family</td>
<td>31</td>
<td>59</td>
</tr>
<tr>
<td>Drugs</td>
<td>26</td>
<td>52</td>
</tr>
<tr>
<td>Peer pressure</td>
<td>24</td>
<td>49</td>
</tr>
<tr>
<td>School</td>
<td>22</td>
<td>42</td>
</tr>
<tr>
<td>Girl/boyfriend</td>
<td>18</td>
<td>34</td>
</tr>
<tr>
<td>Pregnancy</td>
<td>16</td>
<td>33</td>
</tr>
<tr>
<td>Friends</td>
<td>15</td>
<td>29</td>
</tr>
<tr>
<td>Sex</td>
<td>13</td>
<td>25</td>
</tr>
<tr>
<td>Self image</td>
<td>10</td>
<td>20</td>
</tr>
<tr>
<td>Abuse</td>
<td>8</td>
<td>16</td>
</tr>
<tr>
<td>Appearance</td>
<td>6</td>
<td>12</td>
</tr>
<tr>
<td>Stress</td>
<td>5</td>
<td>10</td>
</tr>
<tr>
<td>Other</td>
<td>5</td>
<td>10</td>
</tr>
<tr>
<td>Teacher</td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td>Enemy</td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td>Work</td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td>Violence</td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td>Unpopular</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>Time</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Health</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Religion</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Eating Disorder</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Discrimination</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>
Respondents were given a list of helping resources and asked to rank them in the order of which they would go to this person for help with a problem (see table 4.4).

**Table 4.4. Choices to go to for help**

<table>
<thead>
<tr>
<th>Social worker</th>
<th>Parent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teacher</td>
<td>Brother/sister</td>
</tr>
<tr>
<td>School counselor</td>
<td>Godparent</td>
</tr>
<tr>
<td>Guidance counselor</td>
<td>Cousin</td>
</tr>
<tr>
<td>Aunt/Uncle</td>
<td>Grandparent</td>
</tr>
<tr>
<td>Pastor/Clergy</td>
<td>Neighbor</td>
</tr>
<tr>
<td>Principal/Vice Principal</td>
<td>Friend</td>
</tr>
</tbody>
</table>

The mean results showed that students would go to their parents for help first and then move on to their friends, their siblings and other family members. Students surveyed were least likely to go to a principal or school social workers.

Respondents were also asked about their knowledge of places to go for help in their community (See Table 4.5). Almost half (46%) of the respondents did not know of any helping resources in their community. Of the students who did know of places to go for help 17% reported knowing one place, 11% knew two, 9% knew three, 4% knew four and 13% knew five or more.

**Table 4.5. Number of resources of which students are aware**

<table>
<thead>
<tr>
<th>Number of resources</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>22</td>
<td>46%</td>
</tr>
<tr>
<td>1</td>
<td>8</td>
<td>17%</td>
</tr>
<tr>
<td>2</td>
<td>5</td>
<td>11%</td>
</tr>
<tr>
<td>3</td>
<td>4</td>
<td>9%</td>
</tr>
<tr>
<td>4</td>
<td>2</td>
<td>4%</td>
</tr>
<tr>
<td>5&lt;missing</td>
<td>6</td>
<td>13%</td>
</tr>
</tbody>
</table>


The respondents were asked to rank a list of causes of mental health problems (see table 4.6). The mean was used to determine the top three causes of mental health problems and included rape, sexual harassment and family problems. Rape was an issue that had not been significant in any other exercise so far. Yet, according to the survey, it was the number one cause of a mental or emotional problem. During a class discussion, the students hypothesized that rape is not a number one issue at BHS but it would be if someone were raped. The student researchers felt that family issues were most significant because they keep appearing in our results. The informants ranked money, popularity and loneliness very low as a cause of mental health issues.

<table>
<thead>
<tr>
<th>Table 4.6. Causes of mental health problems</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family abuse</td>
</tr>
<tr>
<td>Sexual harassment</td>
</tr>
<tr>
<td>Discrimination</td>
</tr>
<tr>
<td>Family problems</td>
</tr>
<tr>
<td>Money</td>
</tr>
<tr>
<td>Boy/girlfriend</td>
</tr>
<tr>
<td>Neglect</td>
</tr>
<tr>
<td>Loved one dies</td>
</tr>
<tr>
<td>Health</td>
</tr>
<tr>
<td>Loneliness</td>
</tr>
<tr>
<td>Weight</td>
</tr>
<tr>
<td>Popularity</td>
</tr>
<tr>
<td>Grades</td>
</tr>
<tr>
<td>Pregnancy</td>
</tr>
<tr>
<td>Rape</td>
</tr>
<tr>
<td>STDs</td>
</tr>
</tbody>
</table>

Seventy-eight percent of the students who completed surveys were unaware of the resources available at BHS for help with mental health issues. When asked if BHS had made them aware of mental health resources available in the community, 75% said no.

**Visual documentation**

The results of the visual documentation group were also analyzed using SPSS. Using three visual documentation posters, informants identified people, place and activities that are used to cope with mental health problems.
Places Where I would go for Help Inside BHS

A total of 14 informants completed the, “Places where I would go for help inside BHS” exercise (See Table 4.7). Most of the students (43%) would go to the health class for help with mental health issues. The cafeteria, support services and the nurse’s office are place where 21% of the students at BHS would go to for help. Only 14% of students are going to the bathroom, gymnasium or guidance office for help and no students would go to the principal’s office.

Table 4.7. Places Where I would go for Help Inside BHS

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bathroom</td>
<td>2</td>
<td>14%</td>
</tr>
<tr>
<td>Gymnasium</td>
<td>2</td>
<td>14%</td>
</tr>
<tr>
<td>Cafeteria</td>
<td>3</td>
<td>21%</td>
</tr>
<tr>
<td>Guidance office</td>
<td>2</td>
<td>14%</td>
</tr>
<tr>
<td>Support services</td>
<td>3</td>
<td>21%</td>
</tr>
<tr>
<td>Health class</td>
<td>6</td>
<td>43%</td>
</tr>
<tr>
<td>Nurse’s office</td>
<td>3</td>
<td>21%</td>
</tr>
<tr>
<td>Principal</td>
<td>0</td>
<td>0%</td>
</tr>
</tbody>
</table>

People to whom I would go to for help

A total of 21 students visited the station with the “People to whom I would go to for help With a Problem”, poster. When having a mental health problem, 50% of the students at BHS would seek help from a friend, while 25% would go to a parent and another 25%
to a sibling (See Table 4.8). Students are less likely to go to a health teacher, grandparent, classmate or coach. Only 5% would go to doctor, teacher or religious affiliate.

Table 4.8. People to Whom I Would Go For Help

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parent</td>
<td>5</td>
<td>25%</td>
</tr>
<tr>
<td>Religious</td>
<td>1</td>
<td>5%</td>
</tr>
<tr>
<td>Friend</td>
<td>10</td>
<td>50%</td>
</tr>
<tr>
<td>Infoline</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Health teacher</td>
<td>2</td>
<td>10%</td>
</tr>
<tr>
<td>Doctor</td>
<td>1</td>
<td>5%</td>
</tr>
<tr>
<td>Grandparent</td>
<td>2</td>
<td>10%</td>
</tr>
<tr>
<td>Sibling</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Classmate</td>
<td>2</td>
<td>10%</td>
</tr>
<tr>
<td>Teacher</td>
<td>1</td>
<td>5%</td>
</tr>
<tr>
<td>Coach</td>
<td>2</td>
<td>10%</td>
</tr>
</tbody>
</table>

When I am having a problem this is what I would do

The third poster was designed to learn about the coping behaviors of students at BHS. The majority of the students who participated would talk to someone and visits with friends if they were having problems (See Table 4.9). Twenty-nine percent reported they would cry or play sports while 19% would yell or sleep. Only 10% would smoke, fight or do homework and 5% would get on the Internet.
Table 4.9. Things I Would When I am Having A Problem

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cry</td>
<td>6</td>
<td>29%</td>
</tr>
<tr>
<td>Internet</td>
<td>2</td>
<td>5%</td>
</tr>
<tr>
<td>Sleep</td>
<td>4</td>
<td>19%</td>
</tr>
<tr>
<td>Smoke</td>
<td>2</td>
<td>10%</td>
</tr>
<tr>
<td>Fight</td>
<td>2</td>
<td>10%</td>
</tr>
<tr>
<td>Yell</td>
<td>4</td>
<td>19%</td>
</tr>
<tr>
<td>Hug</td>
<td>3</td>
<td>14%</td>
</tr>
<tr>
<td>Workout</td>
<td>5</td>
<td>24%</td>
</tr>
<tr>
<td>Sports</td>
<td>6</td>
<td>29%</td>
</tr>
<tr>
<td>Talk</td>
<td>10</td>
<td>48%</td>
</tr>
<tr>
<td>Friends</td>
<td>7</td>
<td>38%</td>
</tr>
<tr>
<td>Homework</td>
<td>2</td>
<td>10%</td>
</tr>
</tbody>
</table>

Summary of the Results

The results of the community research project revealed several inconsistencies with regard to resource availability, awareness and utilization. The resources available come from two sources, inside BHS and within the greater Hartford community. The majority of students are unaware of the resources available at BHS and claim if they do exist, they have not been made aware of them. Students who are aware of available resources such as the guidance office, support services and social workers, are not going to them consistently and some students are not going them at all. Considering the small sample
of helping resources interviewed there was a broad range of services offered. Unfortunately, only a few of the community resources offer services that are exclusive to the adolescent population. Most of the resources offer services that include but are not specific to or designed to meet the special needs of the adolescent population.

The students at BHS perceive their family as both a source of their mental health problems and as a helping resource. The data also showed that overall students are comfortable talking about their problems and tend to use talking as a way to resolve problems. The results pose the question as to whether or not the family, with its tendency to cause problems, is a resource that can actually help adolescents with their problems.

The interest in suicidal thoughts continued throughout the duration of the Community Research Project and was not unique to the student researchers. The informants distinguished suicidal thoughts as a mental health issue that could not be categorized with any other health issues. This was also true of eating disorders as it was also categorized as a mental health issue unlike any other.

**Student presentations**

As a finale, the students presented the results of the Community Research Project to a large audience that included BHS students and staff from the Institute for Community Research, the Health Careers Opportunities Program and the Center for International Community Health Studies. Students who were comfortable speaking to groups took the lead and those who were not took on “back stage” roles such as developing materials and providing support to the speakers. The student researchers varied in their presentation style, some read from cards while others memorized their lines. After reviewing the
results in more detail the student researchers began to transform the results into visual aids that would be used during a final presentation of the results. The facilitators gave the student researchers freedom in deciding how they wanted to present to their results. Some students opted for more sophisticated computer generated presentation materials while others created theirs by hand. For several class periods, the student researchers practiced their presentations and prepared their necessary materials. After the data analysis students were given an overview of the results and prepared to present the results to an audience. The facilitators worked together to analyze the results and each facilitator presented his/her respective results. In addition, the class organized into their groups and reviewed the results for their specific method in more detail and to transform the results into conclusions to be presented by the student researchers based on their research.

A surprise skit

A group of student researchers surprised the audience and facilitators with a surprise skit during the final presentations. The skit told the story of an adolescent girl who was involved with a boy who was abusive and unfaithful. The first scene opened with the girl cooking for her boyfriend. When the boyfriend came home he was upset because of the food she was cooking, so he yelled at her and hit her. The girl was very upset so she called her best friend and explained what had happened. Her best friend told her to come over immediately. The best friend’s boyfriend was upset when he hears that the girl is on her way and said that the girl’s problems are beginning to cause problems in their relationship. The best friend told her boyfriend “she needs help and I am going to give it to her”. On her way out the door the abusive boyfriend asks the girl to marry him and apologizes for his behavior. The girl arrives at her good friend's house and announces her
engagement. The good friend is very upset because she sees that there are great problems with the relationship. They agree to go to the abusive boyfriend’s house to talk with him.

Upon their arrival they find him with another girl. Before they arrived the boy had been pressuring the girl to have sex with him and they went into the bedroom just as the fiancée walked in with her good friend. He proceeds to lie about who she is so the girl throws the engagement ring at him and all the girls walk out. After the skit the girl explained to the audience that the skit although fictional is the reality for many teenagers. She went on to explain that the teen often break up with each because of cheating, sexual pressure, violence and a lack of communication. Another student went on to tell the audience that some teenage girls need love and affection so much that they will confuse violence for affection thinking he loves me so much that he will hurt me if he thinks I am going to leave him.

After the skit the cast offered words of support to the audience one student explained that many times girls will mistake obsession and abuse for love and that it is not acceptable and there are alternatives and places for help. Another student told the audience that because of the Community Research Project she now she feels comfortable talking about mental health issues. Another student advised when in doubt listening and offering a “shoulder to lean on” is a great help.
CHAPTER 5

PROJECT EVALUATION

In this chapter the community research project will be evaluated based on interviews, observations, student exams and a final presentation. The NTARC curriculum had previously been carried out in after school program with youth who were paid to conduct research. The Community Research Project at BHS was the first time the curriculum was implemented into the classroom setting. Therefore, there were many unexpected challenges and constraints that are unique to the classroom setting. Conversely, the classroom setting allowed for greater flexibility in modifying the curriculum to the specific needs of the student researchers.

The evaluation covered the following areas: planning and scheduling, topic selection, teacher participation, classroom management, lack of resources, student examinations, student participation and the final presentation.

Planning and scheduling

Lack of time was an issue for everyone involved including the teachers, the facilitators and the students. The facilitators had difficulty finding convenient times to meet for planning lessons and processing the classes. As a result of the lack of planning and insufficient preparation time, many classes were held without proper lesson plans and with unprepared facilitators. In addition, the NTARC curriculum was designed for an after school program and did not take into account, the constraints of the classroom.
The students’ schedules were constantly changing, many times with little or no notice. It was not uncommon for facilitators to arrive to class only to learn that the times had changed and there was going to be less time available than originally scheduled. In addition to school-wide and academy-wide scheduling conflicts and modifications, there were endless changes within the student groups. Several weeks into the course it was discovered all three groups of student researchers were not available for the two periods that had been designated for the Community Research Project. The change in schedules significantly alerted the course. Instead of meeting as one large group for the two periods the classes were broken up with students coming in late and leaving early. As a result, the facilitators had to repeat lessons in order to keep all the students caught up. The repeat lessons did not go over well with the students and usually resulted in a loss of attention or a declaration of their annoyance. In addition to schedule changes and unprepared facilitators, school cancellations and delayed openings due to weather resulted in the loss of several critical classes.

**Topic Selection**

The change in topic set the class back in the research process causing great frustration among the students, teachers and facilitators. The facilitators did not anticipate problems with the topic of suicidal thoughts and moved along in the research process before having the topic approved. The teachers felt the topic selection process was “too time consuming” and gave the students “too many choices”. The teachers thought it would have been better if the students were given a topic or given just a few choices from which
to pick. The students disagreed with the teachers and felt that the topic selection was a very important part of the research project and it should be their decision. Many students were upset about the need to change the topic, yet there were only a few students who were unhappy with the new topic. Two students felt the topic should have been changed to teenage pregnancy because it was the number one choice in the ranking exercise and one student thought the topic should have focused on STDs. Several students felt the topic change made the research seem more "real" and gave them experience dealing with issues that may come up in the future at work or in college. The facilitators were not certain that the students really understood the reasons why they could not continue with the topic of suicidal thoughts.

**Teacher Participation**

There were several factors that affected the amount of teacher participation. First, there were ongoing time constraints and teachers and facilitators did not have adequate time to meet and plan for the Community Research Project. Issues that should have been discussed in organized meetings were often discussed minutes before class was to begin or in the hallway with distractions from the students. Secondly, the teachers became involved in the community research course without a clear understanding of the specific project goals or a clear understanding of PAR and its application in the Community Research Project. Ideally, the teachers would have participated in a summer course that would have prepared them for the community research project, giving them an overview of PAR, the NTARC curriculum and course goals.
PAR is an approach to research and education that is not common within the current educational system. In interviewing and observing the classroom teachers, it was clear that they did not feel that PAR was an approach that could be realistically applied within the school system. The teachers felt that PAR gave the students too many choices and resulted in confusing and time consuming lessons.

In the early stages of the project the teachers were more involved with the project. The participation in the beginning may have been due to the fact that the teachers were trying to acclimate the facilitators to the classroom. As the class progressed the teachers became less participatory and often became involved in other activities during the class. The lack of participation concerned facilitators because it made their job more difficult and also sent a negative message to the students that they did not want to be involved in the Community research Project.

Classroom Management

As a result of the lack of communication and low teacher participation classroom management became a problem. Classroom management encompassed student’s behaviors, student’s participation levels, classroom rules and the facilitators’ level of authority. Issues of classroom management were never addressed in the curriculum, during planning sessions, nor were they discussed with the classroom teachers. It was assumed that the classroom teachers would manage the classroom behaviors as the facilitators taught the community research course, this was not the case.

The teachers never intervened or addressed the students’ negative behavior. Common behaviors during the course included doing homework for other classes, writing notes to
friends, fixing hair and makeup and talking over the facilitators. The students were, at times, rude to the facilitators, mocking them or making inappropriate comments. When class was to begin or after a break it was often difficult to gain the attention necessary to start the class.

After a particularly disruptive and challenging class, the facilitators decided that the students’ behavior needed to be addressed. During this particular class there was a guest facilitator from ICR who informed the facilitators that as she taught students were passing notes, talking and not paying attention. After class the facilitators met with the classroom teachers, expressed their frustration and asked the teachers to intervene. The teachers agreed to address the students’ behaviors, with the facilitators present before the next class started. Class was canceled due to weather the day of the intervention and the days to follow were vacation days therefore, the behavior was not addressed with the facilitators present. The teachers did inform the facilitators that they had talked to the students and asked for more respect, participation and consideration. The behaviors did improve and was likely a combination of the teachers’ requests, the fact that data collection had begun and students and facilitators were becoming more comfortable with each other.

**Lack of Resources**

Lack of resources was a challenging and ongoing problem at the academy. The curriculum required the use of computers for drafting word documents, managing data, and analyzing results. The computers at the academy lacked the necessary programs and the printers were only hooked up to one computer. In addition, the computers were set up
to delete the hard drive each day making it necessary for students to save their work on disk, if they could find one, and when it came time to print, the disk had to be placed into the computer that was hooked up to the printer. The student researchers often misplaced or left disks at home and paper was always difficult to find. To compensate for the lack of computer technology, facilitators often brought in a laptop. The laptop was helpful for presenting materials but did not help with data entry because only one student could enter data at a time, turning it into a time consuming and frustrating activity for everyone involved.

Computers were not the only problem, many times the students did not have enough paper, pencils, pens, erasers, rulers and other supplies needed to complete their work. The students often brought supplies in from home. Before a project was to begin the students had to search around the Academy for materials taking time away from the activity and resulting in chaos. Students were often wandering the Academy looking for supplies.

**The student examinations**

Midway through the Community Research Project one of the teachers asked the facilitators to make up a “test” based on the material covered up to that point as a way to evaluate the students’ progress in the course. The test was an unwelcome surprise to both the facilitators and the students. The students demanded that they had had not been told they would be tested on the material from the community research course and the facilitators did not feel that an exam would be a reliable tool in determining the student’s progress. A test was designed by facilitators (see appendix 4) along with a study guide (see appendix 3) to help the students prepare.
The test was made up of 20 questions covering topic selection, the various methods, articles that were read in class and concepts from key classes. At the request of the teacher the test included a variety of types of questions including sentence completion, matching, short-answer, fill in the blank and multiple choice.

The results of the exam

In distinguishing qualitative verses quantitative methods the students had a better understanding of qualitative methods, 91% of the students were able to correctly define qualitative methods while only 32% were able to correctly define quantitative methods. Students were able to successfully identify places where research topics can be found the most common places reported by students included community members, religious organization, a class vote and from the Internet.

<table>
<thead>
<tr>
<th>Table 5.1. Place where researchers find topics</th>
</tr>
</thead>
<tbody>
<tr>
<td>From community members</td>
</tr>
<tr>
<td>From religious organizations</td>
</tr>
<tr>
<td>Via a class vote</td>
</tr>
<tr>
<td>The Internet</td>
</tr>
<tr>
<td>By going to the library</td>
</tr>
<tr>
<td>By looking in an Encyclopedia</td>
</tr>
<tr>
<td>Contacting hospital personnel</td>
</tr>
<tr>
<td>Watching television</td>
</tr>
<tr>
<td>Looking in the newspaper</td>
</tr>
</tbody>
</table>

Students were asked to describe how confidentiality plays a role in the research process, 82% of the students were able to explain in their own words that it protects participant’s privacy. Confidentiality and privacy were very important to the student researchers throughout the entire course.
Students were given four methods and asked to match them with their correct definition (See Table 5.2). Students were able to correctly match most of the words to their correct definition. All students were able to correctly identify the pile sort method.

**Table 5.2. Method matching question**

<table>
<thead>
<tr>
<th>Method</th>
<th>Frequency</th>
<th>Percent correct</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pile sort</td>
<td>22</td>
<td>100%</td>
</tr>
<tr>
<td>Visual documentation</td>
<td>20</td>
<td>91%</td>
</tr>
<tr>
<td>Interviews</td>
<td>19</td>
<td>86%</td>
</tr>
<tr>
<td>Questionnaires</td>
<td>19</td>
<td>86%</td>
</tr>
<tr>
<td>Mapping</td>
<td>20</td>
<td>91%</td>
</tr>
</tbody>
</table>

Based on the article *Adolescents Suicide: Prevention and Intervention* (Capuzzi, 1989) students were asked to pick which of the following statements (See Table 5.3) was most accurate. Forty-one percent of the students were correct and answered, C, very few suicidal thoughts result in an actual suicide. Fourteen percent of the students thought that B was the correct answer while 45% thought A was the correct one.

**Table 5.3. Which statement is most accurate?**

A. Suicidal thoughts, plans, attempts and completion are fairly common among high school students.
B. Suicidal thoughts, plans, attempts and completion are all very rare.
C. Very few suicidal thoughts result in actual suicide.
Students were also asked to name the three top health problems according to the BHS ranking exercise. The correct answer was teen pregnancy, STDs and violence, 45% of the students were able to name all three.

Students were asked to hypothesize about the relationship between school performance and mental health problems, 95% of the students they were able to come with a reasonable hypothesis in most cases hypothesizing that the higher the mental health, the lower the school performance.

Students were asked to define the following terms: epidemic, metaphor, hypothesis and research. All of the terms were defined correctly by 100% of the students.

The last question was another matching exercise. Students were asked to match key terms with their correct definition (See Table 5.4). Students seemed to have a difficult time with this question, one reason may be that the facilitators were not consistent in their use of the word variable, at times facilitators referred to the independent and dependant “domains” while other time the term “variable was used.

Table 5.4. Modeling and Variable Matching

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent correct</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dependent variable</td>
<td>9</td>
<td>41%</td>
</tr>
<tr>
<td>Independent variable</td>
<td>7</td>
<td>32%</td>
</tr>
<tr>
<td>Vertical modeling</td>
<td>7</td>
<td>32%</td>
</tr>
<tr>
<td>Horizontal modeling</td>
<td>8</td>
<td>36%</td>
</tr>
</tbody>
</table>
The facilitators did not feel the exam was a reliable indicator of the students’ progress in the class. There was only one test given to all three groups therefore, it may have been more challenging for some than others. The teacher did, however, curve the grades using a different curve for each of the three groups. The students were very unhappy about the tests because they were told they would not be tested on the Community Research Project material. In correcting the tests it was apparent that some students did not put in any effort in answering the questions. Students were allowed to use all of their notes and the study guides during the exam, many of the students spent the entire exam period looking up answers instead of applying what they had learned to answer the questions. The examination appeared to be more of a “grade generator” than a true indicator of student progress.

Student Participation

Student participation varied throughout the entire research course and tended to fluctuate with the topic, activity and by individual student. One distinguishing characteristic of the students at the Academy was the high variability in reading and writing levels and academic ability. The more advanced students tended to participate more in activities and class discussions and took on more leadership roles in the classroom.

There were also a number of students who demonstrated notable growth and progress over the course of the research project. Initially a few of the students did not want to interview health professionals and instead volunteered to listen on the other end of the phone taking notes. As time moved on and the students became familiar with the
interview process and they began to ask for more leadership roles and even volunteered to conduct some interviews.

The student researchers were very professional on the phone as they conducted their interviews, as were the students who were on the other end listening and taking notes. One student was not supposed to be a part of the research project but a scheduling conflict “landed” him in the class. The student was told that he could participate as much as or little as he wanted. Initially he chose not to participate and used the class time to do his homework but as time went on he began to help with the data collection and organization. A few weeks into the data collection he was on the phone interviewing informants and assisting students who needed help.

Another student began the course with a very negative attitude. He did not participate and was often rude to the facilitators during class. When he joined the visual documentation group he brought along his negative behaviors. After a few class periods in the visual documentation group, the facilitators noticed his creative art talent and strong computer skills. His talent and abilities made him a valuable team member and before long he was assisting others in the group with collecting pictures, setting up spreadsheets and designing the posters for data collection. The student was too busy working to spend time “clowning around” and disrupting the classroom. During data collection he introduced the project to the participants and facilitated the data collection exercise.

During student interviews most of the students acknowledged that the research course had taught them a variety of skills that could be applied to other areas such as school or
work. Students also felt they had significantly improved their organizational skills especially during the data collection process. The students had mixed feelings about working together as a team. One student expressed her annoyance with a classmate who was always forgetting materials yet she was put in charge of note taking and would often the notes at home. The student’s forgetfulness affected everyone in the group and caused problems and delays in the work. When asked what she learned from the student’s forgetfulness she said “we should have had more copies and picked another note taker”. She also admitted that if the student was never given responsibilities than she would never learn to be responsible therefore, it was also a good idea to give the forgetful student important tasks.

The students preferred the small group learning environment and the hands on approach to learning. Several students complained that the course did not provide enough of the small group and hands on approaches. The teachers were very happy with the small group environment and admitted that it is not always logical or practical to work this way in other subjects but it seemed to work better for the community research project.

One student was especially satisfied with the facilitator’s approach commenting that “you guys never gave us work you gave us things to get done that we had to research in order to do get the work done.” During the interviews a great majority of the students commented on the “real world” experience that they felt they had been exposed to especially in regards to the topic of mental health issues.
A Trip to the Principal’s Office

In the early stages of the research project the principal of BHS wanted to know the details of the Community Research Project so she asked that the facilitators meet with her. The facilitators decided to take a few student researchers and let them explain the project. During the meeting with the principal, the student researchers demonstrated great leadership and presentation skills. The students were able to make clear to the principal the goals of the course, the type of research being conducted and the importance of the project to the students. In addition, they presented the findings of the BHS Health Problems Ranking. The facilitators were impressed with how mature and professional the students were during their meeting with the principal.

Final Presentation

The student researchers worked diligently as they prepared for their final presentation. On the day of the presentation the students were completely prepared and left nothing to chance. Some of the students had back-up presenters in case someone was absent. Sure enough one of the main presenters from the visual documentation group was out sick and the substitute presenter had to step in. Several students had their hair done for and many had dressed up to look more professional.

The classroom teachers and facilitators were very surprised and impressed with their surprise skit as it was well planned and evidenced their command of the material and understanding of the results. The students used their own style in acting out a skit that was designed to entertain and teach students about mental health issues. The students did
an impressive job of incorporating humor into a skit that was based on a very serious issue.

At the end of the final presentation the student researchers presented each of the facilitators with a gift to show their appreciation. Several students got up and thanked the facilitators for working with them to make the project a success. One student apologized for the students’ occasional negative behavior and thanked the facilitators for a great learning experience. Another student got up to tell the audience that they should respect themselves and their bodies and always ask for help when needed.
CHAPTER 6

CONCLUSIONS AND RECOMMENDATIONS

The significance of the research project

Inner-city adolescents are faced with a variety of problems within their homes, neighborhoods and schools. It is unrealistic to think that one single program will fix all of the problems and change all the students. As a result of their research, the student researchers discovered many disparities in the mental health resources available inside BHS and within the Hartford community.

The resources are limited and the problems are complex and involve many different systems. The implementation of the PAR curriculum did not set out to make large organizational changes. It was put into place to teach students research skills, to improve their knowledge about health issues and to increase their desire and ability to address problems that they deal with on a regular basis.

The implementation of PAR into a classroom setting was a pilot program and it produced many unforeseen challenges, as well as some unanticipated learning opportunities. When things were not going as planned there was no prior project to look to for guidance and direction. In many ways the Community Research Project evolved on its own. For example, the project aimed to teach students, through specific activities and lessons, problem solving skills that they could apply to other experiences. The facilitators did not anticipate that the project itself would present such challenges as a change in topic, a student disclosing her own thoughts of suicide, scheduled speakers not showing up, or an unresponsive school social work staff not wanting to visit the classroom. These
events were unplanned and while they made the educational program seem disorganized, they also gave the students a “genuine” experience in dealing with challenges that will be presented to them in the future.

The student researchers also learned that the facilitators were not “all knowing” experts. When the facilitators discovered challenges or problems the students were made aware of them and in many cases they were asked to share suggestions and provide ideas for alternatives. When concerns were raised regarding the topic of suicidal thoughts the students were not only made aware of the concerns, but they were also informed that the facilitators had been wrong in moving so far along without first receiving approval from the appropriate sources.

The students demonstrated their ability to be more active learners in a number of different ways. There were several students who became much more engaged and participatory as the project progressed, with some initiating activities and volunteering to assist with complicated tasks. The class as whole was able to demonstrate their active learning ability via their approach to the presentation of the data, the surprise “dating” skit and the success of their final presentations. The students were very interested in making the final presentation a triumphant one. The students used their own style to develop a quality presentation of their research results and a skit that was captivating, appealing and educational. The students incorporated humor and solicited participation from the audience, they were now the ones encouraging active learning and participation.

The project was burdened with deficits in planning, preparation and resources yet the students were able to adapt and learn during what at times was “utter chaos”. The active
and participatory learning style allowed the students to learn despite a less than perfect environment.

The students also left the project knowing more about the topic of adolescent mental health issues and the resources available. The unique benefit of using PAR to research a health related issue is that it exposes the researchers to resources within their own community. As the student researchers learned about the knowledge and attitudes surrounding mental health among BHS students they also learned about resources that are available and saw the deficiencies within their school.

**The Future of PAR in the Classroom**

Implementing PAR into a classroom setting is a challenge and regardless of how many times it is done there will be constraints and issues that are unchangeable. Scheduling issues, lack of resources and little time for planning may not improve significantly, but learning from past mistakes can provide a better experience for future PAR implementation.

It makes sense to continue applying PAR in the classroom setting for many reasons. First, there were a lot of learning experiences for the teachers and facilitators that could be applied the second time around. The teachers and students now have a better understanding of the goals of PAR and know more about the scientific research methods.

Second, the student researchers investigated one area of health, mental health issues. As the class learned from their research, the problems are seemingly endless, and that leaves many topics that have not yet been explored. There is a significant amount of
research on the issues that were raised during the research project but the issues have not been explored using PAR in the very community that the problems exist.

Third, this project brought to light many areas where resources are lacking but it did not propose or establish any solutions. If the project continues there would be an opportunity to take the research a step further and include “a call to action” to make changes within the community. For example, BHS lacks many resources vital to the mental health of students and the student research project may be first step in acknowledging these problems.

**Recommendations**

Many of the problems presented during the Community Research Project are not easy to resolve and some may be impossible to change or anticipate. The results of the evaluations are key because they provide examples to learn from and provide recommendations for future implementation. The following are recommendations for future implementation of PAR based on the evaluation of the Community Research Project described in this thesis:

- Evaluate barriers to teacher participation
- Engage and involve key personnel
- Encourage more student researcher recognition
- Broaden the scope of PAR implementation

**Evaluate Barriers to Teacher Participation**

Involving all of the school community members in the research process is a fundamental characteristic of PAR. In the classroom setting teachers are as much a part
of the community as the students. During the Community Research Project teacher participation was low and this concerned the facilitators.

The classroom teachers at the Academy are faced with many demands. In addition to the typical responsibilities of being a teacher, the teachers at the Academy are met with demands that are unique to teaching at a health professions academy. The teachers at the Academy are responsible for coordinating and facilitating many of the programs that are designed to prepare the students for future careers in healthcare. The students were often involved in off site activities such as field trips to the University of Connecticut Health Center and the Connecticut Department of Public Health. The extra activities often result in extra work for the teachers and leave little time or energy for involvement in other activities. The Community Research Project was a time consuming program and because of it being a pilot program it required a lot of work and coordination between facilitators and teachers.

Another reason the teachers lacked participation might have been because they had received no prior training in the PAR process. There was an opportunity for teachers to take part in summer training but they did not. As a result the teachers did not understand many of the goals and benefits of applying PAR and were unfamiliar with the methods. The summer training would have provided the teachers with a basic understanding of PAR and experience in applying the methods used to collect data. However, the teachers are under no obligation to commit time over the summer and nor should they be expected to.

All of the barriers to participation cannot be anticipated nor can they be avoided but there are ways to work around some of them. For example, summer training may not be
realistic but a "mini" training program might be possible during a few afternoons or lunch periods. Another possibility might be for facilitators and teachers to take some time to meet during the class when the student researchers are working on their own. Brief meetings throughout the course would give the facilitators and teachers a chance to discuss the project and work out any concerns or issues.

The impact of the lack of teacher participation must also be considered. The goals of the project seemed to be met even without their full participation so why is it important to include them? Teacher participation would have created a more participatory experience for the student researchers and it would have helped the facilitators. The amount of teacher participation necessary must be measured by the individual needs of the project. It may be that the teachers are just not going to be able to participate and if that is the case facilitators need to be aware and adjust the curriculum and expectations. Conversely, it may be that teacher participation is not necessary for all projects. The barriers and the need for teacher participation must be weighed with each individual project.

**Engage Key Personnel**

During the Community Research Project it was difficult to engage and involve the support services and administrative staff at BHS. Social workers and guidance counselors were asked to participate in the project on several occasions but failed to respond. In the early stages of the project the principal asked to meet with the facilitators to talk about the goals of the community research course. On another occasion the principal called upon the facilitators to report a change in the Academy coordinator. The principal commented on her support for the Community Research Project but was never heard
from again. No one from the main building at BHS visited during the Community Research Project nor did they question the student researchers' work. During data collection the visual documentation group walked into the main building to take photographs. As the students walked around several staff members questioned them about their presence in the building; they were all surprised to learn about the project. During the final presentations only a few staff members aside from the Academy staff came to watch.

During a class one of the facilitators met with the vice principal, she admitted she was surprised to learn of the nature of the project but was very happy about the students' work. One of the facilitators told the vice principal that during data collection the student researchers were unable to get a response from the guidance counselors, social workers, and nurse's office. The vice principal promised to talk with the staff members and advised the facilitators and student researchers try contacting them again in a few days. With key personnel involved there is then the possibility that they can help to reach staff that are being uncooperative.

If the Community Research Project prompts a "call to action" the key personnel at BHS will play an essential role in approving and facilitating the changes. It is important for decision makers at BHS to be aware of the project from the beginning. Involving key personnel might also help to provide the classroom teachers with the resources necessary to increase their participation levels.
Encourage More Student Researcher Recognition

During the final presentation it was obvious that the student researchers enjoyed the chance to demonstrate what they had learned and to “show off” their research skills. During data collection and the final presentations the students really applied themselves and worked well as a team. When they were met with resistance with the resources at BHS the students did not act surprised nor did they appear to be upset. It was as if the students expected nothing but resistance from the community.

Recognition for their work would give the student researchers a sense of accomplishment and reinforce the importance of their work. The Community Research Project should be reported to the community both inside and outside of BHS. News of the project ought to be reported in the local and school newspapers. The student researchers might want to consider contacting the local news to let them know about the research they are conducting. Student researchers may also be interested in developing a Website documenting their experiences and reporting their results. Being in the “spotlight” might boost morale and create an incentive to work hard.

Broaden the Scope of PAR

PAR can involve any community members not just the students, facilitators and classroom teachers. It might make sense to look into involving more students at the University of Connecticut. An education student may want to complete an internship or an independent study by working with the facilitators to improve the curriculum implementation, lesson plans or classroom management. A student in the computer or
communication department may want to work with students to develop a Website or a publication to disseminate into the community.

The NTARC curriculum is designed to empower and teach inner-city youth but this does not mean the curriculum cannot be modified and implemented into other communities to investigate health issues. Students in rural and suburban schools can benefit from using PAR to research a health issue specific to their community. It may also be interesting to have students from two different school systems work together on a research project. The students could meet with each and use the Internet and e-mail as a way to communicate and carry out the research. The students can make comparisons between the two schools and present their results to the larger community.

There are many youth advocacy programs and residential facility programs that could benefit from the implementation a PAR curriculum and a community research project. The possibilities are endless but need only start with a community who can benefit from learning more about the very issues that affect them on a regular basis.

A second project has started this year at the Academy with a new group of 10th graders. To initiate the project several students from the last year’s project went into the new class to talk about their experience with the project and to assist in the initial stages of the research process. The students who are now researchers were informants last year so they have some idea of the things they will be doing. In addition, the new student researchers were audience members last year, hopefully that memory will empower them to take an active role in their research project.

This academic year the student researchers will investigate an entirely new topic and there will be new challenges and obstacles to overcome. Therefore, this year’s project
should be evaluated, as it would be very beneficial to future endeavors in implementing PAR in the classroom.
APPENDIX 1
RANKING FORM

INTERVIEW
AGE: ____________
GENDER: ________
GRADE: __________

RANK ONE: ________ WHY?
RANK TWO: ________ WHY?
RANK THREE: ________ WHY?
RANK FOUR: ________
RANK FIVE: ________
RANK SIX: ________
RANK SEVEN: ________
RANK EIGHT: ________
RANK NINE: ________
RANK TEN: ________
RANK ELEVEN: ________
RANK TWELVE: ________
RANK THIRTEEN: ________
RANK FOURTEEN: ________
RANK FIFTEEN: ________
RANK SIXTEEN: ________
RANK SEVENTEEN: ________
Date: __/__/____

Dear Mr. and/or Ms ______________________________________,

Your son/daughter ________________________________________ is a member of the Academy for Health Professions at Bulkeley High School. In this year, the Biotechnology course focuses on learning “Community Health Research Methods.” The course is being conducted in association with Dr. Stephen L. Schensul of the Department of Community Medicine at the University of Connecticut School of Medicine in Farmington and Dr. Nuria Ciofalo of the Institute for Community Research in Hartford. The approach taken in this course is to teach research methods through an actual research project which would be conducted by the students in Bulkeley High School.

To date, the 10th graders in this course have conducted the following activities:
- Generated a list of problems that students at Bulkeley face
- Organized these problems into a list of 18 and asked 90 of their fellow students to rank them in order of importance
- Learned that several mental health problems rank within the top 6.
- Focused their research on the services available to Bulkeley students and the ways in which students would solve mental or emotional problems
- Learned about different research methods to investigate this topic.

In the next phase of their research work, your son/daughter will be involved one of the following research activities:
- Interviews with mental health professionals both within and outside the school to learn more about resources available
- Interviews with students to find out where they would go for help for mental health problems
- Administration of a questionnaire to classes at Bulkeley on student knowledge of helping resources

Student researchers will not be discussing their personal situation, nor will they be collecting information on other students’ mental health problems. Should any unanticipated problems arise, students will be advised that the teachers in the Academy for Health Professions and Drs. Schensul and Ciofalo will be available to discuss them and provide assistance and referral.

Should you have any questions, please call Frank LaPorte, the Biotechnology teacher at the Academy for Health Professions, Tel: __-__-____, or for further information you may call
Dr. Stephen L. Schensul, Tel: 679-1570 or Dr. Ciofalo, Tel: 278-2044 (ella habla español).

I give permission for my son/daughter _________________________ to be involved in the research project currently being undertaken in the Biotechnology course in the Academy for Health Professions at Bulkeley High School.

______________________________
Relationship                     Date
APPENDIX 3
STUDY GUIDE

BE FAMILIAR WITH THE FOLLOWING TOPICS AND AREAS/ THESE ARE ALL IN THE BINDERS WE MADE IN CLASS.

- HOW RESEARCH TOPICS ARE PICKED
- THE DIFFERENCE BETWEEN QUALITATIVE AND QUANTITATIVE METHODS
- THE ARTICLE: ADOLESCENT SUICIDE PREVENTION AND INTERVENTION"
- THE IMPORTANCE OF CONFIDENTIALITY IN RESEARCH
- THE FOLLOWING METHODS: PILE SORTING, VISUAL DOCUMENTATION, INTERVIEWING AND SURVEYS
- ISSUES/SITUATION THAT WE, AS A CLASS, FOUND TO CAUSE ADOLESCENTS STRESS
- WHAT AN OPEN ENDED QUESTIONS IS
- WHAT A HYPOTHESIS IS
- THE NOTES FROM OUR NIGERIAN GUESTS
- THE TYPES OF RESOURCES-FORMAL SCHOOL, INFORMAL SCHOOL, FORMAL COMMUNITY, INFORMAL COMMUNITY
- THE MOVIE "THE HARD WAY OUT"
- KNOW WHAT THE FOLLOWING ARE: EPIDEMIC, METAPHOR, HYPOTHESIS AND RESEARCH.
- THE FOLLOWING ABOUT MODELING: DEPENDANT VARIABLE, INDEPENDENT VARIABLE, ECOLOGICAL MODELING, HORIZONTAL MODELING.
- UNSTRUCTURED VS STRUCTURED INTERVIEWS
- RELIABILITY OF A METHOD
1. Name at least three places we might get a research topic from.

(1) __________________________

(2) __________________________

(3) __________________________

2. Qualitative methods refer to ______________________________________________________

__________________________________________________________

Quantitative methods refer to ______________________________________________________

__________________________________________________________

3. In the article we read “Suicide and Suicidal Behavior” which statement is most accurate?

a. Suicidal thoughts, plans, attempts and actual death are fairly common among high school students.

b. Suicidal thoughts, plans, attempts and deaths are all very rare.

c. Very few suicidal thoughts actually result in an actual suicide.

4. How does confidentiality play a role in doing research?

__________________________________________________________

__________________________________________________________

__________________________________________________________

5. Please match the method with it’s correct description:

Pile sorting_____ a. locating data geographically or physically

Visual documentation_____ b. to sort items into categories

Interviewing_____ c. pictures, maps & observations to gather data
Questionnaire___ d. a set of questions given to respondent to fill out
Mapping___ e. asking questions and documenting answers

6. Make a free list of five items that may cause an adolescent to feel stressed.

____________________________________________________________________
____________________________________________________________________
____________________________________________________________________
____________________________________________________________________

7. Turn the following question into an open-ended question.

Do you like to talk about your problems?

____________________________________________________________________

8. Hypothesize about the relationship between school performance and mental health problems

____________________________________________________________________
____________________________________________________________________
____________________________________________________________________

9. Name the three top mental health problems according to our ranking operation at the beginning of the project.

____________________________________________________________________
____________________________________________________________________
____________________________________________________________________

10. Name one thing you found interesting about adolescents in Nigeria from our Nigerian visitors, Dr. Lolu and Dr. Wole.

____________________________________________________________________
____________________________________________________________________
____________________________________________________________________

11. *Formal resources* are your friends, siblings and parents. True or False
12. *Informal resources* are trained to help adolescents with mental health issues. True or False
13. School is a place where both formal and informal resources may be found. True or False

14. Name a person from each group:
15. In the movie "The Hard Way Out" what was the assignment afterwards supposed to teach you?

________________________________________________________________________

________________________________________________________________________

16. Look around the classroom right now. Pretend you are to describe the scenario to a blind person so he can imagine in his mind exactly what you are seeing. Now write down how you would describe it

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

17. In your own words, define the following terms:

Epidemic

________________________________________________________________________

________________________________________________________________________

Metaphor

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

Hypothesis

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

Research

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________
18. Match (draw a line between concepts) the following terms with their definition:

Dependent variable: Taking apart and defining the influences/causes
Independent variable: Linking influences or causes to the issue or problem
Vertical Modeling: The result of a series of causes
Horizontal Modeling: The influences or causes

19. Please check all the correct statements described below:

(a) The Institutional Review Board protects the rights of human subjects involved in the process of research
(b) Confidentiality is a very important requirement in research that addresses personal information
(c) The Institutional Review Board does not require that consent forms be signed before participants are involved in the research process
(d) All of the above

20. Check the correct answer

Unstructured interviews:
(a) Questions are predetermined and specific
(b) Questions are general
(c) An unfinished interview
(d) All of the above

Reliability:
(a) synonym of research
(b) When we apply a research method several times and we get the same results
(c) Is the research method that allows you to map results
(d) All of the above
Selected Bibliography


