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**Perceived Social Support of Pregnant Adolescents
Attending School-Based Pregnancy
Programs: A Pilot Study**

**By
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A THESIS

**Submitted to
Michigan State University
in partial fulfillment of the requirements
for the degree of**

MASTER OF SCIENCE IN NURSING

College of Nursing

1989

5583883

ABSTRACT

PERCEIVED SOCIAL SUPPORT OF PREGNANT ADOLESCENTS ATTENDING SCHOOL-BASED PREGNANCY PROGRAMS: A PILOT STUDY

By

Sharon E. Plutko Long

Adolescents who become pregnant may attend a supplemental school-based pregnancy program, which allows them to stay in their regular school, offering special classes related pregnancy and parenting, or, transfer to an inclusive school-based pregnancy program located in a separate facility which offers academic and pregnancy/parenting coursework.

The purpose of this study was to compare two groups of pregnant adolescents who attend alternative school-based adolescent pregnancy programs (APPs) as to the perceived supportiveness provided by teachers, counselors, social workers and nurses. This study represents a pilot to test a new tool, the Adolescent Pregnancy Program Social Support Source Scale (APPS4). Perception of general support, as measured by the Inventory of Socially Supportive Behaviors, was entered as a control variable.

Data was collected on the perceived support from school personnel from 10 pregnant adolescents, age 15 to 17 years old. The APPS4 appears to be related to social support concepts and personnel classifications.

ACKNOWLEDGEMENTS

To my thesis committee for, their words of encouragement, advice and vision to see me complete this work and my degree: Barbara Given, Ph.D., chairperson, Patricia Peek, M.S.N., Jacqueline Wright, M.S.N., and Cheryl Lauber, M.S.N. To Dr. Manfred Stommel, Ph.D., for his guidance and patience with the design of this study and statistical analysis.

To my nursing supervisors at Children's Hospital of Michigan, both present and past, for their support, words of encouragement, empathy and willingness to listen to my frustrations and successes: Mary Renkiewicz, M.S., Director, Clinical Nursing, Joyce Penn, M.S.N, Clinical Nurse Manager, NICU, and Mary Lou Simi-Rudner, M.S., previous Clinical Nurse Manager, NICU.

To my special friend, Christine Newman, M.S. for her support, ideas, and role modeling of successful completion of a graduate degree.

To my special friend and literature review partner, Kay Shaw, B.S.N. for her time, effort, support and willingness to listen. Go for it Kay, you can do it too!!

To my families: Charles and Carlene Long for their love and support, and especially, the IBM word processor; to Frank and Delcy Plutko, for my constitution to strive for success and who consistently demonstrated that faith in the Lord will give guidance and strength.

And finally, to my best friends: Jim Long, my understanding, at times impatient but always steadfast husband, for his love, support and help; and to Winchester, our dog, who repeatedly dragged me away from the computer for a walk to realize the rest of the world still exists.

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CHAPTER I
THE PROBLEM

Introduction

During the 1960's pregnant students were dismissed from school as soon as authorities became aware of their condition (Mercer, 1979). In 1972, a change was made to the Federal Education Amendments, Title IX, stating teenagers who are pregnant or who have a child, regardless of marital status, are entitled to the same education as other students (Zellman, 1982, Mercer, 1979). School districts are encouraged to set up alternative school programs for pregnant adolescents to help them continue their education, support them through this stressful time and promote the health of the mother and fetus. It is at this point in their lives, adolescents have the most frequent contact with the school system. Because of this, schools, and those employed by school districts, have become a major source of support to adolescents from the outset of their pregnancy and on to parenthood (Rogeness, Ritchey, Alex, Zuelzer & Morris, 1981, St. Pierre & St. Pierre, 1980).

The purpose of this study is to compare two groups of pregnant adolescents who attend alternative school-based adolescent pregnancy programs (APP) as to the perceived supportiveness provided by teachers, counselors, social workers and nurses to pregnant teens in these

programs. The pregnant adolescents either attend an inclusive APP, which by definition are those based within the high school, or a supplemental APP, those based in a facility outside the high school. The results of this study will be analyzed to answer two questions: Are select school personnel who provide services in inclusive APP perceived by the pregnant adolescent to be more supportive as compared to the school personnel in supplemental APP; and, knowing that the pregnant adolescent may also receive support from her family, friends, neighbors, etc., what impact does this perceived support received from people, in general, have on the perception of support from her school program? Thus, the independent variable in the study is the type of school program, the dependent variable is the perception of social support from her school program and the control variable is the perception of social support in general.

Schools are playing a larger role in the health and developmental care of pregnant adolescent. In 1982, births to adolescents accounted for 14 percent of all births and 26 percent of all first births (National Center for Health Statistics, 1984). Young women who become mothers before completing high school are more likely to drop out of school and are less likely to complete their education after delivery (Moore & Wertheimer, 1984, Population Information Program, 1985). Adolescent mothers have lower education levels, poor occupational aspirations and lack of resources. Once out of the school setting, they have lower paying jobs which provide less income (Population Information Program, 1985) and increase their dependence on public assistance while living in poverty (Moore & Burt, 1982, Flick, 1986). Therefore, the

education system in the United States has become an essential resource to the pregnant adolescent in terms of future economic aspiration and as a provider of health care education.

The content of the special programs developed by school districts for pregnant adolescents varies adapting it to meet their own needs and resources (Roosa, 1984). Many local school districts remain unclear about what school responses are needed, expected or tolerated in providing services to pregnant adolescents (Zellman, 1981). The Office of Adolescent Programs (O.A.P.P.), located within the Department of Health and Human Services, funds service projects for pregnant and parenting teens at risk of pregnancy (Ascher, 1985). In 1980, the O.A.P.P. conducted a review of state policies and programs which resulted in a proposal for clearer state level policies. However, state Boards of Education lack data, funds and intra-agency coordination to take the lead (Zellman, 1981). This lack of direction and support from the state has prevented comprehensive, equitable school-based pregnancy programs for pregnant adolescents from school district to school district.

By 1984, 72 Michigan school districts had established educational programs for pregnant students (Michigan Department of Social Services, 1985). Money was first appropriated for alternative in-school programs in 1969 when Michigan law P.A. 242 mandated each school district provide educational opportunities for the pregnant student. Today, an Inter-Agency Task Force for High Risk Children and their Families consisting of representatives from the Michigan Departments of Education, Public Health, Mental Health, Social Services and Management

and Budget work together to address the changing needs of pregnant and parenting teens in Michigan (Epstein, 1986).

The "Comprehensive Model of Services for Pregnant, School-Age Parents and their Families" was endorsed by the Departments of Public Health, Mental Health, Social Services and Education in 1978 (Michigan Department of Education, 1979). The Model states that a school district may either provide an adolescent pregnancy program or contract with another district operating a program for services. Funds for the program are distributed by the Michigan Department of Education. Six (6) categories of services are to be provided by the school district sponsoring a program.

1. Education: Counseling, regular curricula, education for parenthood, pre- and post-natal education, nutrition education, health education, educational services to children of school age parents, and home visits.

2. Health: Develop a) service contracts with the local health department or b) utilize a combination of local health department and qualified school program personnel.

3. Mental Health: Where the capability exists, (limited number of areas in the state have community Infant Mental Health Specialists), a contract between agency and school for part-time services.

4. Social Services: Include services to individuals, group counseling and community resource mobilization. Services can be provided by social workers or may be provided by other professional groups, such as educators or health personnel.

5. Child and Day Care: Arrangements shall be made for school age parents via the school district or through a contract with a licensed/certified day care center.

6. Other Services: School meals and home visits are required; transportation and outreach activities to teens not enrolled in school are optional (Michigan Department of Education, April, 1979, p. 10-25).

Interpretation of these guidelines by the school districts has resulted in creative programs designed to meet the criteria. Most of the school programs have a comprehensive one or two hour course dealing with increasing the pregnant adolescent's knowledge in the areas of sexuality, contraception, pregnancy and parenting, exploring values and improving decision-making skills (Moore, Erickson, Wurgel, 1984). The class includes exercises that help clarify feelings and thoughts, explore options available and the possible consequences of various decisions.

A school district may opt to develop one of two basic types of adolescent pregnancy programs: an inclusive curriculum programs or supplemental curriculum program. The "inclusive curriculum" program offers a general education core and a range of coursework relevant to childbearing. In this type of program the students do not attend regular high school classes. Many of the inclusive programs are housed at a different site, often an under utilized elementary or middle school. The program provides basic academic courses which are required for graduation plus courses dealing with pregnancy and preparation for parenthood for which the teens receive academic credit (Zellman, 1982). The student usually returns to regular classes after the delivery. Some programs offer options for the student to continue on in the APP for a short time after delivery or they may remain until they graduate from high school.

The "Supplemental curriculum" program is the second type of alternative pregnancy program which provides one to two hours of credit for courses related to pregnancy, health and parenting. The students

remain in their regular classes four to five hours of the day. Counselors adjust class schedules of the pregnant girls to encourage attendance. The girls are responsible for work in regular classes and receive credit for attendance in the special program. The main feature of this program is students are allowed to remain in their high school with their friends and teachers throughout the pregnancy (McAfee & Geesey, 1984).

Ideally, the six areas of services listed earlier represent a comprehensive adolescent school-based pregnancy program. The reality is that many of the community linkages may not be in place or may be weak. The guidelines detail the services to be provided. However, the concept of supportiveness is not mentioned, and, thus, remains an undefined dimension of the services provided by these programs. This research will attempt to evaluate the presence of social support as perceived by the pregnant adolescents in these school-based programs.

APPs are intended to provide multidisciplinary services: academic, health information and referral and supportive services, i.e., referral to appropriate resources and contact with other teens in the same situation. Supportive services also means developing a safe and caring environment. Providing an environment which allows for feedback via contact with similar and valued peers is a form of social support (Gottlieb, 1985). Cassel (1976) provided research on social support which revealed the need for feedback from a primary group may be a preventative measure to decrease susceptibility to disease. Several authors report adolescent pregnancy programs provide this feedback from a primary group via peer-to-peer contact (Zellman, 1982, St. Pierre &

St. Pierre, 1980, Sung & Rothrock, 1980, McAfee & Geesey, 1984).

However, empirical research has not been done to evaluate the perception of social support by the pregnant adolescent who is enrolled in a specially created school curriculum.

Social support can be a protective mechanism to help a person cope with life's continuous stresses and strains (Chinn, 1983). Several theorists have reported social support is beneficial to promote health and well-being either directly or as a moderator of the negative effects of stress (Cobb, 1976, House, 1984, House & Kahn, 1985). The presence of social support has the potential to positively influence health outcomes of the pregnant adolescent and her infant, prevent repeat pregnancy and reduce pregnancy complications.

There is lack of consensus about how social support should be defined (Wortman, 1984). House & Kahn (1985) define three domains of social support:

1. The the structure of a person's social relationships, or social network.
2. The functional content of relationships such as expression of affect or emotional concern, material aid, or information, and,
3. The mere existence or quantity of relationships related to integration versus isolation. (p. 85).

Social support is most commonly used to mean the functional aspects of social relationships (House & Kahn, 1985). For this research, this author will utilize the functional domain of social support which, also, includes appraisal support.

In summary, the federal and state governments have taken notice of the multifactorial problems surrounding teenage pregnancy. The school district's and county's level of concern and financial investment in the

care of the pregnant adolescent varies from very comprehensive programs (including provision of education about health, meals and child care) to limited services (requiring referral to other community resources). Some teens do have more options and resources than others depending on their school district. But are these programs supportive? This research will be evaluating the presence of social support as perceived by the pregnant adolescent who is enrolled in a school-based APP. Only the pregnant adolescent can reveal if these programs actually do provide social support.

Purpose

The purpose of this study is to compare two groups of pregnant adolescents who attend different alternative school-based APPs as to the perceived supportiveness provided by teachers, counselors, social workers and nurses to pregnant teenagers. Evaluation of the presence of social support in school-based programs can assist professionals, both health care and education, who care for and have contact with pregnant teens to modify and enhance their individual interactions. Maximizing social support components of inclusive and supplemental APPs may lead to better infant outcomes, prevention of drop-out and pregnancy recidivism.

Statement of the Question

This research will attempt to measure the perceived social support provided by personnel teaching and counseling pregnant teenagers who attend two types of specially created school curriculums. The results of these measures will then be analyzed to answer two questions: 1) Are select school personnel who provide services in inclusive APP perceived

by the pregnant adolescent to be more supportive as compared to the school personnel who provide services in supplemental APP; and,

2) knowing that the pregnant adolescent may also receive support from her family, friends, neighbors, etc., what impact does this perceived support received from people in general have on the perception of support from her school program?

Hypothesis

The following hypothesis will be tested:

Pregnant adolescents enrolled in inclusive adolescent pregnancy programs will perceive more social support from selected school personnel as compared to those pregnant adolescents enrolled in the supplemental adolescent pregnancy programs.

Definition of Concepts

The following definition of concepts utilized in the research questions will be employed in this study.

Pregnant Adolescent: Adolescence extends for a period of 8 to 10 years when a person is physically and psychologically mature, ready to assume adult responsibilities and be self sufficient because of changes in intellect, attitude and interests (Whaley & Wong, 1983). Mean age of menarche is at 12.9 years and ranges from 12.5 to 13.5 years (Block, Saltzman & Block, 1981, Rallison, 1986). Most girls are biologically and physically mature women capable of becoming pregnant within one to two years after menarche. Adolescence is, also, a time of curiosity about sexual relations. Lack of knowledge of sexual function and contraception leads to experimentation and risk taking behavior which may result in pregnancy.

In this study, the pregnant adolescent is defined as a female between the ages of 14 to 16 who is equal to or greater than 24 weeks gestation.

Social Support: For the purposes of this study, social support will be defined as: emotional support, instrumental aid, information support and appraisal support (House, 1984). Emotional support can be described as the results of a relationship, with select persons, which promotes perceived feelings of empathy, caring or concern within the pregnant adolescent. Instrumental aid is the feeling that one could obtain goods (for example, money or clothes) or services (for example, being driven somewhere or child care) from select persons. Information support is the feeling that one could obtain information or advice about a situation from select persons. Finally, appraisal support is being able to share personal feelings or thoughts with someone in order to receive feedback (positive or negative) or social comparison relevant to a persons self-concept.

Adolescent pregnancy programs are intended to provide academic, pregnancy and parenting preparation courses in a caring atmosphere. It is, also, intended, no matter the structure, for the APP to create an environment where students can freely discuss their situations and problems within a peer group setting (Zellman, 1982). Some adolescents feel more comfortable attending an alternative school program developed for teenagers who are pregnant. Others choose to remain in their own schools throughout pregnancy with medical passes for prenatal care. (Bongiovanni, 1983). A comprehensive program should offer emotional,

physical and informational resources to the adolescent while pregnant and continuing on into parenthood.

The participants will be describing their perception of social support provided by selected school personnel. Although the school personnel are not a variable in this study, it is felt that the classifications be defined. School personnel are identified school employees hired or contracted to provide services to pregnant adolescents enrolled in an APP. For the purposes of this research, these personnel include:

- Teachers: persons designated by the school district to provide education. This can include the APP program coordinator

- Counselors: persons designated by the school district or APP to perform the role of a counselor

- Nurses: persons designated by the school district to practice as a Registered Nurse. This can be a school nurse or a public health nurse

- Social Workers: persons designated by the school district to provide social services, either employed by the school district or by contract via a community agency

The control variable for this study is the pregnant adolescent's perception of social support from persons other than school personnel. Perception of general social support may influence the perception of support received from the school program. Sources of general support may include, but are not limited to, members of her family, friends, spouse, schoolmates, neighbors or any other person she believes has been supportive to her at this time while she is pregnant. Eliminating the influence of perceived general social support on the perceived support

from school personnel may add clarity in identifying the true supportiveness of the school program. Without specifically identifying the general sources of support, examples are given to help the adolescent relate her thoughts and feelings about general support received.

Adolescent Pregnancy Programs: An APP is a composite of learning activities and experiences within the school setting that are directed toward developing an environment that protects and promotes the health of pregnant and parenting students (Michigan Department of Social Services, 1985). Services include academic education, health education, health services and life skill competency courses. Both inclusive and supplemental APPs, which have been defined earlier, offer a general education core and a range of course work relevant to child-bearing all for credit.

Limitations of the Study

The limitations of the study are:

1. The population included only those pregnant adolescents actively attending an adolescent pregnancy program eliminating those who may have delivered prematurely or who may be at home on bed rest although receiving services from the program.
2. Participation in the study is voluntary. All persons who chose to participate and meet the criteria were allowed to do so.
3. The time of enrollment into the adolescent pregnancy program and, thus, exposure to the program personnel and services varied and may systematically differ between adolescent pregnancy programs.

4. Because the student may have other support systems within the school personnel, i.e. coaches, the personnel included in the study may not represent the total support provided by the school personnel.

5. The instrument was administered in a classroom setting. This environment may impact the responses of the participants.

Assumptions of the Study

In this study, the researcher is making the following assumptions:

1. It is assumed that pregnancy and childbirth are stressful life events.

2. It is assumed that the answers to the questions on the instrument reflect honestly and accurately the pregnant adolescents' perception of social support from the school program personnel.

3. It is assumed that the pregnant adolescents' perception of social support can be identified related to the selected school personnel in the adolescent pregnancy programs.

4. It is assumed that the pregnant adolescent's perception of social support can be identified related to other persons, excluding school personnel, in general, at this time.

Overview of the Chapters

The description of this study has been organized into six chapters. Chapter I, included the introduction, the purpose of the study, the statement of the question, hypothesis, conceptual definitions, limitations and assumptions underlying this study.

In Chapter II, the conceptual framework is presented based on Rogers' theory of nursing practice, growth and development theory,

Dewey's philosophy of education and the concepts of social support as defined by J.S. House.

In Chapter III, the pertinent literature and research on the problem are reviewed.

In Chapter IV, methodology and procedures of the research are described.

In Chapter V, data are presented and analysis of the results of the research are given and discussed.

In Chapter VI, the research findings are summarized and conclusions and nursing implications are presented.

CHAPTER II

CONCEPTUAL FRAMEWORK

Introduction

In this research, two groups of pregnant adolescents who attend alternative school-based pregnancy programs will be compared related to the perceived supportiveness provided by the school personnel. Nursing's role in supporting these adolescents includes promoting health, preventing illness and helping the teens continue with their education. In this chapter, the theories of nursing, adolescent growth and development, education and social support will be described. The concepts and theories relevant to this study are integrated into a conceptual scheme for this research.

Rogers' Theory of Nursing

Based on the systems theory framework, Rogers' theory emphasizes the "wholeness" of man or the human field. "Unitary Man", the main focus of her theory, is a "four-dimensional, negentropic energy field identified by pattern and organization and manifesting characteristics and behaviors that are different from those of the parts". (Rogers, 1980, p. 332). The wholeness of man and human behavior means it is indivisible denoting unity and synergy. Synergy represents the unpredictable behavior of the whole system (Fawcett, 1985).

Rogers' theory is based on five assumptions:

1. Man is a unified whole possessing his own integrity and manifesting characteristics that are more than and different from the sum of its' parts (p. 47).
2. Man and environment are continuously exchanging matter and energy with each other (p. 59).
3. The life process evolves irreversibly and unidirectionally along the space-time continuum (p. 59).
4. Pattern and organization identify man and reflects his unique innovative wholeness (p. 65).
5. Man is characterized by the capacity for abstraction and imagery, language and thought, sensation and emotion (p. 73).

A schematic diagram of Rogers' theory is shown in Figure 1.

There are four building blocks underlying these five assumptions. First, energy fields are identified as both animate and inanimate, having no boundaries and which are indivisible and extend to infinity (Falco and Lobo, 1985). Second, the energy fields are open, constantly exchanging energy and materials between the environment (Rogers, 1970). Third, the interchange between energy fields exhibit pattern and organization which are observable properties of human behavior (Fawcett, 1985). The final building block, Unitary Man, exists in space and time exhibiting four-dimensionality characterized by continuously fluctuating imaginary boundaries. Patterning and organization are not fixed; man exists in the "relative present" (Fawcett, 1985). Unitary Man is always in the process of "becoming" rather than "is" at any point (Meleis, 1985).

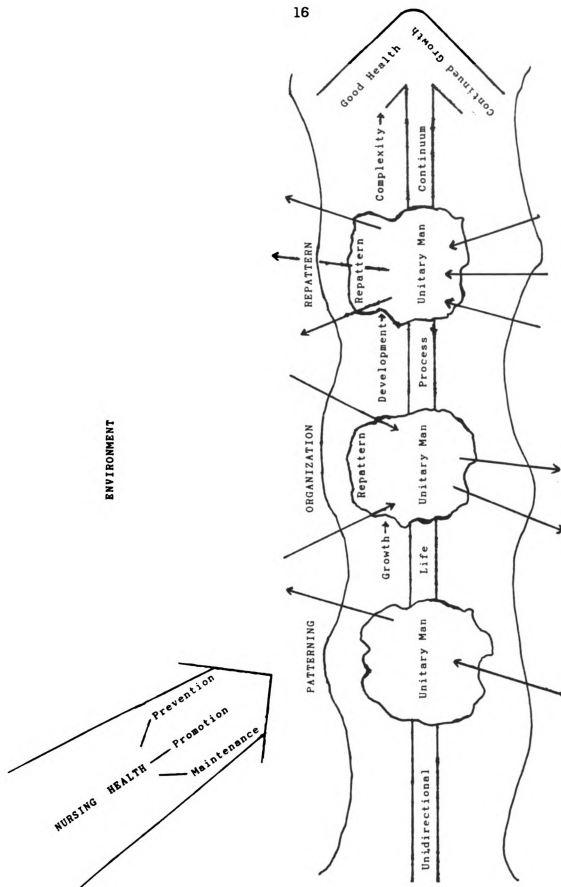


Figure 1: Rogers' Conceptual Framework, Adapted from Michigan State University Course, Nursing 570, 1986

Describing nursing theory requires the definition of four concepts: Man (previously defined), environment, nursing and health. Environment is represented by: "an irreducible, four-dimensional, negentropic energy field, identified by pattern and manifesting characteristics different from those of the parts and encompassing all that is other than any given human field" (Rogers, 1980, p. 332). The environment consists of all the patterns existing external to the individual.

Man and environment interact continuously by patterning and repatterning. Rogers defines three principles of homeodynamics as fundamental concepts describing man and environment interaction. Originally, she developed the principle of complementarity to define this interaction: "the interaction between human and environmental fields is continuous, mutual and simultaneous" (Rogers, 1980, p. 333). Refining her theory to gain greater accuracy and clarity, integrality replaced complementarity. Integrality is the continuous mutual human field and environmental field process (Rogers, 1986). This process of man-environment interaction can be seen daily displaying unique patterns and rhythms. In Figure 1, this can be seen as the environment forms a repetitive pattern around each phase of growth and movement.

Helicy, the second principle, describes the nature and direction of the man-environment interaction. This interaction is creative and innovative, manifesting increasing diversity and complexity of field pattern characterized by non-repeating rhythmicities (FERENCE, 1986). The center arrow in Figure 1 depicts movement in one direction with the outcome of health and continued growth.

The third principle, resonancy, represents continuous change from lower to higher frequency wave patterns in human and environmental fields (Rogers, 1986). This principle describes the composition of the human and environmental fields which both change in pattern and organization as they interact. In Figure 1, resonancy is represented by the increasing number of arrows to and from Unitary man who moves along the life continuum. Rogers (1970) describes resonancy when man is in rhythm and symmetry with the world via thought, feelings and perceptions. Thus, the three principles of homeodynamics, integrality, helicy, and resonancy, define the characteristics of the human and environmental field pattern focusing on continuous change, mutuality and diversity.

Nursing is a learned profession; a science of Unitary Man (Meleis, 1985). Conceptually, the act of nursing "is the utilization of nursing's body of abstract knowledge in service to man" (Rogers, 1970, p. 121). Nursing goals focus on health promotion and the interaction between the human and environmental energy fields (Fawcett, 1985). "Professional nursing seeks to promote symphonic interaction between man and environment, to strengthen the coherence and integrity of man, and to direct and redirect patterning of human and environmental fields for realization of maximal health potential (Rogers, 1970, p. 122).

Nursing practice is both a science and an art. The science of nursing, according to Rogers, studies the nature and direction of human development with the environment (Fawcett, 1985). The art of nursing is the creative use of nursing knowledge in service to the human being. The field of nursing is the outgrowth of concern for human health and

welfare. The mission of nursing is to serve people via health prevention, promotion and maintenance, through the practice of safe nursing care and to increase theoretical body of nursing knowledge (Rogers, 1986). Rogers' description of the mission of nursing is congruent with the philosophy of primary care.

Finally, Rogers (1970) views health as "an expression of the life process" (p. 85). Health and illness, ease and disease, normal and pathological, maximal well-being and sickness are dichotomous terms "arbitrarily defined, culturally infused and value-laden" (Rogers, 1970, p. 85, Fawcett, 1985). The "state of health" is very subjective and varies from person to person and culture to culture. Health and illness are part of a continuum involving multiple events to which man achieves his maximal health potential (Rogers, 1970).

Rogers (1970) believes nurses assist persons to achieve their maximum health potential. Through research on various phenomenon that impact health, nurses are able to empirically identify relationships between events. Discussion about the meaning and importance of health with the client along with mutual goal setting can integrate the subjective interpretation of health into the plan of care. It is through development of creative nursing interventions that clients can then be assisted in re-patterning themselves with their environment leading to their maximal health potential.

Pregnancy, although stressful, is considered a healthy alteration in the normal life process of a woman. Pregnant adolescents have the added stressors of behavioral and emotional immaturity and limited resources. They are, therefore, at a higher risk for potential

alterations in their health and the health of their infants (Population Information Program, 1985).

According to Rogers' theory, the pregnant adolescent represents "Unitary Man" who possesses her own integrity and manifests characteristics which are more than and different from the sum of her parts (Rogers, 1970). Physical health, social, emotional and psychological characteristics of the adolescent are integrated parts impacting on the well-being of the whole person. Thus, the assessment of the adolescent includes identification of those internal and external factors, or events, impacting her life situation.

The environment represents those factors external to the pregnant adolescent. The adolescent and her environment are both open systems constantly exchanging materials and energy (Rogers, 1970). Interactions with school teachers, counselors, social workers and nurses represent aspects of the environment. Social support is a perceived dimension of the environment. Each adolescent, manifesting individual personality and maturity, will bring to this research a different perspective. The teenager is in a unique school environment individualized specifically because she is pregnant.

Rogers' theory stresses the ecological relationships between man and the environment. The environment surrounding the pregnant adolescent includes the school system, family system and the health care system. Assessment and evaluation of the interaction patterns between systems and the availability of services to pregnant teens needs to be a continuous process. Nursing needs to assess the patterns between these

systems. As the environment and needs of the adolescent change, so to should the patterns and designs of services to deal with these needs.

Nursing research needs to be done to describe the life events surrounding the pregnant teenager who remains within the school system. This research includes health care provided by nurses delivering specialized care in the school setting. Research describes the phenomenon of interest which nurses utilize to shape future nursing actions in response to the same or similar phenomenon. Rogers' theory can provide a structure for the interpretation of pregnant adolescents' perception of supportiveness (the phenomenon of interest) received from school personnel in adolescent pregnancy programs.

In summary, Rogers' theory of nursing practice supports the use of nursing process stressing assessment of life patterning related to the client's health. She believes nurses are creative and unique in their ability to communicate with clients encouraging independence, decision making, self-care and self-control. Rogers' theory offers a special way of looking at the nurse/client interaction with the goal of promoting healthy outcomes.

Rogers (1970) believes that "the life process evolves irreversibly and unidirectionally along a space-time continuum". This assumption of her theory is applicable to research involving pregnant adolescents as they grow and develop into adulthood and parenthood. Following is a description of the physical, social and emotional development an adolescent experiences including the impact of pregnancy on these processes.

Developmental Theory

The process of life dictates that man exists with the environment in a four-dimensional space (height, width, depth). The process implied, is the movement of man through time (the fourth dimension) as he/she grows and develops (Rogers, 1970). Adolescence literally means "to grow into maturity" and is generally regarded as psychological, social and maturational processes initiated by pubertal changes (Whaley & Wong, 1983). Developmental time is complimentary to Rogers' definition of time as a continuum of past, present and future.

The development of life moves in a negentropic and unidirectional fashion meaning movement in one direction which gains increased order, complexity and heterogeneity (Rogers, 1970). With time, patterns occur as man develops and increases interactions with his environment. The pattern and organization displayed is unique to each human being.

The unidirectionality of life described in Roger's theory correlates with the developmental theory of the human being. This section describes the development of the adolescent including: a) basic physical growth, b) psychological and emotional development, and c) a description of adolescent social development focusing on the sexual behavior and experimentation leading to the occurrence of pregnancy.

Adolescence is a period of intense physical changes beginning with puberty and ending when the male and female sex organs mature. In the female, this period occurs between 12 and 14 years of age and, in the male, between 14 and 18 years of age (Whaley & Wong, 1983). Adolescence extends for eight to ten years when changes in intellect, attitude and interest signal the person is physically and psychologically mature and

ready to assume adult responsibilities and be self-sufficient (Whaley & Wong, 1983). Basically, adolescence represents the male and female ages from 10 to 20 years of age.

Various authors describe the transitional period of adolescence by stages delineated by various age ranges which frequently overlap. (Murray & Zentner, 1985, Adams, 1983, Whaley & Wong, 1983). The development of the adolescent, aged 13 to 17, will be described encompasses the age range of the sample for this research. From age 13 to 17 the female reproductive organs become functionally operative and physical growth is completed (Murray & Zentner, 1985, Forbes, 1981).

Neinstein (1984) discusses four areas of physical growth in the female adolescent. First, changes occur in the endocrine system, specifically increases in the sex hormones (estrogen, progesterone, testosterone and their derivatives), gonadotropins (luteinizing hormone & follicle stimulating hormone) and adrenal hormones. Second, the physical size of the adolescent increases due to growth spurts which account for 20 to 25% of final adult height and about 50% of final adult weight. Third, there is development of secondary sex characteristics: pubic hair and breast development and characteristic distribution patterns of adipose tissue and skin changes (Whaley & Wong, 1983). Finally, the major female developmental landmark of adolescence: menarche. Menarche occurs, on the average, at age 12.3 years, after peak height growth has occurred. The age of menarche depends on such factors as race, socioeconomic status, heredity, nutrition and culture (Neinstein, 1984, Bongiovanni, 1983).

As the adolescent moves along the space-time continuum, psychological tasks are achieved in preparation for adulthood. Erik Erikson (1963) states the adolescent is in a phase of acquiring identity while overcoming a sense of identity diffusion. Acquisition of identity is essential for making adult decisions, such as choice of a vocation or a marriage partner. The adolescent is concerned about her "becoming" her own identity and questions herself, "Which way can I be?" (Maier, 1965). Rogers (1970) describes this four dimensional becoming of man in her theory as the person moves along the space-time continuum.

Man is "characterized by the capacity for abstraction and imagery, language and thought, sensation and emotion" (Rogers, 1970). Development from an infant to an adolescent occurs physically in space and cognitively from concrete to abstract (Adams, 1983). The adolescent is just beginning to develop and test a form of abstract thinking requiring judgements about social and sexual responsibility. Her ability to predict the consequences of actions involves the intuition of looking to the future. Risking pregnancy demonstrates the adolescent has not thought through the consequences of her sexual activity.

The assumption in Rogers' theory related to abstract thought can only be partially applied to the psychological development of the adolescent. The teen may have developed various levels of abstract thought, i.e., to perform advanced science or math. However, new experiences with personal relationships create changes in thoughts about which way she should act. Thoughts become entwined with new emotional feelings, peer pressure and limited experience in decision making. Because of these mixed emotions and experiences, even the adolescent who

has developed academic-related abstract thought processes can become pregnant.

Emotional development, during adolescence, includes dealing with feelings and behavior which becomes more complex with age. Previous trust in her body and mastery of its function are suddenly shaken and must be regained gradually by re-evaluating herself (Maier, 1965). Body image becomes established while coping with changes in physical appearance, accepting one's physique and using the body effectively (Havighurst, 1972). David Mechanic (1983) describes normal physiological changes that increase the adolescents' awareness of her body include developing an identity, focusing inward and increasing one's sense of self-awareness.

Self-awareness is a prerequisite to successful handling of stressful life events (Pender, 1982). Lack of identity and self-awareness, at this time, along with the interplay of confusing emotional swings translates into her need to explore, experience and search for an identity. It is patterning with the environment (specifically peer influence) which helps the adolescent interpret new feelings and sensations and possibly guide or give advice about her decisions (McCubbin, Needle & Wilson, 1985).

Nurses can utilize Rogers' theory to describe the development of body image, self-concept and identity. Continued assessment involves observing adolescents over time and seeing patterns of growth and organization. The adolescent and her world are considered energy fields which interact. It is the pattern and organization of man's interactions with the environment that develops his unique identity

(Rogers, 1970). The patterning takes place over time demonstrating a rhythmicity between the adolescent and her world. Social development of the adolescent, both in the family and within the peer group, will be discussed next as she continues to interact with her environment.

Cochran and Brassard (1979) identify five areas of social development of the child. First, is the concept of social and cognitive attachment. Achievement of mature relationships with age-mates of both sexes are tasks for the adolescent. Erikson (1963) states that parents have lost their role as the essential support and value-giver being replaced by the peer group. The adolescent becomes increasingly involved in heterosexual relations manifested by dating activity, sexual experimentation and intercourse (Havighurst, 1972, Neinstein, 1984).

Gaining independence from parents and other adults is the second developmental area (Cochran and Brassard, 1979, Havighurst, 1972). Conflicts may arise as the adolescent exhibits less interest in the parents devoting more of her time to peers (Neinstein, 1984). Successful transition through this phase should result in less dependency on the family and integration into society as an adult. The pregnant adolescent, however, experiences identity diffusion. By experimenting with independence, she becomes pregnant which forces her back into a dependent relationship with her own mother or family (Buchholz & Gol, 1986). Thus, the teen remains in the mother-daughter dyadic relationship.

Self-regulation is an aspect of independence which involves making decisions about and having control of one's life. The need for some control of one's environment is critical to feelings of personal

competence and self-esteem (Pender, 1982). According to Rogers (1970), man uses rational thought as a control mechanism to organize his experiences and to make sense of them, then knowingly makes choices. The adolescent, as she travels through life, learns how to make choices through emotional and rational thought and through the feedback from the results of her decisions. The adolescent actively participates in determining her life pattern through decision making.

The third area of social development is experience with social roles. Erikson (1963) defines this time as role experimentation versus negative identity. Social experimentation involves "trying out " adult-like behavior, vocational behavior, preparing for intimacy, and being accepted into "the gang or clique" with its rituals and group conformity (Maier, 1965, Adams, 1983). Identity depends on successful experimentation with many roles.

Cochran and Brassard (1979) define child rearing attitudes and behaviors as an area of social development. They believe these attitudes are learned from persons in social and family networks which may facilitate maternal competence. Pregnant adolescents need to have role models who exhibit socially responsible behavior who, also, will support them as a new mother. Young adolescents may not have the ability to achieve or recognize acceptable behavior and, thus, flounders in role and identity diffusion.

The fifth, and final, area of social development is self-concept. The child develops a conceptualization of self through interaction with significant others, first with parents and then by identifying with a peer group. The adolescent has a feeling of omnipotence and immortality

leading to risk taking behaviors (Neinstein, 1984). Such behaviors may lead to suicide, accidents, drug use and pregnancy. Self-concept is a struggle as the pregnant adolescent may feel negative about her body, fear rejection, and be over-sensitive to the opinions of others (Whaley & Wong, 1983).

In summary, the developmental process is generally predictable, however, the environmental influences are not. Pregnancy has altered the adolescents' physical, emotional and psychological development. Changes occurring within and around her are irreversible and move in one direction. The rate of change in life varies but remains on a time continuum. Although human growth and development has a predictable nature, environmental influences have impacted the adolescents' developmental pattern.

The next section describes the school environment of the pregnant adolescent. The APP she attends is yet another energy field which continuously interacts with the human field. The constant give and take across the abstract boundaries of energy fields is an important aspect of the teen's life. It is the quality of the interactions between human system and environment which is the focus of this research.

Educational Theory

Like nursing, education literature is filled with different theories and philosophies of education (Wynne, 1963, White & Duker, 1973). Also, like nursing, educators have difficulty defining what education is, who are educators and what is their role. For the purposes of this conceptual framework, the educational theory of John Dewey will be utilized. Dewey has written vastly on his philosophy of education.

This section will be a selective description of continuity, experience, democracy, methods and motivation in education according to Dewey.

Dewey's educational philosophy has roots in the theory of growth and development stressing continuity of physiological and environmental experiences for the learner. Being a progressive theory, the student should be educated according to his or her interests or needs. As a pragmatic theory, education is based on the interaction of the individual with the environment or experience; this interaction is always changing (Ornstein & Levine, 1984).

According to Dewey, sound educational experience involves continuity and interaction between the learner and what is learned. "The principle of continuity of experience means that every experience both takes up something from those which have gone before and modifies in some way the quality of those which come after." (Dewey, 1938, p. 27). The quality of education the pregnant teen has received needs to be continued or improved to promote her advancement to the next grade or experience. It is up to the APPs to ensure a standard of education is maintained for students with special needs.

Dewey believes that life is a process that renews itself and then reorganizes as interactions with the environment occur. Continuity of life, another concept of Dewey's theory, is the "readaptation of the environment to the needs of living organism" to promote experiences for learning and growth (Dewey, 1916, p.2). This is seen by the various philosophies and standards school systems have related to experiential activities of the students. Some systems are

more structured or controlling while others are more flexible and creative.

The school culture has become more experiential to address the needs of pregnant students. The APP becomes an environment where the students begin to learn about present realities of pregnancy, growth and parenting. Schools have become more responsive to these students with special needs by creating a unique environment to assist in reorganizing their lives.

The APPs attempt to help the pregnant adolescent deal with this stressful situation and assist in preparing for the future. Dewey (1938) believes the main purpose or objective of education is to "prepare the young for future responsibilities and success in life, by means of acquisition of the organized bodies of information and prepared forms of skill" using a variety of teaching methods (p. 3). The APPs, in this research, provide the students with the basic academic courses required for graduation (math, english, history, vocational training) stressing the need for basic intellectual skills and knowledge. However, the programs, also, focus on meeting specific knowledge needs of the adolescent during pregnancy and in preparation for the challenges of parenthood.

To achieve the objective of education, Dewey (1897) defines four methods in the educational process. First, is focusing on the child's own nature or activity. Potentiating activities and abilities will lead to increased learning and growth. Second, the imagination of the child should be used in the formation of proper images of the content. Images

make the content real and vivid enhancing the experience; thus, the retention of content.

Third, interests in various subjects, topics or activities are the signs and symptoms of growth. Observation of the child will lead to understanding the stage he/she is in or progressing to. Furthermore, interest is untapped personal power. To promote power, the teacher and environment encourages growth and makes experiences permanent (Dewey, 1897).

Finally, Dewey (1897) stresses utilizing the emotional side of the child to promote learning. Emotions are the result, or reflex, of actions. Guiding actions and thoughts will lead to appropriate emotional responses to life experience which enhances fulfillment and growth.

Dewey's (1897) four methods can be applied to the description of Rogers' (1970) Unitary Man. Unitary man possesses sensations (interests), language (activity), thought, abstraction and imagery (imagination) and feelings and emotions (emotions). Stimulating all dimensions of the child will promote meaningful experiences for the purpose of achievement and growth.

Teachers, Dewey (1938) describes, "are the agents through which knowledge and skills are communicated and rules of conduct enforced" (p.3). The teacher is skilled in selecting influences, or experiences, which affect the child and assist him/her in properly responding to these influences (Dewey, 1897). The APPs employ teachers for academic instruction and child guidance. Social workers, counselors, and nurses are employed, or contracted, to instruct in the areas of life sciences

(prenatal and child care) and life processes (decision making and self awareness). Teachers focus on creating learning environments while nurses work with the pregnant adolescent who is responding to social, emotional, psychological and environmental changes.

Both the teacher and the nurse, the school and the health care system are environments external to the pregnant teen. The focus of the teacher in educating the pregnant adolescent is different than the educational role of nursing. Dewey defines educators role as creating meaningful experiences and modifying the environment which impacts on the person. Nursing interventions, according to Rogers, focuses on the person who is responding and interacting with the environment. The philosophies of education for nurses and teachers are different but compatible providing a variety of potential experiences and learning environments.

Dewey's educational theory is based on the democratic ideal which is characterized by two elements: mutual interests and social habit. Recognition of mutual interests of the group as a factor in social control where many and varied points of view are shared (Dewey, 1916). This aspect of democracy is seen in the APP as the teens gather as a group to share problems and find support. The teacher, as a facilitator, assists the students experience growth through understanding of their present situation and the future implications. The teacher selects and guides present experiences that "live fruitfully and creatively in subsequent experience" (Noll, 1983).

Group interaction provides a form of social support via sharing feelings of affirmation - "I'm OK", sharing advice and exchanging

information. Dewey (1916) states, democracy is a "mode of associated living and learning, of conjoint communicated experiences..." made available to all and "for the good of all its members" (p. 101). Thus, selected group contact within the APP attempts to provide a democratic education ideal.

The second element of democracy, social habit, occurs as increased participation in the community/group causes a change with "continuous readjustment through meeting new situations produced by varied intercourse" (Dewey, 1938, p. 100). This reflects the longitudinal effects of experiences to deal with the present but, also, to form a foundation to prepare for the future. The APP attempts to educate the pregnant teens via experience with other peers, who are in or may have been in the same situation, and by interactions with supportive school faculty. Dewey (1938) succinctly states, "What the student has learned in the way of knowledge and skill in one situation becomes an instrument of understanding and dealing effectively with the situations that follow." (p.42).

The structure of the APPs, including interactions with school faculty and the presence of the programs in the high school and the community, attempts to provide awareness of the need for a change in social habits. Creation of legislation to promote easier access to programs, prevent drop-out, decreased discrimination of the pregnant student and increased awareness of teen sexuality by the community has slowly caused a change in social habits to expand services to these students.

Dewey has been called the "philosopher of growth" because of the concepts of continuity and building on experiences. The concept of growth can be a theory itself in education. J. P. Wynne (1963), in discussing Dewey's philosophy, states "growth is it's own end, not merely a means to some other ends outside the process of human experience." (p. 188) Dewey (1916) states education is development; that life is development and that "developing and growing is life" (p. 59). Translated into an educational perspective:

- 1) the education process has no end beyond itself, it is it's own end, and,
- 2) that the educational process is one of continual reorganization, restructuring and transforming (Wynne, 1963, p.188).

In this analogy, neither Dewey nor Wynne define growth tasks or levels. Dewey's theory is based on what each adolescent is doing at that time and how the educational process can enhance and create experiences to promote growth. The emphasis is on the experiences the pregnant adolescent encounters, interpretation of and response to the situation and the changes or reorganization that will occur as the result of her involvement in an APP. Thus, growth comes from within. Dewey (1916) states, "Growth is not something done to them, it is something they do." (p. 50)

A weakness in Dewey's theory is the lack of measurable outcomes. The theory individualizes education to each student. Measurement of growth, therefore, is subjective based on the teacher's interpretation of the student. His theory relies on a continuous, interactive environment between student and teacher. Some APPs are designed with

limited class/counseling time on pregnancy and parenthood which impacts evaluation in the areas of emotional, psychological and behavioral growth important in preparation for parenthood. Ideally, the theory is appropriate for the structure of the APP which provides an environment for experiences to prepare the pregnant adolescent for parenthood and adulthood.

In summary, Dewey's theory stresses growth of the teenager as the result of life and school experiences. Growth is seen in the adolescent's ability to understand the experience, respond to it via adaptation or reorganization and be able to utilize the knowledge in future situations. Rogers' theory (1970) echoes the same themes stating the pregnant teen organizes experiences, makes sense of them and learns how to make rational choices about her life; she is an active participant.

The structure of the APP involves unique classes for the pregnant student and contact with teachers and other support faculty, i.e. social workers, counselors and nurses. The quality of the experience depends on a comfortable environment and the supportiveness of the staff. In the next section, supportiveness will be defined using the theory of social support.

Social Support

Definitions of social support vary between researchers who emphasize different concepts (Cobb, 1976, Kaplan, Cassel & Gore, 1977, Kahn & Antonucci, 1980, House, 1981, Gottlieb, 1985). For this research, the definition of social support as developed by J. S. House will be utilized focusing on the stress buffering effect of social support.

J. S. House bases his philosophy of social support on stress producing situations at work. He believes most people invest time and importance in their work which has an impact on their health and well being (House, 1981). The time spent at work and in corporation or organizations "constitutes the most structured and organized aspects of most adults lives. This can, also, be applied to the role of school in the lives of children" (p. 8). The stress that work or school (or play) produce has the potential to alter the health of the person.

Social support, as defined by House (1981) involves four broad types of supportive behaviors or acts which includes giving or receiving emotional support. This means providing empathy, caring, love and trust. Examples of emotional support include talking, airing or ventilating general concerns; providing reassurance and/or encouragement; listening; reflecting understanding, concern, respect, trust or interpersonal intimacy; providing companionship, especially during stressful situations; and providing a supportive relationship over an extended period of time (Gottlieb, 1978).

The second category most commonly identified is instrumental support (House, 1981). This includes behaviors that directly help the person in need. Cobb (1976) describes these activities as "instrumental, active or material" support; Kahn and Antonucci (1980) describe it as "aid". Instrumental support might be the simple act of loaning someone money or by helping someone with a task or helping care for someone. Instrumental support represents a physical action having positive psychological impacts.

Information support means providing a person with information that the person can use in coping with personal and environmental problems (House, 1981). This represents a type of very common, indirect support people rarely identify. It is support that allows the person to help themselves. Gottlieb (1978) defines these behaviors as "problem-solving behaviors": talking; providing clarification or discussion of a problem to promote new understanding; providing suggestions, directions, orders or commands about the means of problem solving or providing information about sources of stress. Information support behaviors are not inclusive as providing information may be perceived as a form of emotional support or as instrumental support if information is the major need for the person.

The last category House (1981) labels as appraisal support. This is similar to informational support because it involves the transmission of information. The distinguishing characteristic of appraisal support is its relevance to self-evaluation. Cobb (1978) describes this as information that one is valued or esteemed; it reaffirms one's sense of personal worth. This category causes the person to compare him/herself with others, evaluate feedback received from others and then make a judgement or decision as to whether they like/dislike, approve/disapprove of themselves. This process is the least concrete because of the individual variability. Social comparison may come from a person telling another person they are "doing a good job" or by describing to them requirements to successfully complete a task, i.e. requirements for a grade (House, 1981). Persons can validate feelings

of peers or the appropriateness of behavior through feedback which may be painful at times, but beneficial in the long run.

Social support is a variable which facilitates coping with major life events, stressors and adaptation to change (Cobb, 1976, Barrera, 1981). Kaplan, Cassel and Gore (1977) believe that absence of adequate social support increases the susceptibility of the organism to various form of disease; social support provides protective effects to buffer the person from stress or disease.

In their research, Kaplan, Cassel and Gore (1977) suggest that stress causes a release of chemical transmitters from the hypothalamus which, via the anterior pituitary, causes a general protein catabolic effect. With appropriate social stimulus, however, a second center within the hypothalamus releases its own chemical transmitters which moderates the stress stimulus. Thus, social support is an external stimulus which can buffer stress impacting the pregnant adolescent.

Investigations have been undertaken to examine the positive effect of social support in pregnancy. Nuckolls, Cassel and Kaplan (1972) measured the rate of pregnancy complications related to perceived social support. They reported that pregnant women exposed to high life stress and low psychological assets, including social support, had three times as many pregnancy related complications than women with equally high levels of stress and high psychological assets. Brown (1986) collected data from 313 expectant couples on stress experienced during pregnancy. The data suggested that pregnant mothers preferred various types of support (from family, friends and spouse), that stress is an important force in provoking illness (reports of chronic illness by couples during

pregnancy) and that "support is a balancing force in mediating health" (p. 75).

Cobb (1976) describes research done across the life cycle. He asserts that social support is a moderator of stress associated with the major transitions in life (e.g. growth and development phases) and unexpected crises (e.g. pregnancy, hospitalizations, bereavement, unemployment). Social support, therefore, is an aspect that touches all aspects of life from infancy to adulthood and from wellness to illness.

Measuring social support involves identifying categories of specific behaviors or feelings and then identifying the flow, or paths, of this behavior as modifying stress. This research involves pregnant adolescents' subjective, or perceived, feelings of social support from school personnel. The support, or lack thereof, is an aspect of the environment which may not be observable to the researcher because of the research design. It is important to stress that behavior and activities are ultimately designed to be supportive. However, social support is likely to be effective only to the extent to which it is perceived (House, 1981). To be as objective as possible, questions are asked about the level of satisfaction with or ask "how much support" one feels they receive.

Integration with Nursing Theory

True empirical research involves the development of social support interventions used with random controlled case studies. The intent of this research is to measure a quality of the interactions between the pregnant adolescent and the school personnel. Specifics of the school environment, teachers, counselors, social workers and nurses, can be

perceived as a stress or as a stress-buffering factor. This research will be describing the perceived supportiveness of teachers, counselors, social workers and nurses as reported by the pregnant adolescent.

Figure 2 illustrates the conceptual scheme for this research. In this chapter, a comparison of concepts in Rogers' theory of nursing and Dewey's theory of education is discussed. The comparison shown in Figure 2 shows nursing's role and the use of social support as a tool to caring for pregnant adolescents.

Growth and development is the process which describes helicy and continuity of life. The pregnant adolescent will continue to grow into adulthood following a unique pattern, via her own nature and within her own time frame. Nursing intervention can provide a reference for the adolescent to help her understand the changes occurring within her body, in the surrounding environment and to prepare for the future.

The adolescent gives to and takes from the life process. This exchange is reflected in the principles of integrality and the continuity of experiences. Her experience of pregnancy results in unique psychological and physical experiences and changes in her environment. The APP encourages and supports her to care for herself, for the growing fetus and to plan for the future. Development of interest in health, prenatal care, nutrition and sexuality are all important at this time. Social support becomes a tool nurses and school faculty can use in promoting interest in herself and the educational process.

As the adolescent develops, thoughts and actions become more complex. Pregnancy increases the social, emotional and physical

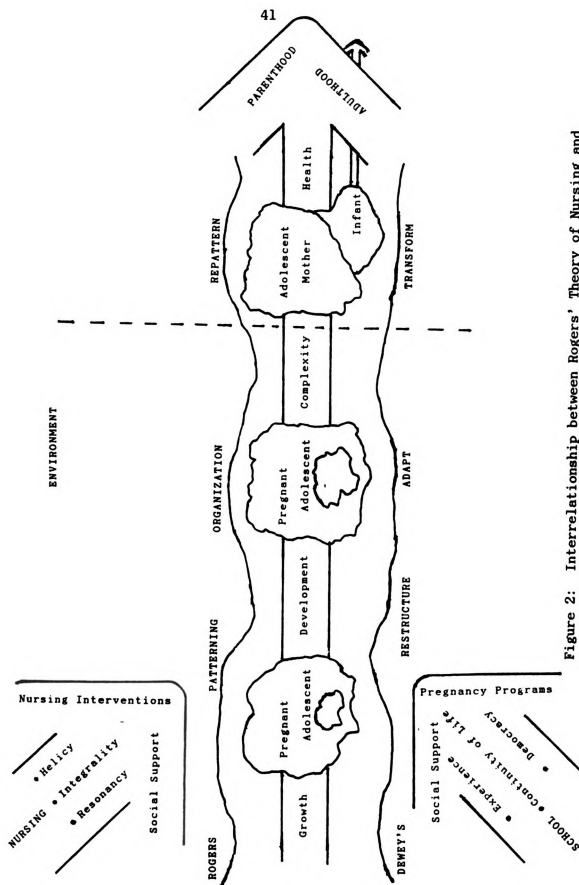


Figure 2: Interrelationship between Rogers' Theory of Nursing and Dewey's Theory of Education

complexity in the life of an adolescent. The principles of resonancy and democracy reflect the pattern of life for the adolescent who is pregnant. Life changes rapidly and the adolescent has to be flexible in order to maintain health and life. Social support provided by the school faculty and nursing personnel may become a resource to help her adapt to these rapidly occurring changes.

The dashed perpendicular line in Figure 2 represents the place where this research ends. Outcomes for pregnant adolescents include:

- 1) health promotion and health maintenance for the adolescent and her fetus during pregnancy,
- 2) detection and treatment of potential health complications in pregnancy,
- 3) continuing academic study until delivery,
- 4) psychological maturation to deal with present stresses and in preparation for delivery, and finally,
- 5) identification of support services within the school systems for pregnant and parenting teenagers.

All five outcomes have longitudinal implications for patterning and repatterning as the adolescent grows into adulthood and parenthood.

Finally, outcomes after delivery have a dual focus. First, Dewey hopes the experiences provided in the adolescent pregnancy program will motivate interest within the student to finish high school. A reciprocal process needs to occur here. If the school shows true interest in this high-risk student, it is hoped that she will maintain interest in continuing her education. Second, Rogers hopes the

adolescent will continue to grow and develop as a person and an adult, assuming responsibility for both her own health and the health of her child. Both theories stress the process of adaptation between the person and the environment in the handling of stress and life. Pregnant adolescents need help and guidance from both education and nursing to promote symmetry between man-environment interactions.

CHAPTER 3

REVIEW OF THE LITERATURE*

Introduction

The review of the literature will focus on four areas: first, changes in adolescent growth and development because of the pregnancy, second, identified health care needs of the pregnant adolescent, third, identified social support for the pregnant adolescent, and finally, identified social support to the pregnant adolescents attending school-based adolescent pregnancy programs. Although this research involves the measurement of perceived social support by pregnant teens, it is felt that select research about the impact of pregnancy be described. Social support is a factor that can impact the health, growth and development and well-being of the pregnant adolescent.

Impact of Pregnancy on Adolescent Growth and Development

Are children bearing children? Several researchers have explored the effects of pregnancy on the potential competition between the growth of the pregnant adolescent and her fetus. In comparing the growth spurts of male and female adolescents, G.B. Forbes (1981) found that females reach their maximum lean body mass (LBM, this excludes

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all lipid tissue and includes muscles, viscera and skeleton) by age 16. He found that growth of body size related to gynecologic age (chronologic age at time of last menstrual period prior to conception minus the age at menarche) are close to their maximum by about one year post-menarche. Thus, pregnant adolescents > 16 years of age are practically mature related to LBM. Forbes believes the fertile teenager is able to sustain a pregnancy both physiologically and anatomically and is not likely to be in a growth spurt which competes with the growth of her fetus.

Garn, La Velle, Pesick and Ridella (1984) followed 1,609 adolescents age 13 to 19 through two successive pregnancies who, on the average, were pregnant within two years after menarche. Using a control group of 11,464 non-pregnant teenagers, the authors show that, 1) the pregnant teenagers, especially the youngest ones, were small and remained small throughout two pregnancies and that, 2) pregnancy weight gain decreased with advancing age at pregnancy. A separate analysis looked at 50 girls with the largest pregnancy weight gains revealed that "weight gains were not associated with greater statural growth and vice versa" (Garn, et.al., 1984, p. 33).

In conclusion, the authors found no evidence that pregnant teenagers were in a period of rapid growth with little statural growth or permanent weight gain attributable to the pregnancy period. This data supports Forbes study which showed that growth was virtually complete in females within one year of menarche. At the time of pregnancy, weight and stature changes will not be marked by large increases or decreases.

Another study looked at the stature of the 650 pregnant, Peruvian adolescents at delivery and compared them to the stature of their parents as an estimate of completion of growth. Frischancho, Matos, Leonard and Yarocho (1985) did an extensive statistical analysis involving pregnancy weight gain, adolescent maturity and the role of adolescent growth status as compared to the height of the pregnant teens parents. In this study, 59% of the teens completed their statural growth and delivered infants who weighed more (3.1 Kg) than those considered not mature (2.9 Kg). This supports the previous two studies which state if the pregnant adolescent has completed her growth, she should not be in competition with the growth of her fetus. However, those teens who had not completed their growth delivered smaller infants and, thus, may be competing for nutrients.

Naeye (1981) believes that there is competition for nutrients between the pregnant adolescent and fetus. In a large prospective study, the author gathered data pertaining to maternal pre-pregnancy body weight for height and pregnancy weight gain on 13,830 mothers between the ages of 10 and 32. He believes that pre-pregnancy weight is an indirect reflection of nutritional stores and pregnancy weight gain is a reflection of calorie intake during pregnancy.

Results revealed that mothers age 10 to 16 who were normal sized or underweight before pregnancy had growth-retarded neonates in comparison with older mothers who were normal size or underweight. Findings were similar when this same data was stratified by gynecologic age. This was not seen in the neonates born to young mothers who were overweight.

Parity had no effect on the birth weight of the infants of the mothers who were normal or overweight.

In summary, this author found that 10 to 16 year old mothers produce smaller infants than older women. Also, younger teens with lower gynecologic ages (<1 to 2 years) produce smaller infants. This may indicate that the growth needs of the young mothers are competing with the growth needs of their fetuses for available nutrients. Obese teenage mothers appeared to spare their infants from this same competition.

Classic research done by Erkan, Rimer and Stine (1971) and Zlatnic and Burmeister (1977) identified the impact of gynecological age (GA) versus the chronological age (CA) as parameters for adolescent maturity when compared to the incidence of low birth weight (LBW, <2,500 gm). Erkan, Rimer and Stine (1971) showed that adolescents, age 12 to 15, who become pregnant within two years post-menarche have twice the chance (31.4%) of having a low birth weight infant than those adolescents who become pregnant two years after menarche (16%, $p < 0.01$). In the study by Zlatnic and Burmeister (1977), there was a statistically significant increase in low birth weight infants born to teens less than 15 years old (12%) versus the 16 to 17 years old (7%, $p < 0.05$).

The study by Zlatnic and Burmeister went on to describe adolescents with GA's of 1 and 2 have a significantly higher rate of delivery of low-birth weight infants (13%) than those teens with GA's of 3 to 9 (7%, $p < 0.05$). The authors show 13, 14 and 15 year olds with a GA > 2 had the same percentage of low birth weight infants as 16 and 17 year olds who become pregnant at a GA < 2. In their study, adolescents < 15 years

and with a GA < 2 have the highest risk of delivering a low-birth weight infant (chi-square=3.94, $p < 0.05$). Thus, the results from these two studies provide support that teenagers are fertile within one year after menarche and that lower gynecological age, no matter the chronological age, has a greater impact on the outcome of pregnancy related to delivering a low birth weight infant.

The multidimensional impact of social, economic and environmental factors is also illuminated in research done by Frischancho, Matos, Leonard and Yaroch (1985). Frischancho, et. al., do not agree that low gynecological age is a risk factor. In their study, involving 412 Peruvian, primiparous adolescents, no statistically significant difference in birth weight could be associated with gynecological age differences. However, younger mothers with the same weight gains as older mothers delivered infants who, on the average, weighted 97 to 142 gm less than those born to older women of similar nutritional status. Results from this research suggest that the impact of GA or CA cannot be viewed in isolation and, again, raises the questions about the possibility of competition for nutrients.

The Frischancho, et. al, research looks at multiple variables that impact teen pregnancy and their outcomes. Their population, however, is Peruvian teens, where teenage pregnancy is more of a norm. Their results may not be generalizable due to the socially acceptable status of teen pregnancy and the difference in economic and social variables of the Peruvian lifestyle.

In summary, teens who have a gynecological age of >2 and who are > 15 years old appear to be physically mature and capable of delivering a

normal size infant. Nutrition status of the adolescent, as measured by the mothers pre-pregnancy weight, pregnancy weight gain, height and the infant's birth weight has become an important variable identified in the more recent literature. The multidimensional characteristic of nutrition status shows that pregnant adolescents who have gained weight appropriately, have a better chance of delivering a larger baby.

Research in the area of adolescent pregnancy demonstrates weaknesses and strengths in methodology and theory. Weaknesses identified include minimal theoretical frameworks and no hypothesis testing (Baizerman, Sheehan, Ellison & Schlesinger, 1974, Mercer, 1985). Utilizing more variables with larger populations shows many more sides to this complex picture. However, there is lack of standard variables and standard definitions for terms, i.e. what is low-birth-weight or poor/good nutritional status and age groupings of the populations (Baldwin, 1981, Mercer, 1985). The research describing the multidimensional characteristics of teenage pregnancy and the outcomes as documented in the literature could be improved by consistency in definitions and basing the research on theoretical frameworks.

In this section, literature was reviewed which described several areas of concern for the practitioner in the caring for the pregnant teen - nutrition, gynecological age as a risk factor and monitoring of maternal and fetal well-being. Identification of supportive activities and interventions and evaluation of the same are important dimensions to care for this high-risk group. In the next section, health care needs will be described in an effort to promote healthier outcomes for pregnant teens and their infants.

Health Care Needs and the Pregnant Adolescent

Health care needs of the pregnant adolescent includes assessment of their physical, social, emotional and cognitive growth and development prior to and during pregnancy. This section includes a select review of literature describing health care needs of the pregnant adolescent.

Health risk behaviors of an adolescent are those activities which may be considered "at risk" to the health and well-being of the adolescent or be considered as social problem behaviors to a health conscious society (McCubbin, Needle & Wilson, 1985). Adolescents characteristically take risks as they experiment with advancing adulthood. Risk taking behaviors such as drinking liquor, smoking cigarettes or marijuana, taking drugs or becoming sexually active, can impact their health and well-being. Negotiating these behaviors are part of the the social and psychological development of the adolescent: gaining independence, self-regulation and decision making. Becoming pregnant is the result of taking risks that have a lasting impact on the adolescent and her future.

Davis, Fink, Yesupria, Rajegowda and Lala (1986) identified risk taking behaviors of 475 pregnant hispanic and black women, age 23 and younger, and the impact of the pregnancy on changing these behaviors. In this study, substance abuse was identified as a major health risk behavior for pregnant adolescents. Prior to the pregnancy, approximately 50% reported smoking cigarettes before the pregnancy and 25% used alcohol. During the pregnancy, 30% continued to smoke and 10% continued to use alcohol. These results suggest substance abuse to be a major concern in caring for pregnant adolescents.

Research done by Miller and Merritt (1979) support this concern for the incidence of health risk behaviors in pregnant teenagers. They identified maternal "behavioral" conditions associated with pregnancy which include low pre-pregnancy weight for height, low pregnancy weight gain, lack of any prenatal care, cigarette smoking, use of addicting drugs or consuming large volumes of alcohol during pregnancy. Their sample of 770 white, pregnant adolescents aged 13 to 19 demonstrated more risk behaviors as compared to a control group of 20 to 34 year olds.

Pletch (1988) identified substance abuse activities and health activities of pregnant and nonpregnant teens in four inner city high schools. Results of questionnaires completed by females under 19 years old revealed that most subjects thought that the baby was put at greater risk if its mother used a substance during pregnancy. In this study, the pregnant and nonpregnant subjects reported similar use of most substances. The pregnant teens appeared to be smoking more cigarettes than nonpregnant subjects but, also, reported better health habits related to nutrition and sleep. The non-pregnant teens exercised more and consumed more cola and caffiene than the pregnant teens. The authors hypothesised that the pregnant teens who stay in school may possess qualities which may contribute to some positive health activities.

Adolescent health risk behaviors frequently are not identified soon enough. The adolescent who becomes pregnant finds herself in a situation where she has to consider how these risk behaviors impact the health of her fetus. Prenatal care and maintaining contact with health

care providers becomes a major support for the adolescent during her pregnancy.

Routine, frequent prenatal care can address the health care needs of the pregnant adolescent. How soon prenatal care is started and the number of visits attended have shown to impact the outcome of pregnancy. Research by Zuckerman, et. al, (1983), Elster (1984) and Davis, et.al. (1986) found a strong correlation between maternal age and the trimester that prenatal care began. Davis, et.al. (1986) found the likelihood of pregnant teens receiving prenatal care in the first trimester increased with age. In Elster's study, only 50% of all women 12 to 16 years old who became pregnant began prenatal care in the first trimester. This percentage, again, increased with age, 67% of women aged 17 to 18 up to 91% of women aged 25 to 29. Results were similar in the Zuckerman, et. al. study, 60% for teens age 13 to 18 and 74% for females age 19 to 30.

For primiparous women, Elster (1984) found that the risk for having a small-for-gestational (SGA) age infant was significantly related to late prenatal care and to very young maternal age with late prenatal care having a stronger influence. If the young adolescent began prenatal care during the first trimester, their rates for SGA infants (5%) was similar to those rates for older adolescents (6%) who began prenatal care early. For multiparous mothers both prenatal care and maternal age were significantly related to the risk of having an SGA infant, with young maternal age exerting a stronger influence. Zuckerman, et. al. (1983) showed similar results in that the adolescents delivered smaller infants than nonadolescent mothers.

The results of these studies suggest that the risk of having an small-for-gestational-age (SGA) infant is increased for the young adolescents (<15 years) and for adolescents who receive late prenatal care. Elster's study showed parity, also, had an influence. Young primiparous adolescents who received early prenatal care were not at risk for having SGA infants when compared to adults, while young multiparous adolescents, regardless of when prenatal care began, were at increased risk. Thus, both parity and prenatal care appear to be key variables mediating the relationship between young maternal age and suboptimal outcomes.

Several other comparison studies evaluating the effectiveness of routine prenatal care versus specially designed, clinic-based, prenatal programs have shown similar results. Pregnant teens enrolled in special comprehensive prenatal programs had a reduced incidence of low birth weight (LBW, <2,500 grams) and premature infants, higher hematocrits and lower incidence of infections and difficult delivery as compared to teens of the same age receiving routine prenatal care (Perkins, Nakashima & Mullin, 1978, Neelson, Patterson, Mercer & May, 1983, Scholl, Decker, Karp, Green & DeSales, 1984, Hall & Fisch, 1984). Several of the studies used a comparison group of older women, >19 years old. The older women consistently had the best infant outcomes of both groups of teens (Perkins, Nakashima & Mullin, 1978, Neelson, et. al., 1983, Scholl, et. al., 1984). Thus, it appears that pregnant teens have improved pregnancy and infant outcomes with specially created prenatal care programs.

Two interesting studies deserve mention of their results related to evaluation of special prenatal care programs for pregnant teens. First, research by Leppert, Namerow and Barker (1986), in their work with teenagers attending clinics in Harlem and South Bronx, New York, believe the incidence of low birth weight infants born to these teens are related to multi-causal factors. Their statistics show teen mothers, age 13 to 19, enrolled in a comprehensive prenatal care program had a 15% rate of low birth weight (<2,500 grams) versus the mothers age 20 or older (9.5%), enrolled in the same program. When separating the results for the younger teens, the authors found that teens age 13 to 15 years had a 22% incidence of delivering a low birth weight infants (<2500 grams) compared to 14% of the 16 to 19 year olds. In this research, both maternal age and the number of antenatal visits were significant predictors of gestational age and birth weight. These results suggest that younger adolescents remain at greater risk of adverse outcomes than older adolescent mothers even when both attend the same comprehensive prenatal program.

Second, a special teen pregnancy program evaluated in the Neelson, et al. (1983) research utilized nurse practitioners and nurse midwives as primary care givers. The positive results of this study confirm that, 1) adolescents can benefit from specialized prenatal care programs and, 2) nurses practicing in extended roles can achieve patient outcomes comparable to low risk populations.

Overall, it appears that younger teens, <15 years old, remain to have poorer outcomes with or without interventions. Pregnant teens older than 15 have improved outcomes with special prenatal programs.

Furthermore, the pregnant teens who receive only routine prenatal care are at the highest risk. Further evaluation related to the qualities of special teen prenatal programs, specifically provision of social support and the need for programs focusing on the <15 pregnant teen, needs to be done to identify the factors that may promote better outcomes.

Assessing the teens interests at this time of rapid change is a way to identify pertinent prenatal care issues important to the teen which should be included in a prenatal program. Taking this approach, Giblin, Poland and Sacks (1986) sought to find out what information was important for pregnant adolescents to learn during her pregnancy. The authors assessed the health information needs of 142, predominately black, urban, low-income pregnant adolescents (mean age 16.9 years). A subset of this group (n=57) was used to look at the relationship of these needs to adolescent's self-esteem as a predictor of use of post-partum services.

Interest areas cited most frequently by the pregnant teens for prenatal education focused on birth, personal health and somatic complaints. Topics such as drugs and substance abuse, physical symptomatology and problems with school and family should be considered for inclusion in prenatal programs for adolescents. In this study, adolescents who attended fewer prenatal and post-partum follow up visits scored higher on the depression scale and had lower self-esteem scores than those with high health care utilization. The authors state that prenatal programs need to be sensitive to the developmental limitations of adolescents related to health information needs and counseling methods. Programs should include "discussions about depression, self-

worth and the value of seeking health care" (Giblin, Poland & Sachs, 1986, p. 172).

Research done by Dr. L Held (1981), also, looked at self-esteem of the pregnant adolescent and at her social network. This sample of 73 women, 17 years or younger, had normal self-esteem scores similar to other populations. Self-esteem was higher for those women attending a day school for pregnant teenagers, and for black teens who plan to both keep their baby and return to school. These results were compared with responses from white teens who had the lowest self-esteem scores and whose mothers were the most disapproving of the pregnancy. Overall, the perspective grandmother was identified by the pregnant adolescent as the most important person to her but the most disapproving; yet, the adolescent turns to her the most for support.

Self-esteem in pregnant adolescents was also researched by Ralph, Lochman and Thomas (1984) to determine if select psychosocial characteristics indicate poorer family or personal adjustment. A convenience sample of 19 pregnant and 20 nulliparous 15 and 16 year old black teenage women were enrolled into this case control study. The pregnant group was found to have less well-defined vocational goals, a mother who is less educated and who felt greater security within the home and with family-related roles. Significant characteristics for the nulliparous group revealed they were less comfortable with family life, were more interested in vocational opportunities and had mothers with more education.

In this sample, adolescent pregnancy was not associated with a pattern of significant psychological or familial disturbance. The

authors believe the pregnant adolescent is not using pregnancy as a coping mechanism to deal with threats to her self-esteem and do not view experiences with family, school and peers as devaluing.

In their discussion, the authors state that their convenience sample is small and homogenous. However, the wide variation found in the pregnant adolescents psychological and family characteristics are much different from the "deviant behavior" with which pregnant adolescents have been labeled. Weakness in this study is the statistical analysis. The authors performed a number of tests on multiple variables to the point that the charts in the text were not correlated to the descriptions and the reader could not follow where the figures were derived from.

Health care needs of the pregnant adolescent can only be partially provided within the health care setting. The authors cited previously support the need for special prenatal programs for adolescents to provide them with information, health care and supportive services. Identifying social and emotional issues surrounding the pregnant adolescent has been illuded to several times. The multidimensional characteristic of adolescent pregnancy includes looking at social support and approval from the teen's family and friends.

The reasons why pregnant adolescents are placed in a high risk category for adverse obstetrical and neonatal outcomes have been described in the previous studies. Health care provided to pregnant adolescents needs to focus on both the health of the teen and the health of her growing fetus.

The pregnant adolescent often has difficulty accessing the health care system because of her lack of resources, transportation and guidance. She may have difficulty being able to problem solve and make the decision of when to seek health care. The next section will address the research done to identify sources and types of support pregnant adolescents have available and how they impact pregnancy and infant outcomes.

Social Support and Adolescent Pregnancy

The social support theory for this research is taken from J. House who developed his philosophy based on evaluation job stress as perceived by the worker related to identification of perceived social support from their supervisor, their spouse, other workers at the job and relatives or friends. His underlying belief is that social support is a resource which can "buffer" people against the deleterious impact of potentially stressful situations and events. "The presence or absence of social support can modify or condition the relationship between potential stressors and individual health and well-being" (House, 1980, p. 146).

Although most of his research has been done on adult populations, House relates that his research is applicable to children because the role of school is similar to the role of work, i.e., the amount of time one spends in a structured environment or participating in organizations or clubs. In the next few paragraphs, House's research and philosophy of social support will be described.

The major work by House (1980) was completed over many years dealing with a large manufacturing plant located in a small Michigan city. All levels of workers were sent questionnaires with an overall response rate

of 67.6%. Participants were asked two questions about four types of significant people in their lives: supervisors, other people at work, their spouse and their friends and relatives. (The author does acknowledge that coworkers can also be friends.) The questions were:

1. "How much can each of these people be relied on when things get tough at work?" (Instrumental support)

2. "How much is each of the following people willing to listen to your work-related problems?" (Emotional and instrumental support)

A third question was asked about their immediate supervisor and other people at work:

3. "How much is each of the following people helpful to you in getting your job done?" (Instrumental support)

Three additional questions were asked about supervisor support related to the supervisor's competence (instrumental and informational support), concern about the workers (emotional support) and the amount of praise they give for good work (appraisal support).

In this study, the type of work performed was very weakly related perceived social support. Support from the supervisor has two to three times the ability to buffer stress. Support from friends and relatives, who probably overlap with coworkers, has weaker positive effects on perceived job stresses. Thus, work-related sources of support are most likely to affect perceived occupational stress.

The overall emphasis of perceived social support both at work and non-work situations, has an impact on the ability of the individual to perform their job and to modify stress that may arise related to work. Workers experiencing high levels of social support are less affected by the characteristics of their jobs. Likewise, the effect of objective

job characteristics on perceived stress are lessened by social support. On the other hand, persons who perceive low social support report positive effects of objective characteristics of their job on their ability to handle occupational stress.

Translating this research to the work of the pregnant adolescent, school personnel who provide supervisory functions for the student, whether it is related to education, health care or resource acquisition and maintenance, can exert an impact on the adolescent's perception of their ability to perform school work successfully and assist them in handling the stresses of school related to both growth and development and the impact of pregnancy. Research related to school support will be described later in the last section of this chapter.

In the research by House, support from supervisors made an impact to buffer work related stress. Family and friends were, also, important in modifying stress if their supervisors were not supportive. Friends and family, also, are sources of support who assist the adolescent in handling the functional tasks of school work and the normal psychosocial pressures of adolescence. As previously stated in the research by Held (1981), the pregnant teen considers her mother as the most important person to her. Becerra and deAnde (1984), in their research, compared subgroups of white non-Hispanics and Mexican American (MA) adolescents to measure their perception of support from parents, family and friends and attitudes about their pregnancy. Their convenience sample consisted of 122 adolescents between the ages of 13 and 20 who were either pregnant at the time or who had delivered a child within the previous 12 months.

In this study, the 80% teens identified their mother as an important source of support. "Peers (as support) were notably absent from the support network of the adolescent mothers in the sample." (Becerra & DeAnde, 1984, p.113) Approximately 15% of the overall sample indicated that they had no girlfriends with the MA teens having fewer friends than the white teens. Cultural factors partially explain these differences in that "friends who are not blood relatives are less likely to be sought out" (p.113). In general, it appears that adolescent mothers are relatively isolated from their peers during a developmental stage when significant peer relationships are usually increasing. Therefore, the effects of peer pressure for pregnant or parenting teens at this time is less because of stronger involvement and dependence their families.

There was a significant difference noted in frequency of marriage between the white and MA teens. Of the 13 to 17 year olds, none of the white adolescents were married while almost 50% MA teens were married. The percent of married teens increased with age in both groups. Of the white adolescents, 70% lived with their parents. The research by Davis, et.al. (1986), also, supports the higher rate of marriage in hispanic teens as compared to black teens. Their data showed that the younger the adolescent, the more likely she is to live with her parents. Becerra and deAnde (1984) state that the traditional Mexican norm of marriage, particularly if the female becomes pregnant, is adhered to more strongly with the spouse/father accepting responsibility for their child.

Attitudes the teen as about the pregnancy is an indirect reflection of her self-esteem and support she may be receiving to deal with the stressor of pregnancy. Qualitative research by Horn (1983) described

the attitudes about pregnancy of American Indian, white and black pregnant teens. The American Indian placed a high value on becoming a mother at an early age while white and black teens valued education more highly than early pregnancy. Hollingsworth, et.al., (1983) research with black and white teens revealed that the teen <16 years of age reported feelings of being "happy" or "afraid" and those >16 years of age "mixed up" or "depressed". The literature describing differences in culture highlights the need to assess these beliefs as they may influence their acceptance of the pregnancy.

In summary, these studies identified various social and cultural influences on the pregnant adolescent. Becarra and deAnde describe the MA adolescent in the process of becoming acculturated, thus, being caught between two world views-the Mexican culture and the American culture. The social support environment of these adolescents, both white and mexican, described in this research places the adolescent's mother as a major influence and that peers are reported to provide less support or influence. The teens' attitudes about being pregnant are generally positive, however, ambivalent feelings continue to surface. These dynamics retard the process of the adolescent developing independence and positive self-esteem via interactions with peers and beginning separation from parents. White pregnant teens appear to be at a higher developmental risk because the majority continue to live with their parents while marriage and responsibility for the infant has a higher cultural value for the MA teen.

The impact of adolescent pregnancy as ramifications on the educational achievement and economic future of the teen. Health care

and education systems have attempted to reach out to the teen via special clinics and programs in the community and at school. In the remainder of this section, some of these programs and their impact related to the providing support to the pregnant teen will be described. Some of the studies to be described do not conceptually define social support. Furthermore, most of the studies use pregnancy and infant outcome variables as the evaluation mechanism to demonstrate the presence of social support. This continues to be a weakness in the research literature describing the impact of social support.

Heins, Nance, and Ferguson (1987) report evaluation research of a social intervention program designed to reduce the risks associated with adolescent pregnancy. The Resource Mothers Program provides prenatal education and social support to rural pregnant teenagers in South Carolina. The program employed and trained 100 lay women from the community who made monthly home visits to the teen, daily visits during the hospital stay and regular home visits during the infant's first year of life.

The study population consisted of 575 pregnant 13 to 18 year olds 93% single, 89% black and 11% white. These teens were matched with a control population of 565 women under 19 years. Data was collected from Vital Records and Health Statistics files in the county.

Evaluation of this program on various maternal and infants variables showed that 36% of the controls received inadequate prenatal care as compared with 18% of the study cases ($p=.000001$). The controls had a significantly higher percentage of small-for-gestational age infants than the study cases ($p=.002$). Study participants had significantly

fewer low birth weight infants ($<2,500$ grams) than the controls ($p=.006$).

The results from this study suggests the effectiveness of supportive intervention in improving prenatal care and birth weight. The authors state they are not sure if the improved perinatal outcomes are due to improved prenatal care only or to something special about the Resource Mother's supportive role. This program and study demonstrates the potential impact of supportive behaviors provided to adolescents who are pregnant. A limitation of this study relates to the authors fail to define their concepts of social support related to activities of the Resource Mother's nor do they tell if this program was a supplement to other programs in the county, i.e., school or hospital programs already established.

Another program was evaluated to determine the impact of an on-going comprehensive antepartum, psychosocial education program on the medical outcome of pregnant adolescents. Smith, et al. (1978) looked at two groups of low income adolescents matched for parity, month of delivery, age and race. At 13 weeks gestation, a randomly selected experimental group of 126 adolescents were enrolled in weekly, three hour group classes to provide education on routine prenatal care, contraception, child development, labor preparation and psychosocial aspects of pregnancy. Of the experimental group, 73% attended at least five or more classes.

Evaluation of this prenatal program showed that the experimental group as compared to the control group attended more prenatal visits (mean of 6.25 versus 5.13), had fewer number of admissions for false

labor (mean of .01 versus .41), and delivered larger infants (3105 grams versus 2931 grams) who had higher apgars (mean 8.60 versus 8.14). Two other significant results of this program was the reduction of urinary tract infections and a higher return rate to the four week postpartum examination.

The authors suggest that based on the results of this study, prenatal educational programs can positively impact maternal and infant outcomes in the care of the pregnant adolescent. More prenatal visits allows for closer monitoring of the adolescent patient which will ultimately benefit the fetus as well. Regular group participation can provide the adolescent with a forum to learn about and discuss health care practices which may be a motivator for better medical care utilization. Meeting with peers who are in similar situations provides social support to the pregnant adolescent. The concept of social support, however, without definition and specific measurement, can only be implied in programs like this.

Barrera & Balls (1983) conceptually defined and measured three social support variables of network size, satisfaction with support and frequency of supportive behavioral transactions as predictors of birth complications at delivery. In the prospective study, 74 pregnant teens (mean age 17.2 years) were enrolled prenatally from either an "alternative" school for pregnant high school students or a county health department clinic.

In this study, both total support network size and support satisfaction emerged as significant ($p < .01$, $p < .001$, respectively) predictors of birth outcome. Support satisfaction, however, showed the

strongest relationship to scales of psychological adjustment and emerged as the best predictor of birth complications. According to these authors, support satisfaction appears to be the most relevant yardstick for measuring the adequacy of a preventative intervention for these adolescents.

Classic social support research completed by Nuckolls, Cassell and Kaplan (1972) looked at the relationship between psychosocial assets and social stresses as measured by a cumulative life change score and the prognosis of pregnancy in 170 adult pregnant women. Psychosocial assets were found to have a buffering effect on life stress related to multiple life changes. Specifically, it was found that women who reported high life stress and low levels of psychosocial assets had three times more birth complications than those women who reported high levels of psychosocial assets. Therefore, by strengthening the psychosocial assets of an individual (i.e. social support), the incidence of illness could be reduced and the quality of life would improve.

Norbeck and Tilden (1983) performed research examining anxiety, depression and self-esteem related to pregnancy complications in a convenience sample of 117 low risk, adult women. A secondary goal of this study was to examine the differential effects of these psychosocial variables on specific types of complications.

The authors found from their results that high-life stress and low social support were significantly related to high emotional disequilibrium ($p < .01$). Only emotional support was significantly related to emotional disequilibrium ($p < .01$). One psychosocial variable, high life-stress from the prior year, was significantly related to

overall complications ($p < .01$). Data from this study provides evidence that there are certain psychosocial variables which have an impact on the occurrence of specific infant and pregnancy complications. These findings are consistent with the stress-buffering effect found for "psychosocial assets" in the Nuckolls, Cassel & Kaplan (1972) study.

Research about social support related to its impact on pregnancy has focused mostly on adults. Only Berrera (1981, 1983) and associates have conceptually defined social support and measured its impact on the pregnant adolescent. Several of the programs described included activities that strongly suggest social support is a positive factor. However, social support was not identified and measured conceptually. Further research on the specific psychosocial qualities of special teen programs is needed.

Research describing the sources and types of social support pregnant teens receive from their school programs is limited. In the next section, a description of school-based adolescent pregnancy programs will be provided related to their role in supporting the pregnant teen.

School-Based Adolescent Pregnancy Programs

The qualitative aspect of social support provided by school-based adolescent pregnancy programs has not been documented. As with the evaluation of specially designed community based prenatal programs, evaluation of school-based programs do not define and measure social support as an outcome. The programs are evaluated by the number of pregnant adolescents who graduate and the pregnancy recidivism rate.

For 17 years, Michigan has been involved in developing and administering resources to address the needs of pregnant and parenting

teens. Three model school-age parent programs were piloted in 1979-1980 which were funded by the state. By 1983, eight model programs were in operation. Ann S. Epstein, Ph.D. (1986), with the support from the State Department of Education, evaluated the eight sites over a three year period to determine how well the programs were addressing the needs of pregnant and parenting teens related to education and health outcomes and reduction of repeat pregnancies.

Over 2,700 students were served by the eight programs. Population characteristics revealed more than 50% were 16 or 17 years old, black and on Aid to Families with Dependent Children. Few were supported by their families even though 75% continue to live with their parents. Nearly three-quarters of the students enter the programs during pregnancy and over 95% of the adolescents choose to keep their infants.

Educational outcomes of students attending these programs showed 82% enter the model sites from their regular school programs, 75% are high school students and 25% are junior high students. Of the senior level students in the programs, nearly 66% graduate at the end of the school year and the same percentage of younger students choose to continue their education the following year. Most students return to their regular schools (52%) while 43% choose to remain in the model program.

Several parameters of maternal and infant outcomes were evaluated: 43% began prenatal care in the first trimester, attendance to prenatal visits averaged 10.9 out of a recommended 12 prenatal visits and the infant mortality for the model site programs was 1.4% as compared to the State wide infant mortality for teens of 2.4%. Prematurity and low birth weight have been reduced to "half that of the state figure for

infants born to adolescents" (p.30). The author estimates that good prenatal care in the model programs saved over \$900,000 in medical costs for infant intensive care over the three-year evaluation period.

Immunizations for these infants born to adolescents is at a 94% rate.

Repeat pregnancy rates among the students enrolled in the model programs was 2.4%. Epstein (1986) states that this rate is significantly below national figures which indicate that 33% of all teenagers will become pregnant again before their adolescence is over (p. 57).

This evaluative study indicates that these eight school-based pregnancy programs have been successful in addressing some problems associated with teenage pregnancy. The author feels the programs are meeting the needs of pregnant adolescents by supporting them to continue and complete their education, insuring healthy pregnancy and infant outcomes and reducing the incidence of repeat pregnancies among the adolescent school population. Improvement in the identification of pregnant teens and referral to prenatal care earlier remains to be a concern.

Roosa (1984) studied the short-term effect of parenting program on pregnant teens knowledge about child development and human reproduction and their attitudes and emotional responses to various aspects of mother-child interaction. Three pretest questionnaires were administered to a convenience sample of 79 pregnant students who were enrolled in an inclusive school-based pregnancy/parenting program. The same questionnaires were completed by 31 students of the original sample five months later at the end of the term.

Results from the pre-test questionnaire showed a high level of knowledge (percent correct) about child development and human reproduction at pretest. The scores on the attitude scales revealed a relatively low level of anxiety about childrearing but neutral feelings related to maternal satisfaction. The teens were somewhat more likely to feel hostility toward children than encourage positive interaction with them.

The results from this study showed a relaxed group of pregnant teens who demonstrated significant knowledge about child development and human reproduction. The scores evaluating maternal attitude about childrearing from pretest to posttest did not reflect a change in attitude. Thus, the programs did not have an effect upon the parenting attitudes held by the teens. The author suggest that further evaluation of how the teenage mother rears her child after she leaves the special program is needed.

Rogeness, et al, (1981) interviewed a convenience sample of 28 pregnant adolescents in a special school program (TAMS) with 27 pregnant adolescents who were not in the special school program (NTAMS) to compare their social support network and their ability to parent. This study revealed that those teens not involved in the special program reported more feelings of isolation and more dependent upon their mothers than the teens in the TAMS program. The girls in the special school program viewed school and work more positively with 96% planning to find work or an career. The mother of the pregnant teens not in the special program continued to be a primary source (67%) of learning about

childcare while school played a significant role in learning about childcare for the TAMS (36%).

A screening profile of parenting was done on both groups to identify mothers with known problems interacting with their children. The NTAMS group demonstrated a high likelihood of a having difficulty related to maternal/child interactions. This supports Roosa's findings related to potential child rearing difficulties of the teen mother.

The results of the Michigan study are impressive on impacting the educational and health outcomes of the pregnant teens and their infants. Other research shows the impact special school-based programs have on attitudes, parenting skills and preventing adolescent isolation. There is a concern about potential rearing practices of the adolescent mother related to poor maternal/child interactions. Social support provided by these programs is probably a factor, however, is not defined or measured as a research variable. This continues to be a weakness in education literature as well as nursing, social work and health care literature.

Conclusions

In this chapter, the literature has been reviewed related to the impact of pregnancy on growth and development of the adolescent and her fetus with a description several potential adverse outcomes. Health care needs have been described because of this impact on the pregnancy. Various types of social support received by the pregnant adolescent from family, friends, community programs and school have been described. The overall drawback in the literature is the lack of identification and definition of socially supportive behaviors and the measurement of their impact on the pregnant adolescent.

CHAPTER IV

METHODOLOGY AND PROCEDURES

Overview

The purpose of this study was to compare two groups of pregnant adolescents who attend different alternative school-based adolescent pregnancy programs (APP) as to the perceived supportiveness provided by teachers, counselors, social workers and nurses to pregnant teenagers enrolled in these programs. One hypothesis has been developed to answer two research questions: 1) Are the selective school personnel who provide services in inclusive APP perceived to be more supportive by the pregnant adolescents as compared to the school personnel who provide services in supplemental APP, and, 2) Knowing that the pregnant adolescent may also receive support from her family, friends, neighbors, etc., what impact does this perceived support received from people in general have on the perception of support from her school program? The following hypothesis will be tested:

Pregnant adolescents enrolled the inclusive adolescent pregnancy program will perceive more social support from selected school personnel as compared to those pregnant adolescents enrolled in supplemental adolescent pregnancy programs.

In this chapter, the methods and procedures will be presented to test the hypothesis. Two tools will be used: The Adolescent Pregnancy Programs Social Support Source Scale (APPS4) and the Inventory of Socially Supportive Behaviors (ISSB). The history of these tools will

be given along with a description of the variables, sample, data collection procedures and analysis plan including reliability and validity measures.

Variables

Prior to the administration of the research instruments, background data was collected, via a written questionnaire, on each participant to gain further insight into the characteristics of this sample (see Appendix A). In the literature, attribute variables have been described to help researchers understand basic characteristics of adolescents who become pregnant, their situation and their behavior. For this research, these background variables include: age, ethnic background, living arrangement, education level of teen's mother and father, when the teen's mother had her first baby, age at menarche, if the pregnancy was planned, involvement of father of the baby, estimated date of delivery, month when prenatal care started and number of prenatal visits to date. Variables about the school program and the education of the girls included: grade level, amount of time at school, how the school system found out about their pregnancy or their referral to the program and how long the teen has been involved in her program.

Operational Definition of Concepts

The independent variable for this research was the type of program the pregnant adolescent is enrolled in, either inclusive or supplemental. The operational definition of the APP is: A composite of learning activities and experiences within the school setting that are directed toward developing an environment that protects and promotes the

health of pregnant and parenting students (Michigan Department of Social Services, 1985). Services include academic education, health education, health services and life skill competency courses. Basically, APPs offer a general education core and a range of course work relevant to childbearing, all for credit.

School-based APPs can be classified as either an inclusive program or a supplemental program. An inclusive APP is defined as a teenage pregnancy program which offers a general education core and courses on pregnancy and parenting, all for credit. The program is not held in the regular high school building but is usually held in another facility designed for use by the teenaged pregnancy and parenting programs. The supplemental APP is defined as a teenage pregnancy program which is housed in the regular high school where the teen may stay in regular academic classes and attend specialized classes related the pregnancy and parenting.

There was one dependent variable in this research - the perception of social support by the pregnant adolescent. Social support is operationally defined as a four dimensional concept which includes: feelings about emotional support, instrumental aid, information support and appraisal support (House, 1984). Although four dimensions will be assessed, the concept of social support will be viewed as a whole for the purposes of this study.

The school personnel are being evaluated as to whether they are a supportive part of the school environment. Although the school personnel were not a variable in this study, it is felt that this concept be defined. The operational definition of the school personnel

is: those identified school employees hired or contracted to provide services to pregnant adolescents who are attending the designated APPs. For the purpose of this research, these personnel include teachers, counselors, social workers and nurses.

In this study, a control variable was used because of the inability to randomly assign subjects to a school-based program. The perceived social support received from people in general, other than school personnel, i.e., family, friends, neighbors, was the control variable. It is assumed that most pregnant adolescents have persons in their life who are supportive to them, but are not part of the school system. Perception of general social support may influence the perception of social support received from the school program. Specifically, eliminating the influence of perceived general social support on the perceived support from school personnel may add clarity in identifying the true supportiveness of the school program.

In the next section, a description of the sample used for this research will be provided. This will be followed by a description of the instruments to be used including their development, prior validity and reliability measures, and modifications made for the purposes of this research to measure type and source of social support.

Sample

This research was a cross-sectional survey design utilizing two questionnaires to collect data. The sample consisted of 20 pregnant adolescents, ages 14 to 16, who are 24 weeks gestation or greater. Age of gestation was based on their reported date of confinement (EDC) at the time of the data collection. Of the students enrolled in the APPs,

10 of these students were enrolled in an inclusive program and 10 were enrolled in a supplemental program.

Three data collection sites were selected: Two suburban school-based adolescent pregnancy/parenting programs, one which is inclusive and one which is supplemental, and a large urban obstetrical clinic with a teen pregnancy program. Permission was obtained from either the school superintendent or program directors for access to the sample. Selection of these sites was based on ease of access to students and the number of students in each program to obtain an appropriate sample from each type of school program. This represented a non-random, convenience sample. Participation by the students was voluntary.

Table 1. Services to be Provided Districts Implementing Adolescent Pregnancy Programs (Michigan Department of Education, 1979)

	Guidelines	Site 1	Site 2
School Counseling	+	+	+
Regular Curricula	+	+	+
Education for Parenthood	+	+	!
Nutrition Education	+	+	!
Health Counseling	+	+	!
Child Health	+	+	!
Mental Health Intervention*	+	+	R
Social Service Counseling	+	+	+
School Transportation	+	-	+
School Meals	+	+	+
Home Visits**	+	+	+

* The provision for funding limit the underwriting of this component to those areas of the state where community health/mental health agencies can provide required expertise.

**Home visits as needed and appropriate to address education, social services, health and mental health.

+ Services provided by the school program

- Services not provided by the school program

R Referral to outside agency

! Offered in regular academic classes

Instruments

The Adolescent Pregnancy Program Social Support Source Scale (APPS4) was developed for this research study to evaluate perceived social support by the pregnant adolescent within the school setting (see Appendix B). The APPS4 is a 32 item tool containing two sections that are hypothesized to measure four dimensions of social support: emotional support, practical assistance, companionship and advice. The tool is modeled after the Support Dimension Scale (SDS) developed by Caldwell and Reinhart (1988). The SDS is designed to examine four dimensions of social support within the same questionnaire: a) source, b) type, c) amount, and d) satisfaction (Caldwell and Reinhart, 1988). The authors identified four types of social support: emotional support, practical assistance, companionship and advice and information. The sources of support delineated on the APPS4 tool are different from the SDS. Furthermore, the terminology of the APPS4 tool has been modified for use with adolescents.

Caldwell and Reinhart administered SDS to 373 college freshman to define sources and types of support these students relied on while dealing the normative psychological task of young adulthood, i.e., home leaving. Reliability scores for the Support Dimension Scale were not calculated by the authors (R. Caldwell, written communication, July, 26, 1988). In this research, scores on amount and satisfaction dimensions of social support will be calculated along with the total support score.

In the first section of the APPS4 tool, the pregnant adolescent is asked about her perceptions of the amount of social support received at

school from teachers, counselors, social workers or nurses. For example:

- a) If you wanted to talk to someone at school about things that are very personal and private, in general, how much comfort, concern or caring do you receive from:...
- b) If you needed to borrow something or needed help with something (clothes, food, money, help with finding housing or services), in general, how much help or assistance do you feel you receive from ...
- c) How much positive feedback, (meaning when they like your ideas or the things that you do), do you feel you receive from...
- d) In general, how much advice or information do you feel you receive from

Almost None	A Small Amount	An Average Amount	A Large Amount	A Great Deal
1	2	3	4	5

Scoring for this section of the tool was on a five point Likert-type scale.

The second section, contains questions about the pregnant adolescent's level of satisfaction with the social support she has received from teachers, counselors, social workers or nurses. For example:

- a) In general, how satisfied have you been with the concern or caring (for example, the opportunities to talk about things that are personal and private) you have received from...
- b) In general, how satisfied have you been with the amount of help or assistance (opportunities to borrow or receive money, food, clothes, etc.) you have received from ...
- c) In general, how satisfied have you been with the amount of positive feedback (letting you know they liked your ideas or things that you did) you have received from ...
- d) In general, how satisfied have you been with the amount of advice or information you have received from ...

Very Dissatisfied	Dissatisfied	Satisfied	Largely Satisfied	Greatly Satisfied
1	2	3	4	5

Scoring for this section of the tool is on a five point Likert-type scale.

The second questionnaire used in this research was the Inventory of Socially Supportive Behaviors (ISSB) which was developed by Berrera, Sandler, and Ramsay (1981) to assist in the identification of the dimensions of social support and to determine if specifically supportive behaviors are predictive of satisfactory adjustment of certain individuals under certain life conditions (see Appendix C). Berrera and Ainlay (1983) derived four types of social support from the factoring of the ISSB: directive guidance, nondirective support, positive social interaction and tangible assistance.

The ISSB is a 40 item tool rated on a 5-point Likert-type scale that ranges from "Not at all" to "About every day". The initial study was done with 71 university students who completed the ISSB in two assessment sessions that were separated by a two-day test interval. Internal consistency reliability yielded coefficient alpha of .92 and .94 for the first and second administration of the tool, respectively.

The authors did an additional study using 43 university students to evaluate validity via comparison with the Cohesion subscale of the Family Environment Scale, developed by Moos, to compare perceived supportiveness. Results confirmed these two tools were significantly correlated ($r(41) = .359, p < .01$). The author identified that each tool was measuring unique aspects of social support.

Berrera (1981) conducted a study using the ISSB to examine the relationship between social support and the well-being of pregnant adolescents. The sample consisted of 86 pregnant adolescents with a mean age of 17.2 years who had been pregnant a mean of 6.6 months. The

coefficient alpha for the ISSB in this study is .92 which represents high internal consistency.

The scale for the tool is based on an interval scale to reflect a frequency rate based on a 30 day time period. The pregnant adolescent is to reflect the amount of social support received "over the past month". Scoring for this tool was on a five point Likert-type scale.

Not At All 0	1 to 2 Times in the Past Month 1	1 Time per Week 2	Several Times per Week 3	Once A Day 4
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In summary, the APPS4 is a new tool patterned after a tool that has not been tested extensively. The authors who originally developed and tested the SDS used an adult population and where not evaluating perceptions of total social support but were interested in measuring the dimensions of social support. Thus, the results obtained from testing the APPS4 will not be compared with results from the study using the SDS.

On the other hand, the ISSB has been used with several different populations, including pregnant adolescents. It has proven, thus far, to be a reliable and valid tool for the measurement of perceived social support by the pregnant adolescent.

Coding and Scoring the Data

The data collection sites were coded as nominal categories: 1=inclusive , 2=supplemental and 3=clinic. The APPS4 contains 32 items which was coded on an interval scale with ranges from one (1) to five (5). A total score for perceived social support was obtained by

averaging the 32 items. The code of "9" was used to reflect "no answer". Coding of the ISSB included obtaining a score of zero (0) to four (4) for each of the 40 items. A total score was then averaged from the 40 items. The code of "9" signified "no answer".

Scoring for the two questionnaires was done using a total support score. There were eight (8) questions measuring the perceived social support from select school personnel (8 x 4 school personnel = 32 items). For the APPS4, each of the questions could have a maximum score of 20 (one to five point scale multiplied by four school personnel). The maximum score for the 32 item APPS4 is 160. Each participant had one score reflecting the average of the 32 items measuring perceived social support from their school program.

Scoring for the 40 item ISSB was based on a maximum score of 160. The five-point Likert-like scale has an absolute factor zero, "Not at all", and ranged from zero to four (four multiplied by 40 = 160). A total score from all 40 items was obtained.

Data Collection Procedures

Contact was made with the two school-based APPs. One director verbally gave permission for data collection at her site. The superintendent of the school district was the approval body for the other site. A meeting was held with the director of the obstetric clinic to describe the research and get approval. All approval persons were written a letter of introduction which included the research proposal and copy of the tools (see Appendix D).

After approval, determination of the eligible participants was made via discussion with each site contact person. At the clinic site, a

Teen Time Program is held weekly which the girls have to sign in and indicate their age. Eligibility was based on age (14 to 16 years) and estimated date of delivery (EDC, greater than or equal to 24 weeks gestation). The participant sample from the clinic completed a pre-screening questionnaire if they had been in school from January, 1988 to June, 1988. If they had not been in school, they checked "no" for the first question on the pre-screening questionnaire, and are not eligible to participate in the research (See Appendix E). If they had been in school, they complete the remainder of the screening questionnaire asking about their school program to determine if it is an inclusive or supplemental program:

1. Did you attend a special school program, because you were pregnant, which was not located in your regular school building?

2. Did you remain in you remain in your regular school and attend special classes at your school during the day that taught you about pregnancy, childbirth and how to stay healthy while you were pregnant?

3. Did someone in the school system (a teacher, a counselor, the nurse or other school personnel) know about your pregnancy?

Arrangements were made with the school-based APP site contact to meet with eligible participants after the parental/guardian consent forms are distributed to the eligible teens (see Appendix F). The teens were reminded by the site contact to bring in the forms the day before or day of the scheduled data collection day.

The eligible participants at the clinic site were asked if their parent/guardian was with them that day. If they were, the research was explained to the parent and student. The cover letter was reviewed with them and they were asked to sign the consent if they chose to have their daughter participate (see Appendix F). The student was then given the

tool to complete. If their parent/guardian was not with them, the letter explaining the research and consent was be sent home. The researcher obtained the participants name and phone number and the date when she would be attending the next Teen Time session. The researcher provided a reminder phone call to the student the day before her clinic appointment/Teen Time session to remind her to bring the completed consent.

Time and room arrangements were made with the help of each site contact. Questionnaires were administered in a "classroom" style setting depending upon the number of participants and space available in the facility. Need for repeat data collection times was determined by the number of participants, their stage of pregnancy, and their progression to 24 weeks.

This researcher was the sole data collector. At each data collection time, parental/guardian permission forms were collected prior to distribution of the questionnaire. The researcher then read through the written cover sheet on the tool with the pregnant teens which explained the research, the tool and the basic procedures of the data collection (see Appendix G). These instructions included:

1. Giving an overview of the purpose of the research:

"Thank you for volunteering to participate in this research study. This research will be looking at how supportive your school program is to you while you are pregnant."

2. Assurance of confidentiality:

"Your answers will not be shared with your school teachers or clinic staff. Answers to the questionnaire you agreed to fill out will be seen

by myself and my advisors at Michigan State University. No one from your school program or the clinic will have access to these answers."

3. Consent to participate:

"Signing the consent form indicates your interest to participate. You can discontinue your participation in the study at any time."

4. Give an overview of the questionnaire and tools:

"The questionnaire you have agreed to fill out has three parts. The first is background data about your self and school. Most questions require only a 'check mark' or short answer, i.e. your birth date. Part two, or 'B', asks for your feelings about specific school personnel with whom you have contact. There is a scale provided with each question for which you circle a number under your response. Part three, or 'C', asks for your feelings about the amount of support you feel you have received in general from persons other than school personnel, for example, your family, friends or neighbors, etc., during the past month. Again, a scale is provided with each question for which you circle a number."

"Please answer each question as honestly as possible. There are no right or wrong answers, just what you feel. I expect you will be able to complete all parts within 20 to 30 minutes. More time will be allowed if you need it. I will be here to answer any questions while you complete the questionnaire."

5. Clarify for the participants any terms or concepts as needed. The tools have been constructed at a comprehension level to prevent the need for lengthy discussions.

6. Report of Findings:

"If you request, you can receive a copy of the results of this study. My name and phone number are printed below for you to keep if desired."

7. Assure a quiet, comfortable atmosphere for the participants.

Collaboration with the site coordinators was done prior to the administration of the tools.

Analysis Plan

Data analysis began with establishing the reliability of the modified scales and subscales using Cronbach's alpha as a measure. A high value indicated that respondents have similar response patterns to all the items included in a scale or subscale. In this study, an alpha of 0.7 was accepted as sufficient evidence of internal consistency.

To test the hypothesis, an analysis of co-variance was conducted. Using the data obtained from the APPS4 tool, this test described the mean effect of the independent variable, type of APP and school personnel, on the dependent variable, perceived social support. The intervening variable, support from persons other than school personnel, measured by the ISSB, was used to factor differences between the two groups of pregnant adolescents. The background variables were not used as co-variates in this research.

Protection of Human Rights

Approval to perform this research was received from the University Committee on Research Involving Human Subjects (see Appendix H).

Summary

In summary, the research process has been described for this study. The two tools used have been described highlighting any changes, prior use and reliability and validity statistics. A description of the variables and sample has been given. Procedures to conduct the research have been described including gaining approval from and coordination at the data collection sites and time frame. Analysis of co-variance was the statistical procedure used to determine relationships between the variables identified for this research. The test results will be reported in Chapter V on data analysis.

CHAPTER V
DATA PRESENTATION AND ANALYSIS OF RESULTS

Overview

The data presented in this chapter will be used to describe the sociodemographic characteristics of the subjects as well as their responses to the instruments. The focus of the presentation will be to answer the two research questions: 1) Are the selective school personnel who provide services in inclusive adolescent pregnancy programs (APP) perceived to be more supportive than the school personnel who provide services in supplemental APPs, and 2) Knowing that the pregnant adolescent may also receive support from her family, friends, neighbors, what impact does this perceived support received from people, in general, have on the perception of support from her school program? A convenience, volunteer sample of ten (10) pregnant adolescents was obtained from two school programs (one inclusive and one supplemental) and an urban teen pregnancy clinic. This research is a pilot study to determine the reliability of a newly developed tool, the Adolescent Pregnancy Program Social Support Source Scale.

Descriptive Findings of Study Sample

The sample for this study consisted of five pregnant adolescents who attended inclusive APP, three pregnant adolescent who attended a supplemental APP and two adolescents who attended school but were not enrolled in a school-based pregnancy program or special classes about

pregnancy at school. All participants, who volunteered to be in the study, were asked the gestation of their pregnancy. At the time of the instrument administration, all were pregnant for 24 weeks or more which made them eligible to participate in the study.

Age The age of the study sample ranged from 15 to 17 years. The mean age overall was 16.2. The age distribution consisted of one 15 year old (10%) six 16 year olds (60%) and three 17 year olds (30%).

Race of ethnic background Seven students in the sample were black (70%) and three students were white (30%).

Living arrangements Data about living arrangements for the sample showed that 60% (n=6) were living with their mothers only and 30% (n=3) were living with both parents. One participant selected the "other" category but checked living with her mother and indicated "her" husband. This was interpreted to mean she was living with her mother and stepfather.

Gestation The participants were requested to provide the estimated date of confinement (EDC, delivery date). All were at least 24 weeks gestation: 30% (n=3) were between 24 to 28 weeks or 36 to 40 weeks, 20% (n=2) were between 32 to 36 weeks and 10% (n=1) were between 28 to 32 weeks.

Age at menarche All participants were asked to indicate their age at menarche. The range for age at menarche was 11 to 15 years. The mean age was 12.8 years. The distribution between the earliest and latest onset was fairly even with 30% (n=3) starting at age 12, 20% (n=2) starting at each of the ages 11, 13 and 15 and 10% (n=1) starting at age 14.

Father involvement Each participant was asked to indicate the amount of involvement the father of the baby would likely to have in the care of the infant after the birth. Half of the girls (n=5) anticipated the father to be involved "alot". The rest of the sample anticipated less involvement of the father: 20% (n=2) indicated "somewhat" involved, 10% (n=1) indicated "a little" involved and 20% (n=2) indicated "not at all".

Planned pregnancy The majority of the participants (n=9) reported that this pregnancy was not planned. Only one teen indicated that it was planned.

Prenatal care Each participant was asked to indicate what month they first went to the doctor to find out if they were pregnant. Responses ranged from the first to the fifth month. Thirty percent (n=3) of the teens sought care during the second month and 30% (n=3) sought care during the fifth month. Only 10% (n=1) sought care in either the first or fourth month with 20% (n=2) making their first prenatal visit in the third month.

The participants were, also, asked to indicate the approximate number of prenatal visits they had attended at the time of instrument administration. The sample selected included subjects from three categories: five or less visits - 40% (n=4), six to 11 visits - 40% (n=4), and 12 or more visits - 20% (n=2). Ninety percent (n=9) of the teens in this sample were at least 28 weeks gestation indicating the minimum number of prenatal visits to be six.

Mothers' first pregnancy The sample was asked to indicate the age at which her mother had her first baby. The ages ranged from 16 to 26

years, with two participants failing to write in an age. The ages and frequencies included: two mothers were 16 years old, one each was 17, 20, 23 or 26 years old and two were 24 years old.

Parental education level All participants were asked about the highest grade of education completed by both their mother and father. Educational attainment for the subjects' mothers ranged from 11th grade to two years of college, with the half (n=5) completing high school (see Table 2).

Educational attainment for the subjects' fathers ranged from high school graduate to completing four years of college. Two participants failed to check a response. Half of the teens' father (n=5) completed high school (see Table 2).

Adolescent grade level The present grade level was obtained from all participants which ranged from 10th to 12th grade. Grade level distribution of the pregnant adolescents are presented in Table 2.

School attendance The attendance at school was obtained by having each teen indicate the number of days per week she attended school over the past two months and by the number of hours per day she spent at school. The majority of the teens (70%, n=7) attended school five days per week with 20% (n=2) attending three to four days per week and 10% attending one to two days per week.

The participants selected one of three categories identifying hours spent at school. Half of the teens (n=5) spent five to six hours at school per day while 30% (n=3) spent more than seven and 20% (n=2) spent three to four hours per day.

Table 2: Educational levels of the pregnant adolescents, their mothers and fathers (n=10).

Education Level	Mother		Father		Adolescent	
	No.	%	No.	%	No.	%
10th grade	0	0	0	0	4	40
11th grade	1	10	0	0	4	40
12th grade	0	0	0	0	2	20
High School Graduate	5	50	5	50	-	-
Some College	3	30	1	10	-	-
Two Years College	1	10	0	0	-	-
Four Years College	0	0	2	20	-	-
Missing	0	0	2	20	0	0
Total	10	100	10	100	10	100

Months in the program All participants were requested to report how many months they have been attending classes in their school program. The months in the programs ranged from one month to five months with 30% (n=3) attending for three months and 30% (n=3) attending for four months. The remainder of the sample was fairly equally distributed with 20% (n=2) attending for five months, 10% (n=1) enrolled for one month and 10% (n=1) for two months.

School awareness All participants were asked to indicate how their school system found out about their pregnancy. Of the 11 situations the teens could choose from, they identified only four which described how the school system became aware of their pregnancy: 40% (n=4) confided in a counselor, 30% (n=3) confided in a teacher, 10% (n=1) indicated friends told, 20% (n=2) indicated "other" as a response.

In summary, the data presented in this section described the sociodemographic characteristics of the subjects including a focus on the amount of contact with their school program. Given that there were only ten (10) subjects in the sample, responses indicate a large degree of variation with respect to the variables in question. In the next section, data from this pilot study will be used to determine whether further study is indicated to answer the research question and the hypothesis and determine the reliability for further use of the instruments.

Reliability of the Scales

The Adolescent Pregnancy Program Social Support Source Scale (APPS4) and the Inventory of Socially Supportive Behaviors (ISSB) were subjected to reliability tests (coefficient alpha). The APPS4 (measuring school support) was divided into two subscales, one measuring the 'amount of' support and the other measuring 'satisfaction with' the support. Four items (questions 7, 11, 14 and 39) were deleted from the ISSB because of missing answers. Due to the very small sample size, missing values would have caused an acceptable reduction in the total number of cases from ten to seven.

For this research, an alpha of .7 is considered evidence of a high degree of internal consistency. The reliability coefficient for the APPS4 is .94 which represents a high internal consistency among the items measuring support perceived from teachers, nurses and social workers. The "counselor" items were deleted from the APPS4 because the results showed a small negative correlation to the rest of the items. This correlation indicates that the support from counselors is not

necessarily related to the support coming from the other three classifications of school personnel. Thus, the following data results for the APPS4 consists of responses evaluating the perceived support from school teachers, nurses and social workers.

In reviewing the counselor items, most of the teens ($n=8$) reported they perceived an average to large amount of support from the counselors. Comparing this to a total mean score calculated for the other three classifications of school personnel (2.59, representing a small to average perception of support), it appears the counselors are perceived as more supportive as compared to teachers, nurses and social workers. Therefore, support from counselors may be perceived as 'in addition to' or 'independent of' the other support and, thus, a possible reason for the negative correlation. Because of the small sample size, these inferences are considered strictly tentative. It appears, however, that there is no "general" school support but there are different sources of support that should be considered separately.

The subscale measuring the 'amount of' perceived social support from select personnel had a coefficient alpha of .84, which represents a high internal consistency among the items. The subscale measuring 'satisfaction with' the social support received had a coefficient alpha of .90, which, again, shows high internal consistency among the items. After deletion of the counselor items, the coefficient alpha for both subscales increased to .87 and .92, respectively, which further strengthened the internal consistency among the school teacher, nurse and social worker items.

The ISSB had a reliability coefficient of .96, which represents a high internal consistency among the items for the scale. Four items were not answered on this scale and were deleted resulting in a new coefficient alpha of .98, which again demonstrates a high internal consistency.

In summary, both the APPS4 and the ISSB exhibited a high degree of internal relatedness among the items in the scales as a whole. The ISSB has been tested extensively prior to this research and the reliability results are similar. Because of the small sample size, this study is considered a pilot study to test the APPS4. It is very likely that the values of this small sample may deviate from the values of the general population of pregnant adolescents. Furthermore, the inability to randomly select the sample limits the representativeness and may bias the results. From the results of this study, it appears the APPS4 may be reliable for evaluating the perceived supportiveness of school teachers, nurses and social workers. More testing needs to be done to further evaluate the measurement of perceived support of counselors using the APPS4.

Data Presentation for Research the Questions and Hypothesis

To answer research question one, the mean scores of the APPS4 will be presented to determine if there are differences in perceived support by teens enrolled in two types of APPs. Pearson product-moment correlation coefficient will be used to answer research question two to determine the degree of relationship between the variables (school support and general support). Using analysis of covariance to control

for general support, the hypothesis will be tested. However, because of the extremely small sample size, these results are not statistically "significant". Thus, the results can only be taken as descriptive of the sample and no inferences to the larger population of pregnant adolescent are possible.

The sample included three groups of pregnant adolescents. Group one (1) are the adolescents in the inclusive program (n=5), group two (2) are those adolescents in the supplemental programs (n=3) and group three (3) are those adolescents who remained in school but were not enrolled in any special classes related to pregnancy (n=2). Although the research question and hypothesis do not include this third group, results will be discussed at the end of the analysis section pertaining to the contrast between this group and groups 1 and 2.

Research Question 1

Are selected school personnel who provide services in inclusive adolescent pregnancy programs (APP) perceived by the pregnant adolescent to be more supportive as compared to the school personnel who provide services in a supplemental APP?

The mean scores on the 24 items APPS4 measuring total perceived support from the school personnel was 2.59 on a scale from 1 to 5, with a range of 1.41 to 3.54. The total mean scores for the subscales were similar with 'amount' of support mean 2.53 and 'satisfaction' with the support mean 2.65. Thus, the total sample of pregnant adolescents perceived the amount of support received to be less than average (average represented by a score of 3.00) and they were less satisfied

with the support they did receive (satisfied represented by a score of 3.00) from their school program (see Table 3).

Mean scores for group one on the APPS4 was 2.54 and for group two 2.88 (see Table 3). Therefore, the pregnant adolescents attending the supplemental APP perceive more support from and more satisfaction with the support they received from their school program than the pregnant adolescents attending the inclusive programs. This result does not, of course, show a difference in the expected direction. However, given the very small number of cases involved, the hypothesis cannot be rejected.

Table 3. Group mean scores for APPS4 and ISSB

Group	Total	APPS4* Amount	(n=9) Satisfaction	ISSB** (n=10)
1	2.54	2.52	2.55	2.02
2	2.88	3.08	2.67	2.14
3	2.44	2.00	2.87	2.47
Total	2.59	2.53	2.65	2.15

* APPS4 range 1 - 5

** ISSB range 0 - 4

The subscale mean scores for group one shows they perceive less support in both amount of (2.52) and satisfaction with (2.55) than group two (3.08 and 2.67, respectively, see Table 3). Thus, the pregnant teens enrolled in supplemental APPs (group 2) report perceptions of receiving more support from their school program and are more satisfied with the support than the teens in the inclusive programs.

Research Question 2

Knowing that the pregnant adolescent may also receive support from her family, friends, neighbors, etc., what impact does this perceived support received from people in general have on the perception of support from her school program?

The degree of relationship between the variables, school support and general support, was measured by the Pearson product-moment correlation coefficient. The size of the correlation coefficient indicates the degree of the relationship. A relationship was defined as: 1) slight or weak if the $r > .10$ or $< .30$, 2) moderate if $> .30$ to $< .50$, and 3) high or strong is $> .50$ (Burns & Grove, 1987).

There was a moderate to strong relationship ($r = .48$, $p = .08$) between total scores on the APPS4 and the total scores on the ISSB. This correlation indicates that pregnant adolescents' perception of school support is related to their perception of general support. However, school support and general support appear to be sufficiently distinct in the minds of the pregnant adolescents. After all, the two variables share only 25% of the variance in common ($r^2 = .25$). Because general support does have an impact on the pregnant adolescents' perception of support from the school program, it will be introduced as a covariate to answer question two.

Employing analysis of covariance involves removing the possible effects of a control variable (or covariate) which may affect the differences between two groups. In this study, the effect of the control variable, perceived general support, was removed allowing for clearer identification of the main effect, the perception of support

received from the school program. If the difference between perceived school support in the two groups declines after the effects of the covariate is taken into account, this would indicate that it is not the school programs per se that differ in support provided to the pregnant teen. If the difference in perception increases after the effect of the covariate is taken in to account, this would indicate that differences between the school programs cannot be simply attributed to differences in student perceptions of general support. Statistical significance was not computed because of the small sample size.

The pregnant teens enrolled in the inclusive program (group one) had a mean score of 2.54 which was adjusted to 2.58 after the effect of the control variable was factored (see Table 4). In this group, the perception of support received from school personnel increased slightly after the effect of perceived general support was taken into account. Thus, one reason why students in the inclusive APPs reported lower school support is that they differed with respect to their perceptions of general support.

Table 4. Analysis of Covariance controlling for the effect of perceived general support on group mean ($\bar{X}$) scores for APPS4.

Groups	$\bar{X}$ before adjustment	$\bar{X}$ after adjustment
1	2.54	2.58
2	2.88	2.88
3	2.44	2.32
Total	2.65	2.59

There was no change in the mean scores (2.88) for those teens enrolled in supplemental APP (group two) when the effect of the control variable (general support) was taken into account (see Table 4). The teens in the supplemental APP perceive school to be supportive whether or not general support is a factor.

Hypothesis: Pregnant adolescents enrolled in inclusive adolescent pregnancy programs will perceive more social support from selected school personnel as compared to those pregnant adolescents enrolled in supplemental adolescent pregnancy programs.

Comparing the adjusted means of the two groups, the teens attending the supplemental APP (group 2) perceive more support from their school program (2.88) than the teens attending inclusive APP (group one, 2.58), although the difference between the two groups narrowed slightly. Even though the results from this analysis of covariance cannot be used to reject or accept the hypothesis because of the small sample size, it points, if anything, towards a rejection of the hypothesis.

In summary, the interpretation of the data analysis reveals that pregnant adolescents who attend supplemental APPs perceive their school program to be more supportive than the teens who attend inclusive programs. Furthermore, the pregnant teens' perception of general support received from family, friends or neighbors has an impact on the teens perception of support from the school program. Thus, controlling for general support helped to clarify the true support provided by their school program.

Other Research Findings

The ISSB was used to measure the perception of general support as perceived by the pregnant teens. The mean score on the 36 item ISSB

measuring perception of general support was 2.15 on a scale of 0 to 4, with a range of .59 to 3.64 (see Table 3). Group two reported perception of slightly more general support (2.14) than group one (2.02). Overall, the pregnant adolescents perceived they received general support, of various types, ranging from at least four (4) times during the past month (approximately one time per week) to several times per week, (however, not every day).

Another finding involved data was collected from a third group of pregnant teens who remained in school but who received no special intervention from the school setting, i.e. course work or classes. This group completed both the APPS4 and the ISSB.

The mean score on the APPS4 for group three was 2.44 (see Table 2). This score was lower than group one (inclusive) by .10 and group two (supplemental) by .44. The teens in group three perceive less support from the school personnel than both groups one or two.

The subscale scores on the APPS4 for group three were 2.00 for the 'amount of' support received and 2.87 for 'satisfaction with' the support (see Table 2). Comparing these results to groups one and two, the teens in group three perceived that they received less support from their school program but were more satisfied with the support that they did receive than either group one or group two. Thus, the pregnant adolescent who remains in school but who receives no special intervention perceives school to be less supportive than those enrolled in special programs. However, pregnant teens not enrolled in APPs perceive the support received as satisfactory.

Measurement of general support for group three showed a mean score of 2.47 on the ISSB (see Table 2), which is higher than either group one (2.02) or two (2.14). Thus, support received outside the school setting is perceived to be more important for the pregnant teen not enrolled in an APP as compared to those teens in APPs.

Computing analysis of covariance for group three shows a mean score of 2.44 which is adjusted to 2.32 when the influence of perceived general support is factored out (see Table 4). In this group, their perception of support from the school program is reduced when the effect of general support is removed. Thus, the teens in school but not in an APP perceive less support from the school, an effect that is strengthened once general support is taken in to account.

In summary, the teens in this study report receiving general support at least weekly to several times each week. Furthermore, the pregnant teens who choose to remain in school but not attend a special program related to pregnancy or parenting perceive the least amount of support from their school program than either of the groups of teens enrolled in inclusive or supplemental APPs. It appears these teens receive more of their support from persons external to school which may positively influence how they perceive support from school personnel.

Methodological Problems

Several methodological problems occurred during this research. Because of the small sample size and the modification of a new tool, this research must be considered strictly exploratory. In this section, evaluation the APPS4, ISSB and a description of methodological

limitations of this study related to the use of the school sites and the clinic site will be discussed.

Difficulties in attaining an adequate sample relate to timing of data collection and sociodemographic factors. Initially three school programs were to be utilized. Because data collection was conducted during the last month of school prior to summer vacation, the teachers/site contacts reported many of their students had delivered or were receiving home education services. Referrals to the program decrease as students do not want to switch classes close to the end of the term. Thus, one site was not utilized because of no students; the other two school programs had three students who were eligible and agreed to participate.

The clinic site posed separate data collection difficulties. Students attended Teen Time voluntarily, usually when they also had a prenatal visit. If the teen did not come to the clinic with their parent, she was asked to take the consent form home, have it signed and return it at their next visit. The data collector obtained the teen's phone number and called her the morning of her next anticipated clinic visit to remind her about the consent form. Several of the teens who were contacted were not attending Teen Time as their appointments had been changed or they switched to another prenatal care site. Thus, they were lost as a potential candidate because of the parental consent requirement.

Another stumbling block was the number of pregnant teens who dropped out of school. The clinic is located at a large inner city hospital where no one is turned away for health care. Over the past three years,

the Teen Time program has had contact with over 400 pregnant teen who on the average attend approximately six of the ten Teen Time sessions; only 10% complete the full program (personnal communication, 11-22-88).

The average attendance at a Teen Time session ranges from four to 15 pregnant teens, who may bring their parents, the father of the baby or any other support person. Eligibility to participate in the study required that the teen had been in school from January to June, 1988 at least three days per week. Over the seven week data collection period (part of June and July), 15 prescreening questionnaires were returned from teens who dropped out of school during the six month time period, and, thus, could not participate in the study.

Evaluation of the APPS4 revealed that nine of the ten teens answered all the questions on the tool. All missing answers were located on a tool completed by one participant. Further evaluation of this showed no consistent pattern related to personnel categories or inability to read. (This participant completed the 40 item ISSB which followed the APPS4 with only one missing answer). The average administration time to complete the three sections of the questionnaire (background data, APPS4 and ISSB) was 20 minutes. Observation of the teens showed they spent most of the time on the ISSB section.

The APPS4 appears to be easily understood related to concepts and personnel classifications. Development of the tool included terminology modeled after other adolescent support tools. The personnel classifications are generic within the school systems. The teens were encouraged to ask the data collector questions, if needed, should they

not understand any part of the tool. No questions were asked during any of the data collection times.

The APPS4 allows for the identification of groups or classifications of people to evaluate their supportiveness. The analysis of this study tentatively identified counselors as a group who provides a different type of support to pregnant teens. Through more research, further discrimination of sources of support to pregnant adolescents can be identified and strengthened.

Pregnant teens may have contact with a variety of school personnel or be enrolled in an APP which offers a variety of experiences. It is possible that the interaction with the personnel identified on the APPS4 may be minimal, which would be identified by the marking the lowest ranking on the tool. Development of a more specific tool containing classifications identified by the teen (i.e., coaches, secretaries) may individualize the tool for the evaluation of a specific program while remaining to collect data on personnel classifications. On the other hand, guidelines recommend specific personnel be available to the pregnant teen to provide services. If they are not available, this tool may need a column indicating 'no contact with', which identifies a weakness in the APP structure.

This tool could be used to collect data about perceived sources of social support with larger sample sizes. However, it could, also, be used to measure support at select intervals to detect changes in the perception support received from specific sources. Modifications to the tool could include expanding the ranking selection for answers and

allowing the teen to select specific personnel classifications to evaluate as sources of support.

Summary

A description of the study sample in relation to sociodemographic and academic status was presented in Chapter V. Reliability of the scales designed to measure the study variables were reported and correlations between the variables presented. Additional findings related to teens in school without the benefit of special APP intervention were described. A discussion of study findings and the implications for nursing practice, nursing education and further research will be presented in Chapter VI.

CHAPTER VI

SUMMARY AND IMPLICATIONS

Overview

A summary and study findings is presented in Chapter VI. Conclusions and recommendations for future research, nursing practice and nursing education are also presented.

Summary and Interpretation of Findings

Descriptive Findings of the Study Sample

This section will include a discussion of demographic information and findings.

Age. The mean age of the sample was 16.2 years. The adolescent growth spurt for females is virtually complete by age 16 (Forbes, 1981, Garn, LaVelle, Pesick & Ridella, 1984). Thus, the pregnant adolescents in this study can be considered physically mature by virtue of their chronological age.

This study was designed to include pregnant adolescents who were 14 to 16 years of age. However, no 14 year olds participated. This could be anticipated because of the small sample size. Other studies using large samples of pregnant adolescents (n =>500) average less than 10% of the sample as 14 year olds as compared with their numbers of 15, 16 and 17 year olds (Frischancho, Matos & Flegel, 1983, Merritt, Lawrence & Naeye, 1980, Garn & Petzold, 1983).

Reasons for the lack of 14 year olds in this study may be their inability to seek help because of psychological insecurity and immaturity. Many young adolescents continue to deny the pregnancy until later months and up until delivery. Fear of punishment, lack of resources and limited knowledge about bodily changes that occur during adolescence may promote the denial of pregnancy and thus, reduce her exposure to the health care system. Furthermore, as discussed later in this chapter, the school dropout rate of pregnant adolescent may include many of these younger teens

Seventeen year olds were included in this study because of their availability and agreement to participate. Overall, this creates a more mature sample which could impact the questionnaire responses.

Race. The sample for this study was 70% black and 30% white. This could be expected as the clinic was located in a large urban medical center serving a 65% black population. One school site was located in a suburban community where the population was 34% black; the other school site has an enrollment of only 10% black students. Selection of data collection sites and the sample was by convenience based on accessibility and availability. Analysis of responses by race was not computed because of the small sample size. The lack of racial equivalence in the sample (as well as the small sample size) would limit the generalizability of the findings to other groups.

Another possible explanation for the lack of racial equivalence is the overall incidence of pregnancy between black and white teenagers. Nationally, the incidence of pregnancy in black teenagers is approximately nine times the incidence for white teenagers (Miller,

1986). In Michigan, the ratio is 86% to 18.5% per one thousand for black and white teens, respectively (Epstein, 1986). Because the clinic serves the inner city, Medicaid population, which is predominately black, and has a reputation for long waiting periods, teens who have insurance would opt to be seen by a private practitioner.

Living arrangements. More teens in this study (60%) reported to be living with only their mother with 30% living with both parents. Thus, a total of 90% actually lived with their mother. Zuckerman, et. al. (1984) reports that 88% of the pregnant teens continued to live with parents or relatives during the pregnancy. This is consistent with the research by Held (1981) and Becerra and deAnde (1984) who reported that the prospective grandmother has a great influence on the teens who, also, identified their mother as the most important person to her.

Gestation. The sample was limited to pregnant adolescents who were actively attending school and who were at least 24 weeks gestation. Once pregnant, the adolescent is faced with the decision to continue the pregnancy. Purposeful interruption of a pre-viable pregnancy is done before 24 weeks gestation (Jensen & Bobak, 1985). Therefore, the adolescent had made the decision to continue the pregnancy at the time she participated in this study.

Age at menarche. The mean age of menarche for the sample was 12.8. Considering the mean chronological age for this sample was 16.2, the gynecological age becomes 3.4 for this group. Forbes (1981) and Garn, LaVelle, Pesick & Ridella (1984) both report that teens who become pregnant after one year (gynecological age of >1) have completed their growth. Erkan, Rimer & Stine (1971), Zlatnic & Burmeister (1977) and

Naeye (1981) identified teens with gynecological ages of 1 to 2 as being at higher risk to deliver a low-birth weight (LBW) infant. The group represents teens who, on the average, have completed their growth who will be at a lower risk to deliver a LBW infant.

Father's involvement. Only 50% of the teens in this study anticipated the father of the baby to involved "alot" in the care of the baby. The father of the baby is often stereotyped as not wanting to be involved with the infant (Panzarine, S. & Elster, 1982). The fathers are often adolescents themselves having to deal with their own adolescent needs (Hardy & Duggan, 1988). The prospective father can provide support for the pregnant teen, as with the Hispanic adolescents where the incidence of marriage is higher (Becarra and deAnde, 1984). Involvement of the baby's father through marital commitment is not the norm. A recent report from Hardy and Duggan (1988) demonstrates only one in four white teens and very few black teens were married to the teen mother at the time of the birth. This sample represents teens who 'on the average' perceive the of father of the baby will be involved with the child after delivery.

A limitation to this question is the subjective interpretation of the selection of answers. What one teen feels is 'alot' of involvement, others may feel is 'somewhat' involved or 'a little' involved. Specific activities or determination of time may increase the objectivity of this question.

Planned pregnancy. The majority of the participants (90%, n=9) indicated that the pregnancy was not planned. Prevention of pregnancy for the adolescent involves knowledge about and use of contraceptives.

It is not known if any of the pregnancies in this sample were the result of contraceptive failure.

Developmentally, adolescents feel they are immune from pregnancy and do not have the maturity to foresee the future consequences of risk taking behavior, i.e., unprotected intercourse. In the study by Becarra and deAnde, 25% to 44% of the pregnant teens indicated they used contraceptives most of the time while 77% of older teens and 45% of younger teens in the study by Hollingsworth, Kotchen & Felice (1983) reported they had "some or extensive" information about contraceptive methods. In another study by Levenson, Smith & Morrow (1986), 98% of the physicians polled felt information about contraceptives was extremely important while only 43% of the pregnant teens felt the same way. Prevention of pregnancy and family planning through instruction on reproductive health and use of contraceptive is a health care need with this study sample.

Prenatal care. In this study, 60% (n=6) of the teens sought prenatal care during the first trimester (prior to 12 weeks gestation) and 40% (n=4) during the second trimester (between week 13 and week 28). During adolescence, the development of independence and self control is a major task. Decision making promotes these feelings of independence and control. The adolescent may not have attained the self confidence to recognize and make decisions related to seeking prenatal care.

Research by Zuckerman, et al, (1983), Elster (1984) and Davis, et al, (1986) found a strong correlation between maternal age and the trimester that prenatal care began. Davis, et al, (1986) found the likelihood of pregnant teens receiving prenatal care in the first

trimester increased with age. The results from this study were similar to Zuckerman, et al. (60% for 13 to 18 year olds) and Elster (50% for 12 to 16 year olds and 67% for 17 to 18 year olds) of the teens reporting start of care in the first trimester.

The number of prenatal visits is an indicator of amount of prenatal care received. In this sample, 40% (n=4) of the teens reported that they attended five (<5) or less visits; 60% (n=6) attended six (>6) or more visits. These results may be explained partially by the fact that the overall sample is slightly older (15 to 17 versus 14 to 16). Another reason may be the influence of the school program they attend. Even the girls who remain in their regular school without special classes have increased access to school personnel, i.e., counselors, teachers, nurses, who may help with decisions about seeking health care.

Leppert, Namerow and Barker (1986) reported that maternal age and the number of antenatal visits were significant predictors of gestational age and birth weight of infants born to adolescents. Because 90% (n=9) of the teens in this study were at least 28 weeks gestation, the minimum number of visits at this time would be six, if care began during the second month. Thus, the majority of the teens were attending an adequate amount of visits with 40% (n=4) not attaining the ideal prenatal care.

Mother's first pregnancy. Only three of eight pregnant adolescents reported that their own mother was a teen parent. (Two students did not complete this question). Parent role models have a strong influence as to whether it is acceptable to initiate sexual activity, and to keep and raise a child if pregnancy occurs (Hogan & Kitagawa, 1985). This sample

may not be characteristic of other research which reports pregnant teens tend to replicate their mothers' reproductive history (Becarra & deAnde, 1984).

It is difficult to determine an explanation for these results with such a small sample size. This may be an area of demographics that is changing related to identifying causative factors of adolescent pregnancy. Depending on the age of the prospective grandmother, there may have been increased availability and use of contraceptives or alternative pregnancy options during their teenage years. Based on the higher educational levels of these grandmothers, as reported by the pregnant teens (see below), childbearing may have been delayed to complete their education.

Parental education level: Both the mothers and fathers of the pregnant teens in this sample have attained at least a high school diploma (90%, n=9, of the mothers and 80%, n=8, of the fathers). Of this sample, 40% (n=4) of the prospective grandmothers and 30% (n=3) of the prospective grandfathers had attended college. Research by Ralph, Lochman and Thomas (1984) describe the pregnant adolescent as having role models, especially her mother, with less education.

The connection between parental education level and adolescent pregnancy is not clear in these research results. Research by Zelnick, Kantor and Ford (1981) show that family values related to going to college, choosing a career and making money are dominant influences on the adolescent. Those teens who come from poorly educated families have more difficulty dealing with behavior and attitudinal signals she receives about school and work choices from both peers and family

members (Zelnick, Kantor & Ford, 1981). Thus, this group of teenager appears to have had good role models related to educational achievement. Adolescent grade level and school attendance. Eligibility to participate in this study was based on being actively enrolled in a school program. The majority of this sample reported that they attended school at least five days per week (70%, n=7) and spent at least five to six hours at school per day (80%, n=8).

At the clinic site, a prescreening questionnaire was given to all teens to determine if they met the eligibility requirements to participate in this research. Pregnant adolescents were eligible to participate if they had been attending school at least three days per week during the previous six months prior to the data collection period (January to June). Of concern was the number of returned prescreening questionnaires from pregnant adolescents indicating they were not attending school during that time period (n=15). A possible explanation for this could be the reluctance of the teens to participate in the research, and thus, they indicated they were not in school. More than likely, the teens truly were not in school for which dropout rates for pregnant teens have become a national and state concern (Epstein, 1986, Ascher, 1985).

The literature describes pregnant teens as having less well-defined and optimistic vocational goals; these teens have few opportunities to participate in social activities and recreation with peers which could provide an area for achievement and healthy competition (Ralph, Lochman & Thomas, 1984, Mercer, 1985). Non-pregnant teens, on the other hand, were described as vocationally oriented with strong family or school

ties, including many friends, hobbies and extracurricular activities (Ralph, Lochman & Thomas, 1984, Welches, 1979). Adolescents who are having difficulty in school, i.e., academically and with attendance, need to be identified early and stimulated toward increased involvement in school or other extracurricular activities to develop special or personal interests or hobbies.

Month in school program. The majority of the teens in this study (60%, n=6) reported that they had been in their school program for at least three months. This appears to imply that the teens feel a need to continue in school even though stressed by pregnancy. These teens who remain in school may have been, and still are, vocationally and educationally oriented but made the mistake of becoming pregnant and made the decision to continue the pregnancy. With increasing support available in the schools to help pregnant students, pregnant teens are able to continue their education. Descriptive data about students who enter APPs show that most will graduate or choose to continue their schooling after delivery (Epstein, 1986).

School awareness. The teens in this study indicated that they confided in a counselor (40%, n=4) or a teacher (30%, n=3) to ask for help with the pregnancy. The process of identification of pregnant adolescents in the school setting has not been described in the literature. Pregnant teens in the school setting are often identified via the circulation a "rumor" that a student is pregnant which is heard by a teacher or counselor who matches this with other behavioral indicators, i.e., increased absences and decreasing grades (personal communication,

October, 1987). In this study, the majority of the teens appeared to take the initiative to seek out school personnel for help.

Psychologically, the pregnant adolescent has the "who me" omnipotence, denial attitude and is struggling with independence yet feeling inadequate about making decisions and taking control (Cochran & Brassard, 1979, Whaley & Wong, 1983, Neinstein, 1984). The confirmation of pregnancy impinges on their self-esteem and personal competence; thus, they seek an adult for guidance. The school personnel are often looked to for this guidance as the teens have frequent contact with the school system and they are easily accessible. This sample appears to be comfortable with the school personnel as a resource and turned to them for help.

In summary, the descriptive findings of this study sample of 10 pregnant adolescents show they are between the ages of 15 and 17, at least 24 weeks gestation and 70% black and 30% white. The majority of the teens continue to live with their mothers who were not themselves a teen parent. The majority of the pregnant adolescents stated they did not plan to become pregnant and most feel the father of the baby will be involved with the child after the child is delivered. Most of the teens have been receiving adequate prenatal care and all have continued with their education. The parents of most of the pregnant teens have attained at least a high school diploma with several having attended college. The teens identified counselors and teachers as the school personnel they turned to to inform the school system of their pregnancy.

In the next section, the data from the research questionnaires will be described and interpretations related to the research question and hypotheses discussed.

Measures of perceived social support

The Adolescent Pregnancy Program Social Support Source Scale (APPS4) and the Inventory of Socially Supportive Behaviors (ISSB) were used to describe two aspects of social support perceived by pregnant adolescents aged 15 to 17 years old. The APPS4 is a tool designed for this study to measure perceived social support provided by school personnel to pregnant adolescents. This study was a pilot to test the APPS4 for internal consistency and usability with the indicated sample.

The reliability coefficient for the APPS4 evaluation perceived support from teachers, nurses and social workers was .94, with the two subscales measuring the amount of support and satisfaction with the support demonstrating coefficient alphas of .84 and .90, respectively. Burns and Grove (1987) suggest a reliability of .80 is the lowest acceptable coefficient for a well-developed measurement tool to satisfy the criterion of internal consistency. However, for this research, an alpha of .7 is considered as sufficient evidence of internal consistency. Results from this analysis indicate a high degree of internal consistency among the items on the overall tool and subscales. As a pilot study with a small sample size, this indicates further testing of this tool as a reliable instrument with a larger sample would be warranted.

The counselor items on the APPS4 were deleted from the tool because they showed a small negative correlation to the rest of the items. This

raised the overall and subscale coefficient alphas. The implications from this small sample indicates that the support perceived from counselors is not necessarily related to the support perceived from other three classifications of school personnel.

Counselors, historically, help the students with scholastic and social difficulties and provide career guidance. In the case of the adolescent who becomes pregnant, the counselor arranges for the student to transfer into special "family life" classes within the school or transfer to an off campus APP (Miller, 1984). The interactions with the counselors, because of their inherent role, may be the reason for the differences seen in these results.

The ISSB is a tool designed to assess the perception of general support as perceived by pregnant adolescents. The reliability coefficient for this study was .96, after deleting four items which were not answered. The four items were from different participants and appear to address four different concepts of social support being measured (i.e., caring, practical aid, feedback and advice). It is felt the lack of response to these questions is related to random omission by the participant.

The ISSB has been used with both adult and adolescent populations. Previous studies using the ISSB report similar coefficient alphas, (.92, .94, .92, Berrera, et al, 1981, Berrera & Ainlay, 1983). The results from this study demonstrate high internal consistency among the items on the ISSB.

In summary, both the APPS4 and ISSB show strong degree of internal relatedness among the items in the scale. The small sample size limits

the generalizability of the results to the general population of pregnant adolescents. From these results, it appears that the APPS4 is reliable for evaluating the perceived supportiveness of school teachers, nurses and social workers. Further testing to evaluate the measurement of perceived support from counselors using a larger sample size needs to be done. Monitoring absence of responses for patterns is indicated when using the ISSB.

Research Questions and Hypothesis

Calculation of mean scores, Pearson-product moment correlation coefficient and analysis of covariance (ANCOVA) was used to answer the research question one, research question two and hypothesis, respectively. Because of the extremely small sample size, these results are not statistically "significant" and can only be taken as descriptive of the sample. The sample produced three groups of pregnant adolescents. Group one (1) are those adolescents in the inclusive program (n=5), group two (2) are those adolescents in the supplemental programs (n=3), and group three (3) are those adolescents who remained in school but were not enrolled in any special classes related to pregnancy (n=2). Although the research question and hypothesis did not include this third group, results will be discussed and contrasted to groups 1 and 2.

Research question 1

Are selected school personnel who provide services in inclusive APPs perceived by the pregnant adolescent to be more supportive as compared to school personnel who provide services in supplemental APPs?

The mean score for the 24 item APPS4 was calculated for three groups: Group one - pregnant teens enrolled in inclusive programs, 2.54, group two - pregnant teens enrolled in supplemental programs, 2.88, and, group three - pregnant teens who remained in school but were not enrolled in special classes related to the pregnancy, 2.44 (on a scale of 1 to 5). Given the results from the small number of cases in this pilot, these mean scores indicate pregnant teens in supplemental programs perceive more support from school than the pregnant teens in inclusive programs and those not enrolled in any special coursework.

The results above indicate that the teens in supplemental APPs find the environment more supportive. These are the teens who remain in their regular high school and transfer into special classes related to pregnancy and parenting. They do not have to transfer to another school building or to a separate program. A possible reason for the feeling of less support by teens in inclusive programs may have social and political underpinnings. The supportive environment of the APP can be politically and socially stigmatized. Although state and local school districts realize these teens need special services, the controversy remains over where the services are provided. Several reports reveal that the pregnant teen who remains in the regular school setting "bring sexuality matters to the attention of other adolescents" (Weatherley, Perlman, Levine, Klerman, 1986, p. 76). These teens offend influential adults in the community and, thus, special APPs are segregated and tend to keep a low profile. These sentiments about the program, (and the pregnant teen) isolate the teen from her peers and may generate feelings

within the teen of being "unsightly and immoral" (Perlman & Weatherley, 1986, McCarthy & Radish, 1983).

A difference was noticed in the subscale scores between the teens in the two programs. The teens in the supplemental APP reported receiving an average 'amount of' support as compared to the teens in the inclusive APP who report a of small 'amount' of support. The need of specific types of support or a description of satisfaction with the support given to the pregnant adolescent is not described in the literature. In the literature, evaluation of APPs are based on maternal outcome, infant outcome and educational achievement. Although these are important issues, these outcomes are "after the fact" and the present reality of dealing day to day with the adolescent is left to the program personnel. This small sample appears to show that there is a perception of more support from the supplemental APPs than from inclusive APPs.

Both inclusive and supplemental APPs provide pregnant teens exposure to other teens in similar circumstances. The benefits of peer to peer contact based on what the adolescent perceives is not empirically described in the literature. Transferring from their regular school into an inclusive APP may promote feelings of isolation from long time friends who are not pregnant. Furthermore, this may also increase their stress because of having to make new friends. Isolation from long time friends and having to make new friends may be a factor in the reduced perception of support from the school system and school personnel in inclusive programs.

Research question 2

Knowing that the pregnant adolescent may also receive support from her family, friends, neighbors, etc., what impact does this perceived support received from people in general have on the perception of support from her school program?

The results of the Pearson product-moment correlation coefficient demonstrated that there is a relationship between the adolescents' perception of general support and the adolescents' perception of specific support (school support) within the total sample. However, school support and general support are perceived as different. Therefore, the scores from the ISSB, measuring general support, were introduced as a covariate to answer question 2.

The statistical analysis of the impact of perceived general support on the perceived school support showed that the teens enrolled in inclusive programs perceived more support from the school personnel after general support was factored. The teens in supplemental programs perceived school personnel to be supportive whether or not general support was a factor. However, comparing the adjusted means of the two groups, the teens attending the supplemental APP perceive more support (2.88) from their school programs than the teens attending inclusive programs (2.58).

The teens who remained in school without special classes related to pregnancy (group 3) perceived more general support than teens in the other two groups. Adjusting the mean score of the APPS4 for this group by factoring the general support variable (ISSB) showed that the teens perceive less support from the school personnel. Thus, the teens who

remained in school without special classes were receiving more support from their general environment than their school environment (school personnel).

Hypothesis

Pregnant adolescents enrolled in inclusive adolescent pregnancy programs will perceive more social support from selected school personnel as compared to those pregnant adolescents enrolled in supplemental adolescent pregnancy programs.

Interpretation of the data analysis reveals that pregnant adolescents who attend supplemental APPs perceive their school program to be more supportive than the teens who attend inclusive programs. These results cause the hypothesis to be rejected. Controlling for general support received from family, friends or neighbors clarified the teens perception of support from the school program.

The results from these three groups appears to support the need for special involvement of the school system in the care of pregnant adolescents. Results of one study identified support needs of pregnant and parenting adolescents. Barth, Schinke & Maxwell (1983) compared responses of 185 pregnant or parenting teens with non-pregnant teens, all who were in an APP or regular school, related to issues of adolescent parenting and childbearing. The pregnant and parenting teens reported both needing and having more social support than non-parenting girls and the black adolescent tended to receive more social support than whites. Identification of specific supportive factors to the adolescents is not part of either the Barth, Schinke & Maxwell study nor described in this research.

Advantages and disadvantages over the type or structure of APPs the pregnant teen attends is debatable. Zellman's (1982) research of 12

APPs concludes that inclusive programs are "short-term interventions which have little or no communication with regular school staff" (p. 20). The regular school staff feel they are not obligated to provide special services to special needs students and that having a program in the district, outside the regular school setting, is good enough. On the other hand, supplemental programs avoid the hassle of having to transfer to another school and school faculty would have to interact with pregnant students on the basis of academics and attendance as they would with any other student (Zellman, 1982).

In summary, although there is little research about the adolescents' perception of social support from their school program, the results from this small sample tends to show supplemental APPs programs (group 2) are perceived to be more supportive than inclusive APPs (group 1). Furthermore, students who remain in school but not enrolled in special APPs (group 3), attain more support from their environment, excluding school personnel. The literature on the school's role in dealing with adolescent pregnancy describes weak and unclear school policies as to the faculty and administrator involvement with and response to the care of these students. The response of the school system and the community at large may have an impact on the perception of support the adolescent feels she receives from school programs. Furthermore, identification of the needs of these special students by asking them about their needs during pregnancy and after delivery will assist in the creation of new interventions to strengthen the supportive environment of the school personnel and school systems.

In the next section, the results of this study will be applied the conceptual frameworks' of Rogers, Dewey and social support.

Modification of the Conceptual Model
Based on Study Findings

The conceptual scheme for this research, as shown in Figure 2 (chapter II), offers a comparison of the nursing theory of Rogers and the educational theory of Dewey, each offering social support to the pregnant adolescent. Social support becomes a tool for both nursing and school personnel in the care of the pregnant adolescent.

The adolescent continues to grow and develop even as the pregnancy progresses. The pattern of growth is altered as compared to other non-pregnant adolescents yet she develops in unique areas not perceived by her non-pregnant peers (responsibility for health and care of a fetus and child). The impact of nursing care in this model appears to be illuminated as the pregnant adolescent seeks prenatal care and health counseling. Developing a relationship with pregnant adolescents involves physical, social and psychological care which increases in frequency and intensity as the adolescent nears delivery.

Nursing's role, according to Rogers, is to promote "symphonic interaction between man and environment . . . to direct and redirect patterning of human and environmental fields for realization of maximal health potential (Rogers, 1970, p. 122). Environmental interaction with the human field is seen in Figure 3 by the increasing rhythmicities and increasing arrows to between nursing and Unitary man depicting the principles of integrality, helicy and resonancy.

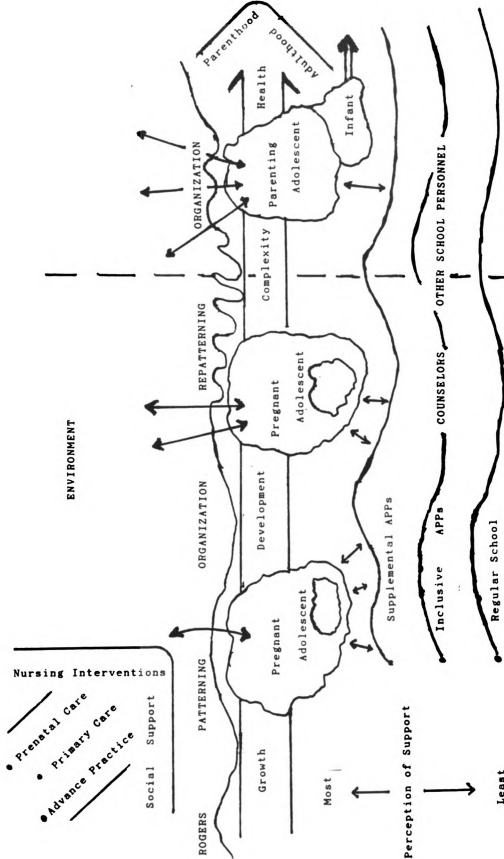


Figure 3: Modification of Rogers' Theory of Nursing and Dewey's Theory of Education related to perceived Social Support of the pregnant adolescent attending a school-based pregnancy program.

Nursing, as an environmental field of the pregnant adolescent, responds to the increasing complexity of the teen's life helping her to understand and deal with the ensuing stresses or strains. This research revealed that the small group of participants were receiving adequate prenatal care and contact with nursing personnel. Providing social support is a nursing intervention which plays an important role in buffering the stress of pregnancy and dealing with specific problems that surround the pregnant adolescent (Brown, 1986). Implications for nursing practice will be discussed later in the next section.

Dewey's principles of education are valid and important in the education of pregnant adolescents but difficult to recognize in today's educational systems. School is a place where students should be educated according to their interests or needs via interaction with an environment that offers experiences for the student to grow and develop. The ability of the school system and their personnel to change with the needs of the student is controversial related to special education for pregnant teens. The solid, wavy line in Figure 2 depicts the restructuring, adaption and transformation of the school system as the teen develops prior to pregnancy. This line changes to a broken line of varying degrees for those who remain in school while pregnant. The amount of continuity of each line represents the perception of supportiveness by the pregnant teens of the school personnel in the three groups. For the pregnant teens who drop out of school, the line stops during pregnancy and, hopefully, continues after delivery as they continue their education.

For this research, two school programs were utilized: one run by a city school district and one run by a county school district. Establishing programs such as these emphasize the ability of the school environment and community to adapt to the needs of the changing adolescents. Dewey would describe this restructuring and transformation as continuity of life. In Michigan, state and local support helped to develop and maintain APPs which have demonstrated success in keeping the teens in school, encouraging good prenatal care, reducing rates of infant mortality, prematurity and low birthweight and preventing repeat pregnancy (Epstein, 1986). Dewey's principle of democracy is demonstrated by the mutual interest of state and local governments in Michigan regarding the incidence and pregnancy outcomes of adolescents and the ability of the communities to change.

The Epstein (1986) Report on the eight model school-age parenting programs in Michigan included the two school sites in this study and the programs serving the urban clinic site. In the report, the dropout rate for students who became pregnant over the three year evaluation period was 19%. Thus, the results of this study and the Epstein report describe a need to focus on earlier identification and intervention with pregnant teens including outreach education and follow up after delivery.

The objective of education, according to Dewey, is to prepare the young for future responsibilities and success in life through experience and knowledge acquisition (1938). For the teens in this research who are in APPs, they are being prepared for the responsibilities and stresses of parenthood focusing on parenting skills, infant growth and

development and problem solving and decision making exercises about their present and future situations. The arrows to and from the adolescent, in Figure 3, decrease in number as the pregnancy progresses representing the increasing physical discomforts impacting the teens ability to attend school.

Teachers play an important role in a child's education. The teachers, in this research, were not singled out as to the amount of supportiveness they provide. From statistical analysis of the data from this research, the pregnant teens reported the counselors as providing a different type of support as compared to the other school personnel. Because of the small sample size it is difficult to determine how the support differs. However, schematically, counselors are identified in Figure 3 as providing different support to encourage more research on this phenomenon.

Social support is likely to be effective only to the extent to which it is perceived (House, 1981). Measuring social support objectively via levels of amount and satisfaction with support activities was the goal of this research. The tools used in this research contained questions about emotional, instrumental (practical aid), information and appraisal (feedback) support which House (1981) describes as integral concepts of social support. It was not the intent of this research to look at the individual concepts of social support. However, additional research describing specific types of support (i.e., emotional, practical, information and appraisal) perceived by pregnant adolescent from school personnel would be advantageous in identifying strengths and weaknesses in the APPs.

House (1981) bases his philosophy of social support on stress producing situations at work/school which may impact the health of the individual. The results of this research show that support was perceived, at best, only at an average level. Group three, teens in regular school, reported school to be less supportive when general support was factored out. This raises the question as to whether school is supportive at all or is it more of a stressor to this group of pregnant adolescents.

In Figure 3, perceived social support from the school programs is shown as wavy lines external to the adolescent. A scale is provided indicating the level of support and the ranking of the school programs. Support provided by APP has not been measured objectively and, therefore, the results of this study are tenuous pending more research.

Research done with pregnant women shows social support to be beneficial to buffering stress of pregnancy resulting in improved maternal and newborn outcomes. (Nuckolls, Cassel, & Kaplan, 1972, Tilden, 1983, Brown, 1986). School programs, because of the significant contact with the pregnant teen can play a supportive role. Measuring the support already provided by these programs, identifying weaknesses and developing interventions to counter stress and enhance support should be goals for school based APP.

In summary, it appears that there are programs and services that have been created for pregnant teens to promote and improve health and educational outcomes. Weaknesses lie in ongoing evaluation of the services related to social impact on the student, coordination and linkage between the school and community resources and support for

continuing education for teachers and school staff about health needs of pregnant students. Implications of the study findings for nursing practice will be presented in the next section of the chapter.

Implications for Nursing Practice

Rogers' theory of nursing is schematically presented in Figure 1 (Chapter II) and modified in Figures 2 (Chapter II) and 3 (Chapter IV). In all the figures, nursing is represented as part of the pregnant adolescents' environment. Normally, nursing contact would be on a routine, health promotion or health maintenance basis. However, pregnancy changes the frequency and intensity of the contacts, i.e., monthly visits for six months and then biweekly and weekly as the adolescent nears delivery. Utilizing the nursing process format, implications from this research related to the nursing practice include:

- a) determining the role of nursing in the care and treatment of the pregnant adolescent, and, b) development and planning of supportive interventions which will maintain the health of the pregnant adolescent and her fetus while she remains in school.

Research about and evaluation of programs providing primary care to pregnant adolescents supports the use of nurses in advanced practice (i.e., clinical nurse specialists, CNS) to improve health and pregnancy outcomes (Neeson, et al., 1983, Institute of Medicine, 1985, Skinner, et al., 1986). There has been increasing support for school based clinics to care for adolescents. Meeker, et al., (1968) in their research of school based clinics supervised by nurse practitioners revealed that nurse practitioners (NP) "can and do provide care without extensive physical involvement for most of the child's health problems and also

identify and manage critical and complex health problems" (p. 89). Likewise, clinic based teenage pregnancy programs staffed by nurses in advanced practice can effectively manage these teens. Nurses in advanced practice (practitioners and midwives) tend to relate to their patients in a non-authoritarian way and focus on education and support for the pregnant teen (Institute of Medicine, 1985).

A nurse practitioner/clinical nurse specialist (NP/CNS) should be available to inclusive and supplemental school based adolescent pregnancy programs. If a school does not have a supplemental APP curriculum on site and has a high incidence of adolescent pregnancy for which those students choose not to transfer out to an inclusive program, contracting with a NP/CNS might be an option to monitor the health of these students. Availability of the NP/CNS may not mean daily visits to school, however, establishing routine office hours at the schools including involvement in teaching courses about pregnancy are ways to increase the adolescents access to a health care professional. Maintaining the continuous contact using the same NP/CNS is important to maintain continuity, build rapport and plan and implement interventions to help the teen. Visability at the school setting also increases the school personnel's access to the NP/CNS for collaboration and coordination of services.

Having office hours at the school may or may not include the facilities to provide physical care. Linkage to a convenient, community based health care facility where the NP/CNS can provide the clinical care is a must. This aspect can be attractive to a health care system as this represents community outreach and increased visability.

The role of the clinician involves assessment of client needs related to physical care, education and support as she adjusts to the pregnancy. The current project utilized two assessment tools to provide subjective information on perception of support which could be administered in the clinic setting. The Adolescent Pregnancy Program Social Support Source Scale (APPS4) provided a rating of the student's perception of support from her school program, specifically school teachers, counselors, social workers and nurses. The Inventory of Socially Supportive Behaviors (ISSB) provided a rating the pregnant teens perception of general support from persons other than school personnel.

Rogers' theory supports the continued assessment of 'Unitary man' over time to identify patterns of growth and organization. The adolescent and her world are considered energy fields which interact. It is the pattern and organization of man's interaction with the environment that develops his unique identity (Rogers, 1970). Interaction patterns are altered by the crisis of pregnancy making the adolescent vulnerable to difficulties in communicating needs. Utilizing comprehensive lists of health or personal needs with pregnant adolescents has produced well defined interests (Giblin, Poland & Sachs, 1986). The instruments used in this research could be used at the initial visit to identify the need for specific types of support and assess the teens relationship with her school program.

As a clinician, measuring social support objectively, other than by written questionnaire, can be problematic. Encouraging the teen to bring her mother, the father of the baby or a significant other who she

feels is supportive during prenatal visits can provide additional social support information. Observing interactions of the teen helps to evaluate how she is coping with the pregnancy. The ability to provide continuous care can promote the role of nurse assessor related to personal support systems of the pregnant teen.

The information obtained by the APPS4 assesses another aspect of the environment surrounding the adolescent. The importance of and satisfaction with school are identified as predictors of risk taking behaviors and the adolescents' ability to cope with normal stresses and strains of adolescence (Held, 1981, Pletch, 1988). Through continued contact with school personnel, the NP/CNS can confirm the academic status, verify support, identify referrals the school system provides and allow for collaboration in the care of the pregnant adolescent.

A distressing finding in this study is the number of students not in school. Dissatisfaction with school and limited occupational goals have been identified as precursors to pregnancy risk behavior (Ralph, Lockman & Thomas, 1984). Pregnant students who remain in school attain more health care during pregnancy and have better pregnancy outcomes (Leppert, Namerow & Horowitz, 1985, Epstein, 1986). Continued assessment of school attendance and supportive counseling to assist the adolescent with problem solving and decision making in the primary care site can identify pregnancy risk behaviors and prevent interruption of academic and health care services.

Assessment of needs allows for the development of objectives and goals to plan interventions (Giblin, Poland and Sachs, 1986). Goals for care of the pregnant adolescent include:

- a) Health promotion and health maintenance for the teen and her fetus,
- b) Detection and treatment of potential health complications during pregnancy,
- c) Continuing academic study before and after delivery,
- d) Psychological maturation to deal with present stresses and in preparation for delivery, and finally,
- e) Identification of support services within the school system for pregnant and parenting teens.

In this study, the need to attain and strengthen support systems surrounding the pregnant adolescent was emphasized. Interventions focusing on building support within the teen's family and peer network are important (Becerra & deAnde, 1984, McCubbin, Needle & Wilson, 1985). Developmentally, the pregnant teen is experiencing identity diffusion as she becomes more dependent on her parents versus the developmental task of gaining independence and increase interactions with peers (Havighurst, 1972, Cochran & Brassard, 1979). Instead, the pregnant teen becomes isolated from peers and identify their mother as the most important person at this time (Becarra & deAnde, 1984, Panzarine, 1986). The teen's mother should be included in the care of the adolescent.

Isolation from peers and increased dependence on her mother can interfere with development of her identity and self-confidence. The NP/CNS should stimulate discussion with the adolescent about relationships with her peers prior to the pregnancy, including the relationship with the father of the baby, and how those relationships have changed. Through active listening and discussion, the NP/CNS can assist the adolescent to develop ways of handling these situations including acting them out through role playing. Encouraging the teen to invite a special friend to come with her to appointments with the nurse may strengthen the relationship and support the teen.

There are many dimensions to caring for the pregnant adolescent which could overwhelm the nurse. Recognition of the need for multidisciplinary support for the client and including them in the plan of care is important (Giblin, Poland & Sachs, 1987). Comprehensive care for this population includes input from dietitians, social workers, counselors, teachers and physicians who play different roles and can also provide support to the adolescent. Rogers eloquently describes the coordinator role of nursing, "Professional nursing seeks to promote symphonic interaction between man and environment . . . and to direct and redirect patterning of human and environmental fields" to achieve maximal health outcomes (p. 122).

Many people, including teachers, have difficulty addressing or dealing with issues related to sexuality. Furthermore, the teachers have ambivalent feelings about pregnant teens remaining in regular school classes. Educational and counseling opportunities should be offered to teachers to strengthen their ability to communicate, interact with and help pregnant students. The NP/CNS involved with the school could provide information about the impact of pregnancy on the teens growth and development and health care issues the teen has to deal with. The counselor could clarify the school referral system and other community resources for the teachers.

Programs to educate and inform teachers need money for program development and time to get school staff involved. Manpower and commitment is a must to promote involvement which the teachers can share with other students to promote a supportive and understanding environment for pregnant adolescents.

Implementation of the plan of care involves consistent care givers who are accessible to the adolescent. Joint visits and mutual goal setting with the adolescent and the physician who will be delivering her will promote continuity and help to decrease her fears once in the labor and delivery area. Working with adolescent can be trying under normal circumstances because of their unpredictable behavior and emotional lability. Development of rapport and trust is the building block to the nurse-client relationship (DeSantis, 1986). Repeated visits to the same care giver with input from the primary physician promotes individualized prenatal care to implement and evaluate health activities (Neelson, et al., 1983).

A report prepared for the U. S. Department of Health and Human Services on planning adolescent pregnancy programs supports the use of case managers.

" . . . to expand the availability of and access to comprehensive services, (adolescent pregnancy) programs must both assess their client's individual needs and provide or arrange for services to meet those needs. Some one must assume responsibility for monitoring individual cases to make sure that clients get available services according to their needs (Burt & Sonenstein, 1984, p. 16)

Case management is not a new concept to health care. Currently, however, it is being brought back as a health management intervention for clients with complex health needs. Acting as change agents in the care of pregnant adolescents, nurses in advanced practice can and should be case managers providing services in health education and counseling coordinating services and providing hands on care assuming the responsibility for services. Assisting the adolescent in working with

the social/medical systems and coordinating efficient care provides support to maintain a productive relationship.

The NP/CNS as case manager would need to develop a strong working relationship with the counselors, school nurse and teachers. In this study, it appears that counselors provide support to the pregnant adolescent which was different than the support provided by teachers, social workers or nurses. Further research on the role of the counselor in working with pregnant adolescents is indicated.

The role of the school nurse in the care of the pregnant adolescent is questionable. Many districts do not have school nurses. Those who employ nurses, utilize these professionals to coordinate school wide health promotion activities such as immunizations, provide episodic care and health education. Because of these broad responsibilities, the NP/CNS could assist the school nurse in monitoring the teens through consultation and team meetings including the school faculty involved with the student. Supporting the role of the burdened school nurse in the care of the pregnant adolescent promotes the comprehensive focus of APPs related to provision of health monitoring and education.

Evaluation of services provided to pregnant adolescents is based on the pregnancy outcomes of maternal and fetal complications, infant outcomes, completion of high school and reduction of repeat pregnancy (Smith, et al., 1978, Epstein, 1986, Heins, Nance and Ferguson, 1987). This research focused on identifying supportive factors provided which then could be used in attaining healthy outcomes and develop productive individuals. As the primary care giver, the CNS/NP is in the position to identify system weaknesses, coordinate and evaluate services and

implement referrals. The CNS/NP promotes her role as clinician and educator via continuity of care and monitoring the adolescents progress.

In summary, the research findings were related to the steps in the nursing process with a focus on the nurse in advanced practice providing care in a primary care setting. Using instruments such as the APPS4 and ISSB in the assessment of the pregnant adolescent's perceived social support assists in the development of a comprehensive data base. Study findings raise questions about potential gaps in the health and educational needs of adolescent which have implications for nursing. Promotion of primary care services through case management has been discussed as a vehicle to improve and promote comprehensive services to pregnant adolescents.

In the next section of the chapter, implications for nursing education will be presented.

Implications for Nursing Education

Implications of nursing education based on the research findings will emphasize the conceptual framework upon which this study was based. Selected concepts of the framework will be presented followed by pertinent study findings and the implications which they infer.

Use of Rogers' five assumption, described in Chapter II, have importance for nursing education. These assumptions describe the growth and development of Unitary man over time who develops a unique personality and mind in response to environmental experiences and interactions. Use of Rogers theory by nurse educators in the

conceptualization of adolescent growth and development allow theory to illuminate reality and promote understanding theoretical concepts.

The impact of pregnancy on adolescent growth and development identifies chronological age versus gynecological age as a dimension of risk. Although controversies exist about the "high risk" status of the pregnant adolescent, it promotes critical analysis of literature and application in practice (Bucholtz & Gol, 1986). Naeye (1981) supports the notion that pregnant adolescents are not at risk for pregnancy complications because of physical immaturity. Rather it is the psychosocial dimension surrounding the adolescent that increase risk factors.

Social support as a dimension of the adolescent environment includes the school program. Community health nursing must be involved in the care of the pregnant adolescent and interface with the educational system. Dewey's educational theory stresses the learning that occurs because of experiences the student encounters. This client is under age, but soon to be a single parent. Her resources are limited because of her inability to negotiate a complex health and social services system. Nursing education and experience dealing with community networks, including schools, social services, mental health and health care, is essential in order to provide comprehensive care and appropriate referral of adolescent clients for services. The nurse, as a role model for the adolescent, can promote understanding of negotiating systems which will be useful in future situations.

Social support from the family needs to be a primary focus of nursing education. Change in one part of the family system impacts

other parts of the system. Education about exercises to use with adolescent related to values clarification and decision making are a must (Mercer, 1985). In this study, 90% of the teens were at home with their mothers. Family interaction and counseling, especially the inclusion of the teen's mother is essential as a source of support (Mercer, 1985, Panzarine, 1986).

In this study, two tools which assess the perception of support by the adolescent were utilized. The NP/CNS can use these tools, which are short and easy to understand, to assess the pregnant adolescent's perception of social support from school and in general. Although the APPS4 needs further testing, it provides specific information about the school environment. Use of well developed and tested tools like the ISSB should be promoted by nurse educators in the gathering of objective data about client perceptions and feelings.

Negotiating complex education, social and health care systems in the midst of the crisis of pregnancy is overwhelming for the adolescent. The impact of these complexities and the identification of adolescents who may drop out of school needs to be included in nursing education about the care of adolescents for the prevention of being lost in the system and isolated from peers and potential support systems.

While the findings from this study are inconclusive, implications about the primary care role of nurses including provision of support and collaboration with the educational system provides new perspectives for nursing education related to the care of pregnant and non-pregnant adolescents. In the next section of this chapter, implications for future research will be presented.

Implications for Nursing Research

A number of implications for further research may be derived from this study. Suggestions for improvement of design of this study include:

1. An increase in sample size in order to both increase the generalizability of findings and enhance the possibilities of obtaining statistically significant correlations
 - a. Increase the age range to include adolescents less than 18 years of age to attain a larger sample size.
 - b. Increase the number of data collection sites, especially the school programs and additional clinics who have teen pregnancy programs.
2. Provide incentives for the adolescent to participate in the study.
 - a. Develop a "buddy system" using teens who already participated to recruit other eligible participants.
3. Enhancing the parental consent process to include phone consent and mail consent.
4. Ideal data collection times at school sites should be November and December and March through May.

Additional recommendations for further study include:

1. With a larger sample size, statistical analysis of the types of perceived support each category of school personnel may provide, especially focusing on the role of the counselor.
2. Development of objective measures to evaluate the peer to peer support.

3. Development of measures to assess the impact of having to change schools on the pregnant adolescent.
4. Description of the teens who stay in their regular school program while pregnant.
5. Identification of those teens who drop out of school, assessment of their support systems, values and plans for the future, including longitudinal follow up.
6. Specific focus on teens age 14 and younger related to the role of school, including the junior high and/or the transition to an inclusive, in providing a supportive environment.

Summary

In Chapter VI a summary and interpretation of study findings was presented. Findings were related to the conceptual framework and the nursing theory of this study. Recommendations for nursing practice, education and research were presented.

APPENDICES

APPENDIX A

BACKGROUND DATA QUESTIONNAIRE

BACKGROUND DATA QUESTIONNAIRE

Below are general questions about your background and school program. Please place an (X) in the appropriate blank or fill in the blank as you answer each question. Answer all the questions to the best of your ability. Remember all your answers are confidential. Thank you for volunteering to participate in this research.

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9. How many prenatal visits have you attended to date? (check one)
 _____ 5 or less visits
 _____ 6 to 11 visits
 _____ 12 or more visits
10. How old was your mother when she had her first baby? (fill in)
 Age _____
11. What is the highest grade of education your mother completed?
 (check one)
 _____ 9th grade or less
 _____ 10th grade
 _____ 11th grade
 _____ High school diploma
 _____ Some college
 _____ Two (2) years of college
 _____ Four (4) years of college
 _____ Graduate level or above
12. What is the highest grade of education your father completed?
 (check one)
 _____ 9th grade or less
 _____ 10th grade
 _____ 11th grade
 _____ High school diploma
 _____ Some college
 _____ Two (2) years of college
 _____ Four (4) years of college
 _____ Graduate level or above

Section Two

The following questions are about your school and classes. Please place an (X) in the appropriate blank as you answer each question.

13. What grade are you in now? (Check one)
 _____ 8th _____ 9th _____ 10th _____ 11th _____ 12th
14. On the average, how many days per week have you attended school during the last two (2) months? (Check one)
 _____ 1-2 days _____ 3-4 days _____ 5 days
15. On the average, how many hours per day do you spend at school?
 (Check one)
 _____ 1 to 2 hours _____ 3 to 4 hours
 _____ 5 to 6 hours _____ 7 or more hours

16. How many months have you attended the classes provided by this program? (check one)

----- one month	----- five months
----- two months	----- six months
----- three months	----- seven months
----- four months	----- eight months
	----- nine months

17. How did the school system find out about your pregnancy?
(Check one)

----- You confided in or approached a school teacher
----- You confided in or approached a school counselor
----- You confided in or approached a school nurse
----- You confided in or approached a school social worker
----- Friends told
----- A school teacher approached you
----- A school counselor approached you
----- A school nurse approached you
----- A school social worker approached you
----- Other
----- I don't know

APPENDIX B

ADOLESCENT PREGNANCY PROGRAM SOCIAL SUPPORT SOURCE SCALE

APPENDIX B

ADOLESCENT PREGNANCY PROGRAM SOCIAL SUPPORT SOURCE SCALE*

This is a questionnaire about the school personnel involved with the adolescent pregnancy program you attend. I would like to learn more about the support you receive from : 1) school teachers, in general (both the program teachers and any teachers you have contact with during the school day), 2) school counselors, 3) social workers, both in your school or if they come to your school to talk with you, and 4) school nurses or community nurses who come to your school.

As you can see in section one, the answers are ranked on a scale from "Almost None" to "A Great Deal" for section one. In section two, the answers are ranked on a scale from "very dissatisfied" to "greatly satisfied". Please circle the number that best describes your feelings or perceptions.

Section One

	Almost None	A Small Amount	An Average Amount	A Large Amount	A Great Deal
If you wanted to talk to someone at school about things that are very personal and private, in general, how much comfort, concern or caring do you <u>feel</u> you receive from:					
1. School teachers?	1	2	3	4	5
2. School counselors?	1	2	3	4	5
3. School social workers?	1	2	3	4	5
4. School nurses?	1	2	3	4	5

If you needed to borrow something or needed help with something (clothes, food, money, help with finding housing or services), in general, how much help or assistance do you feel you receive from:

5. School teachers?	1	2	3	4	5
6. School counselors?	1	2	3	4	5
7. School social workers?	1	2	3	4	5
8. School nurses?	1	2	3	4	5

*Adapted from Caldwell & Reinhart (1987)

	Almost None	A Small Amount	An Average Amount	A Large Amount	A Great Deal
How much positive feedback, (meaning when they like your ideas or the things that you do), do you <u>feel</u> you receive from:					
9. School teachers?	1	2	3	4	5
10. School counselors?	1	2	3	4	5
11. School social workers?	1	2	3	4	5
12. School nurses?	1	2	3	4	5

In general, how much advice or information do you feel you receive from:

13. School teachers?	1	2	3	4	5
14. School counselors?	1	2	3	4	5
15. School social workers?	1	2	3	4	5
16. School nurses?	1	2	3	4	5

Section Two

	Very Dissatisfied	Dissatisfied	Satisfied	Largely Satisfied	Greatly Satisfied
In general, how <u>satisfied</u> have you been with the concern or caring (for example, the opportunities to talk about things that are personal and private) you have received from:					
17. School teachers?	1	2	3	4	5
18. School counselors?	1	2	3	4	5
19. School social workers?	1	2	3	4	5
20. School nurses?	1	2	3	4	5

In general, how satisfied have you been with the amount of help or assistance (opportunities to borrow or receive money, food, clothes, etc.) you have received from:

	Very Dissatisfied	Dissatisfied	Satisfied	Largely Satisfied	Greatly Satisfied
21. School teachers?	1	2	3	4	5
22. School counselors?	1	2	3	4	5
23. School social workers?	1	2	3	4	5
24. School nurses?	1	2	3	4	5

In general, how satisfied have you been with the amount of positive feedback (letting you know they liked your ideas or things that you did) you have received from:

25. School teachers?	1	2	3	4	5
26. School counselors?	1	2	3	4	5
27. School social workers?	1	2	3	4	5
28. School nurses?	1	2	3	4	5

In general, how satisfied have you been with the amount of advice or information you have received from:

29. School teachers?	1	2	3	4	5
30. School counselors?	1	2	3	4	5
31. School social workers?	1	2	3	4	5
32. School nurses?	1	2	3	4	5

APPENDIX C

INVENTORY OF SOCIALLY SUPPORTIVE BEHAVIORS

APPENDIX C

INVENTORY OF SOCIALLY SUPPORTIVE BEHAVIORS*

I am interested in learning about some of the ways that you feel people, other than school personnel, for example, your family, friends or neighbors, have helped you or tried to make life more pleasant for you over the past four weeks. Below you will find a list of activities that other people might have done for you, to you, or with you in recent weeks. Please read each item carefully and indicate how often these activities happened to you during the past four weeks. Please circle the reply that best fits you. Use the following scale to make your ratings:

0. Not at all
1. One (1) or two (2) times in the past four (4) weeks (2/30)
2. One time per week (4/30)
3. Several times a week (12/30)
4. Once a day (30/30)

	Not At All	1 to 2 Times in Past Month	One Time per Week	Several Times per Week	Once a Day
During the past 4 weeks, how often did people do these activities for you, to you or with you:					
1. Was right there with you (physically) in a stressful situation.	0	1	2	3	4
2. Provided you with a place where you could get away for awhile	0	1	2	3	4
3. Told you what she/he did in a situation that was similar to yours.	0	1	2	3	4
4. Did some activity with you to help get your mind off things.	0	1	2	3	4
5. Talked with you about some interests of yours.	0	1	2	3	4
6. Let you know that you did something well.	0	1	2	3	4
7. Went with you to someone who could take action.	0	1	2	3	4
8. Told you that you are OK just the way you are.	0	1	2	3	4

*Berrera, Sandler, & Ramsay (1981)

	Not At All	1 to 2 Times in Past Month	One Time per Week	Several Times per Week	Once a Day
9. Told you that she/he would keep the things that you talked about private - just between the two of you.	0	1	2	3	4
10. Assisted you in setting a goal for yourself.	0	1	2	3	4
11. Made it clear what was expected of you.	0	1	2	3	4
12. Verbalized admiration or respect for a skill or personal quality of yours.	0	1	2	3	4
13. Gave you some information on how to do something.	0	1	2	3	4
14. Suggested some action that you should take.	0	1	2	3	4
15. Gave you over \$25.	0	1	2	3	4
16. Comforted you by showing you some physical affection.	0	1	2	3	4
17. Gave you some information to help you understand a situation you were in.	0	1	2	3	4
18. Provided you with some transportation.	0	1	2	3	4
19. Checked back with you to see if you followed the advice you were given.	0	1	2	3	4
20. Gave you under \$25.	0	1	2	3	4
21. Helped you understand why you didn't do something well.	0	1	2	3	4
22. Listened to you talk about your private feelings.	0	1	2	3	4
23. Loaned or gave you something (a physical object other than money).	0	1	2	3	4
24. Agreed that what you wanted was the right thing to do.	0	1	2	3	4

	Not At All	1 to 2 Times in Past Month	One Time per Week	Several Times per Week	Once a Day
25. Said things that made your situation clearer and easier to understand.	0	1	2	3	4
26. Told you how he/she felt in a situation that was similar to yours.	0	1	2	3	4
27. Let you know that he/she will always be around if you need assistance.	0	1	2	3	4
28. Expressed interest and concern in your well-being.	0	1	2	3	4
29. Told you that she/he felt very close to you.	0	1	2	3	4
30. Told you who you should see for assistance.	0	1	2	3	4
31. Told you what to expect in a situation that was about to happen.	0	1	2	3	4
32. Loaned you over \$25.	0	1	2	3	4
33. Taught you how to do something.	0	1	2	3	4
34. Gave you feedback on how you were doing without saying it was good or bad.	0	1	2	3	4
35. Joked and kidded to try to cheer you up.	0	1	2	3	4
36. Provided you with a place to stay.	0	1	2	3	4
37. Pitched in to help you do something that needed to get done.	0	1	2	3	4
38. Loaned you under \$25.	0	1	2	3	4
39. Looked after a family member while you were away	0	1	2	3	4
40. Watched after your possessions when you were away (pets, plants, books, home, apartment, etc.)	0	1	2	3	4

APPENDIX D

PROPOSAL TO DATA COLLECTION SITES

APPENDIX D

PROPOSAL TO DATA COLLECTION SITES

Comparative Study of Perceived Social Support by Pregnant Adolescents Attending Alternative School-Based Pregnancy Programs

Sharon E. Long RN
Michigan State University
College of Nursing, Graduate Program
May 16, 1988

Address: 41709 Bedford
Canton, MI 48187
(313) 981-3430

Purpose: Completion of a Thesis for a Master of Science Degree in
Nursing

Proposed beginning and termination dates: May 3 to June 3, 1988

Thesis Committee Chairperson: Barbara Given, RN PhD

Research Proposal

Purpose

Pregnant adolescents, by law, have the right to receive education of equal quality as other students as described in Title IX of the Education Amendments. School districts have developed programs to assist the pregnant teens to remain in school, to support her through this stressful time and to promote the health of both the adolescent and the fetus. The purpose of this study is to compare two groups of pregnant adolescents who attend different alternative school-based pregnancy programs (APP) as to the perceived supportiveness provided by the teachers, counselors, social workers and nurses to pregnant teens enrolled in these programs.

Hypothesis

Pregnant adolescents enrolled in inclusive adolescent pregnancy programs will perceive more social support from selected school personnel as compared to those pregnant adolescents enrolled in the supplemental adolescent pregnancy programs.

Methods

The research consists of a cross-sectional survey design utilizing two questionnaires to be administered to pregnant adolescents. Background data on the subjects will, also, be collected (tools enclosed). The sample population is 20 pregnant adolescents, ages 14 to 17, who are at least 24 weeks gestation or greater. Rationale for selection of the age group is related to the various developmental stages that occur during the period of adolescence, defined as from age 12 to 19. This age range is middle adolescence which the literature describes as having specific developmental tasks to deal with. Selection of teens who are at least 24 weeks gestation is related to the decision to continue the pregnancy and, furthermore, most teens have been identified by the school program and are enrolled in courses related to the pregnancy.

Permission to access the students will be obtained from either the school superintendent or program director by either written letter or by school district criteria and application to perform research. Selection of the sites was based on ease of access to student and the number of students in each program to obtain an appropriate sample from each type of school program. This represents a non-random convenience sample. Participation by the students is voluntary. Time to complete questionnaires is estimated to be 20 to 30 minutes.

Risk/benefit ratio

A. There are no identified risks to the individual student or the school program.

B. Confidentiality for the students will be maintained. No names or identification numbers will be put on the forms. The background data to be collected would be difficult to trace back to individual students. Only this researcher and her research advisors in the College of Nursing will have access to the data.

C. There are no direct benefits to be gained by the individual students. The school programs will receive analyzed results of the study which may be utilized as a form of evaluation and feedback from the students about their program. If requested, results from their specific program will be provided.

This research will add to the body of knowledge about an aspect of educational and health care services provided to pregnant adolescents. A main concept of this research is that the recipients of the services are evaluating the respective programs which, to date, has not been done in the literature.

Consent

After approval to do the research at each data collection site, determination of the eligible participants will be made via discussion with each site contact person. Parental/guardian consent will be

obtained. A letter and consent form will be sent home with the participant (see attached). Both parent and student have to sign the consent and return it the day of data collection.

Arrangements will be made to meet with the participants. Time and room arrangements will be made with the help of each site contact person. Need for repeat data collection times will be determined by the number of participants, their stage of pregnancy, and their progression to 24 weeks gestation. Administration of the questionnaire will be in a "classroom" style setting depending on the number of participants and space available at the facility.

This researcher will be the sole data collector. At each data collection time, the researcher will read a brief overview of the purpose of the research, the questionnaires and the procedures, which is printed on the cover sheet of the tool (see enclosed tool with cover sheet).

APPENDIX E
SCREENING QUESTIONNAIRE

APPENDIX E
SCREENING QUESTIONNAIRE

Please answer the following four questions as indicated.

1. During January, 1988 to June, 1988, did you attend school at least three (3) days per week? (check one)

yes _____

no _____

If yes, continue to question two. If no, thank you for your time; it was very much appreciated.

2. Did you attend a special school program, because you were pregnant, which was not located in your regular school building? (check one)

yes _____

no _____

3. Did you remain in your regular school and attend special classes at your school during the day that taught you about pregnancy, childbirth and how to stay healthy while you are pregnant? (check one)

yes _____

no _____

4. Did someone in the school system (a teacher, a counselor, the nurse or other school personnel) know about your pregnancy? (check one)

yes _____

no _____

APPENDIX F
COVER LETTER AND CONSENT

APPENDIX F

COVER LETTER AND CONSENT

Dear Parent/Guardian:

The (data collection site) has graciously consented to allow me to conduct a study about perceptions of social support by pregnant adolescents on a group of students who are willing to participate. This study is being conducted by myself as part of the requirements of Master of Science in Nursing through Michigan State University.

I am a registered nurse and have worked with pregnant and parenting teens for several years, presently in a hospital in Detroit. I am interested in finding out more about how pregnant adolescents feel about the support they receive from their school program and, in general, how much support they are receiving now. I will be asking them to:

1. Fill out a questionnaire asking for general background information, for example, their age, grade, delivery date, number of prenatal visits, hours spent at school, etc.
2. Check how they feel about the support they receive from school teachers, school counselors, school social workers and school nurses.
3. Check how they feel about the amount of support they are receiving in general, for example, from family, friends or neighbors.

The questionnaires are confidential and the student anonymous. Participants will not be known to school officials. Participation is voluntary. You may choose not to participate or your daughter may refuse to answer certain questions and may stop at any time. Estimated time to complete the questionnaires is 20 to 30 minutes.

It is very important to learn as much as we can about the amount of support school programs are providing to the teenager. This evaluation may be used to continue to develop stronger programs for this special group. Your teenager's input will help nurses, educators, and other professionals deal with the special needs of pregnant adolescents.

If you are willing for your daughter to participate in this study, will you please sign the attached consent form and send it back with her on the day of the survey. I would be more than happy to discuss any part of the research with you.

Home Phone:
(313) 981-3430

Sincerely,
Sharon E. Long, RN,
Graduate Student
Michigan State University
Clinical Nurse Specialist Program

CONSENT FORM

PARENT/GUARDIAN:

I voluntarily consent to my daughter participation in this research study about perceptions of social support in pregnant adolescents conducted by Sharon E. Long, RN as part of the requirements of the degree, Master of Science in Nursing, through Michigan State University. I understand the purpose and the format of the study. I understand that I or my daughter may decide not to participate at any time without any penalty or may choose not to answer certain questions. I also understand that all results of the survey will be kept strictly confidential and all participants will be anonymous. However, the results will be made available to the participants, within the confidential restriction, upon request.

Signature of Parent/Guardian

Date

STUDENT:

I am willing to participate in this research study about perceptions of social support in pregnant adolescents conducted by Sharon E. Long, RN. I understand that I may decide not to participate at any time without any penalty or I can refuse to answer certain questions. I also understand that all results will be kept confidential and I will be anonymous. I may request the results, in the confidential format, after the research is completed.

Signature of Student

Date

APPENDIX G
QUESTIONNAIRE COVER SHEET

APPENDIX G
QUESTIONNAIRE COVER SHEET
INSTRUCTIONS

THANK YOU FOR VOLUNTEERING TO PARTICIPATE IN THIS RESEARCH STUDY!

This research will be looking at how supportive your school program has been to you while are pregnant. Answers to the questionnaire you agreed to fill out will only be seen by myself and my advisors at Michigan State University. No one from your school or the clinic will be able to see these answers. You may request results of the findings of this study after the research is completed. The questionnaire has three parts:

- Part A asks for background information about yourself and your school. Most questions require only a 'check mark' or short answer, for example, your age.
- Part B asks for your feelings about the amount and satisfaction of support you feel you receive from specific school personnel you have contact with. There is a scale provided with each question for which you circle a number that corresponds to your feelings.
- Part C asks for your feelings about the amount of support you feel you have received people other than school personnel, for example, your family, your friends or your neighbors, during the past month, both at school and at home. Again, a scale is provided with each question for which you circle a number that corresponds to your feelings.

**** PLEASE ANSWER EACH QUESTION AS HONESTLY AS POSSIBLE. THERE ARE NO RIGHT OR WRONG ANSWERS, JUST WHAT YOU FEEL.**

I expect you will be able to complete all parts within 20 to 30 minutes. More time will be allowed if you need it. I will be here to answer any questions while you complete the questionnaire. Thank you again for your time.

Sharon E. Long, RN, Graduate Student
Michigan State University
Family Clinical Nurse Specialist
Home Phone: (313) 981-3430

APPENDIX H
APPROVAL FROM UNIVERSITY COMMITTEE ON
RESEARCH INVOLVING HUMAN SUBJECTS

MICHIGAN STATE UNIVERSITY

UNIVERSITY COMMITTEE ON RESEARCH INVOLVING
HUMAN SUBJECTS (UCRIHS)
238 ADMINISTRATION BUILDING
(517) 355-2186

EAST LANSING • MICHIGAN • 48824-1046

May 26, 1988

Sharon Long, R.N.
41709 Bedford
Canton, MI 48187

Dear Ms. Long:

Subject: "COMPARITIVE STUDY OF PERCEIVED SOCIAL SUPPORT BY
PREGNANT ADOLESCENTS ATTENDING ALTERNATIVE SCHOOL-
BASED PREGNANCY PROGRAMS IRB# 88-169"

The above project is exempt from full UCRIHS review. I have reviewed the proposed research protocol and find that the rights and welfare of human subjects appear to be protected. You have approval to conduct the research.

You are reminded that UCRIHS approval is valid for one calendar year. If you plan to continue this project beyond one year, please make provisions for obtaining appropriate UCRIHS approval one month prior to May 26, 1989.

Any changes in procedures involving human subjects must be reviewed by the UCRIHS prior to initiation of the change. UCRIHS must also be notified promptly of any problems (unexpected side effects, complaints, etc.) involving human subjects during the course of the work.

Thank you for bringing this project to our attention. If we can be of any future help, please do not hesitate to let us know.

Sincerely,



John K. Hudzik, Ph.D.
Chair, UCRIHS

JKH/sar

cc: B. Given

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BIBLIOGRAPHY

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