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Self-Esteem, Family Support, Peer Support, and Depressive Symptomatology: A Correlational Descriptive Study of Pregnant Adolescents

Janice Gunter Harris

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This dissertation, SELF-ESTEEM, FAMILY SUPPORT, PEER SUPPORT, AND DEPRESSIVE SYMPTOMATOLOGY: A DESCRIPTIVE CORRELATIONAL STUDY OF PREGNANT ADOLESCENTS by Janice G. Harris, was prepared under the direction of the candidate's dissertation committee. It is accepted by the committee members in partial fulfillment of the requirements for the degree of Doctor of Philosophy in Nursing in the Byrdine F. Lewis School of Nursing in the College of Health and Human Sciences, Georgia State University.

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ABSTRACT

SELF-ESTEEM, FAMILY SUPPORT, PEER SUPPORT, AND DEPRESSIVE SYMPTOMATOLOGY: A DESCRIPTIVE CORRELATIONAL STUDY OF PREGNANT ADOLESCENTS

By

Janice G. Harris

Although there is a growing body of research in the area of adolescent pregnancy and parenting, relatively little research has addressed the psychological effects of pregnancy on the adolescent. A descriptive correlational study was utilized to examine levels of depressive symptomatology, self-esteem, perceived social support from family and friends, and the relationship among these variables in the pregnant adolescent. A second purpose of the study was to describe characteristics of the pregnant adolescent (age, race or ethnicity and educational level). The theoretical framework for this study was derived from The Conceptual Model of Support during Adolescent Pregnancy.

Participants for the study were recruited from two school programs for pregnant adolescents, a physician's office, and a clinic. A convenience sample of 90 single pregnant teens between the ages of 13 to 18 participated in the study. The teens completed a demographic form and four questionnaires: the Reynolds Adolescent Depression Scale, the Rosenberg Self-Esteem Scale, the Perceived Social Support from Family Scale, and the Perceived Social Support from Friends Scale.

Demographic data were analyzed using descriptive statistics. A one-way analysis of variance (ANOVA) was computed to determine the significance between the depression scores and each of the demographic variables. The relationship between the adolescent's total depression score and self-esteem, perceived family support and perceived peer support was determined by computing Pearson product-moment correlations. Regression analyses were conducted to determine the best linear model to explain the variance in the total depression scores and the combination of the independent variables (self-esteem, perceived social support from family, and perceived social support from friends) in the pregnant adolescents.

Thirteen (14%) of the adolescents exceeded the cutoff score of 77. The regression analysis of the RADS-2 score on the predictor variables (self-esteem, perceived support from family, and perceived support from friends) accounts for 56.9% of variance in depression of adolescents during pregnancy. The adolescents in this study who experienced increased self-esteem and perceived support from family and friends had decreased scores on the RADS-2 scale. Increased self-esteem or feelings of self-worth was the most significant variable in this study as a predictor of depressive symptomatology.

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LIST OF ABBREVIATIONS

ANOVA	Analysis of Variance
HDRS	Hamilton Depression Rating Scale
PDPI	Postpartum Depression Predictors Inventory
PSS-Fa	Perceived Social Support from Family
PSS-Fr	Perceived Social Support from Friends
RADS	Reynolds Adolescent Depression Scale
RSES	Rosenberg Self-Esteem Scale
SES	Socioeconomic Status
SPSS	Statistical Package for Social Sciences

CHAPTER 1

INTRODUCTION

Statement of the Problem

Adolescent pregnancy continues to be a major concern in the United States today despite the decline in births among adolescents. All states have made impressive strides in reducing the teen birth rate. In Georgia, the teen birth rate declined 27% between 1991 and 2002. Yet, there is still much work to be done. The U. S. continues to have the highest rate of teen pregnancy and birth rates among comparable countries (Alan Guttmacher Institute, 2004; The Georgia Campaign for Adolescent Pregnancy Prevention, 2005; The National Campaign to Prevent Teen Pregnancy, 2004). Teen pregnancy and its related effects have negative consequences for the adolescents, their infants and families, and ultimately society (Field, Pickens, Prodromidis, Malphurs, Fox, Bendell, Yando, Schanberg, & Kuhn, 2000; Spear, 2004).

Successful attempts have been made to improve health outcomes for pregnant adolescents by encouraging early prenatal care and providing additional resources to address socioeconomic issues (Coley & Chase-Lansdale, 1998; Koniak-Griffin, Anderson, Verzemnieks, & Brecht, 2000). Yet, psychological well-being of the adolescent during pregnancy is a major area of concern that has received less attention. Research indicates that high levels of stress and anxiety, low social support networks, and depression during pregnancy have a powerful negative effect on

maternal functioning and well-being (Cosey & Bechtel, 2001; Cunningham & Zayas, 2002; Dayan, Creveull, Herlicoviez, Herbel, Baranger, Savoye, & Thouin, 2002), fetal outcomes (Field, Diego, Hernandez-Reif, Schanberg, Kuhn, Yando, & Bendell, 2002; Misri, Oberlander, Fairbrother, Carter, Ryan, Kuan, & Reebye, 2004), and child development (Lundy & Field, 1996; Monk, 2001). This phenomenon is especially significant during adolescence because this is a time of rapid developmental change and stress. Adolescents giving birth are challenged with a dual developmentalism. The adolescent is struggling to achieve the developmental tasks of adolescence while preparing for the ensuing birth and parenting role (Adams & Kocik, 1997; Barnet, Joffe, Duggan, Wilson, & Repke, 1996; Erikson, 1963; Leppert, 1984). This change and stress are perceived differently by each individual and influenced by personal and demographic characteristics. When a lifelong change such as an unexpected pregnancy occurs, more stress is added to this already tumultuous time. The demands of pregnancy and subsequent parenting during this period of development may amplify vulnerabilities of the adolescent (SmithBattle & Leonard, 1998). Pregnant teens are at increased risk for stress, despair, depression, feelings of helplessness, low self-esteem, and a sense of personal failure (Heights, Perrin, & McDermott, 1997; Hudson, Elek, & Campbell-Grossman 2000; Klein, 1998).

Significance of the Study for Nursing

Although there is a growing body of research in the area of adolescent pregnancy and parenting, relatively little research has addressed the psychological effects of pregnancy on the adolescent. Findings from this research have been conflicting and have failed to identify the processes that allow some adolescents to

overcome this disruptive situation (Coley & Chase-Lansdale, 1998; Connelly, 1998; Spear, 2001; Spear, 2004). Assessing for depression during pregnancy and identifying associated factors that may affect the psychological well being of the adolescent could contribute to the understanding of individual differences during this transition. Understanding the psychological and emotional states that accompany adolescent pregnancy may serve to reduce the negative outcomes for these young women and their children.

Purpose of the Study

The purpose of this descriptive correlational study was to describe characteristics of the pregnant adolescent (age, race or ethnicity, educational level, and annual income). A second purpose of the study was to examine levels of depressive symptomatology, self-esteem, perceived social support from family, perceived social support from friends, and the relationship among these variables in the pregnant adolescent. Findings from this research provide a clearer understanding of the potential psychological impact the stress of pregnancy may have on the pregnant adolescent.

Research Questions

The research questions for the study were:

1. What is the prevalence of depressive symptomatology for the pregnant adolescent?
2. What is the relationship between depressive symptomatology, self-esteem, perceived family support, and perceived peer support in the pregnant adolescent?

Theoretical Framework

Evidence from the review of literature validates the special association between depressive symptomatology, self-esteem, and sources of social support utilized by the pregnant adolescent. Yet, it is difficult to identify a well-integrated theory that links these concepts.

Blake and Beard (1999) proposed a theoretical model to explore the concept of "support" as it relates to adolescent pregnancy. The Conceptual Model of Support during Adolescent Pregnancy includes the concepts of support, stress, and adaptation as they relate to developmental considerations of adolescent pregnancy. "The theoretical framework is derived from Erik Erikson's stages of development, social support theory, stress theories, and Roy's Adaptation Model" (Blake & Beard, 1999, p. 51). Each of the components of the model is provided with an overview of how the model guided the research.

The Conceptual Model of Support during Adolescent Pregnancy

The Conceptual Model of Support during Adolescent Pregnancy (Blake & Beard, 1999) provides a framework to understand how the concept of support during adolescent pregnancy provides a barrier to events perceived as stressful to promote adaptation for the pregnant adolescent. Social support may decrease the intensity or number of life events seen as a crisis or social support may aid in acquiring the means and skills required to buffer the effects of stress (Zachariah, 2004). The concept of self-esteem is addressed in the self-concept mode of adaptation and relates to the adaptation of the adolescent, both physical and mentally, to changes experienced during pregnancy. The model proposes that during pregnancy there are two possible

outcomes related to stress. The adolescent may be called upon to develop styles of coping perceived as either adaptive or maladaptive. If the stress is greater than perceived support, maladaption occurs and maladaption could lead to a negative health outcome for the adolescent. The negative outcome for this proposed research is depressive symptomatology. If the appropriate support is provided to the adolescent to relieve stress, a positive health outcome is anticipated.

Historical Perspective of Model

The Conceptual Model of Support during Adolescent Pregnancy is derived from Erik Erikson's stages of development, social support theory, the theory of stress and coping, and Roy's Adaptation Model. Each of these components is discussed briefly.

Erik Erikson's Developmental Stages. Adolescence is defined as the period from the beginning of puberty until maturity and is described as a psychological, social, and maturational process. This process is characterized by rapid growth not only physically but also psychologically (Blake & Beard, 1999). Erikson's (1963) developmental theory describes the struggle for identity in adolescence as the task of identity versus role diffusion. In the development of sexual identity, priorities differ according to age and gender. Younger adolescents have very different abilities and needs than older adolescents while middle age adolescents may possess characteristics of both groups as they transition to adulthood. The adolescent's move toward autonomy and away from parental authority and control may result in conflicting emotions. Pregnancy during adolescence may force the adolescent to give up some measure of parental protection and nurturance before secure and comfortable emotional self-reliance is possible (Erikson).

Social Support Theory. The concept of support in this model represents perceived social support. Perceived social support is defined as the extent to which an individual believes that his or her need for support, information and feedback are fulfilled. Perceived support has been shown to be more strongly associated with improved outcomes than other measures of network support such as number of family members or friends (Procidano & Heller, 1983). Support is further defined as emotional support, appraisal support, and informational support. These concepts represent the various forms of support that an adolescent might require or receive during pregnancy (Kearns, Neuwelt, Hitchman, & Lennan, 1997; May, 1992). Support serves as a potential buffer for stress during pregnancy (Blake & Beard, 1999). An adolescent has the need for social relationships and support whether she is pregnant or not. An absence of social relationships can lead to emotional loneliness and stress (Klein, 1998). Pregnancy that disrupts the adolescent's social relationships may be a stress-inducing factor (Blake & Beard, 1999; Klein, 1998).

Theory of Stress and Coping. The concept of stress in this model represents both the physiological and psychological stress that can occur during pregnancy. Lazarus and Folkman (1984) defined stress as a personal experience that reflects a disturbance in the relationship between the person and the situation or the environment. The situation is perceived as stressful when the perceived demands exceed an individual's perceived resources. The process through which the individual manages these emotions is defined as coping. The cognitive relational theory of emotion and coping identifies two interacting cognitive appraisal processes that determine the reaction of an individual to the stress. Primary appraisal of the situation

helps to determine whether what is happening could be harmful, threatening, challenging, beneficial, or of no importance. Secondary appraisal evaluates the physical, psychological, social, and material resources available (Lazarus & Folkman, 1984).

Lazarus and Folkman (1984) support that skillful "copers" are effective in appraising the possible threats and dangers associated with the situation. The perception of social support is useful for appraisal and subsequent coping with stress. The adolescent may experience a decrease in stress with the utilization of appropriate support systems. It is important to examine the positive and negative effects of social support and the sources of support to determine what is perceived as appropriate in each individual situation.

Roy's Adaptation Model. Roy's Adaptation Model focuses on human adaptive system responses and the environment, which are constantly changing (Fawcett, 2000). There are four central components identified by Roy: person, environment, nursing, and health. The person is conceptualized as a bio-psycho-social being in constant interaction with the environment (Roy, 1980). Roy has broadly defined environment as "all conditions, circumstances, and influences that surround and affect the development and behavior of the person" (Andrews & Roy, 1991a, p. 18). Adaptation is the central feature and a core concept of the Roy Adaptation Model. Adaptation means interacting positively with the environment and thereby promoting health (Roy, 1980). The nurse functions as the "agent of adaptation" and facilitates the person's adaptation (physiologic and psychosocial) in both health and illness. Health as a state reflects the adaptation process. Roy's concept of adaptive modes

encompasses four dimensions: physiologic mode, self-concept mode, role function mode, and interdependence mode. The physiological mode is associated with the way humans as individuals interact as physical beings with the environment. The self-concept mode pertains to the beliefs and feelings that a person holds about him- or herself at a given time. The role function mode focuses on the roles that the individual occupies in society. Finally, interdependence mode for the individual focuses on interactions related to the giving and receiving of love, respect, and value (Roy & Andrews, 1999). Each of these modes requires a different type of adaptation during pregnancy.

Theoretical Propositions

The Conceptual Model of Support during Adolescent Pregnancy is based on three theoretical propositions that can be generalized about the relationship between stress and adolescent pregnancy (Blake & Beard, 1999).

1. If pregnancy happens during adolescence then physiological and/or psychological stress results.
2. If a pregnant adolescent receives support during pregnancy, stress will be reduced, thereby the potential for positive outcomes increased.
3. If a pregnant adolescent does not receive support during pregnancy, then stress could lead to negative outcomes for the adolescent and her infant.

The Conceptual Model of Support during Adolescent Pregnancy is based on six theoretical propositions from the relationship between the Roy Adaptation Model and support during adolescent pregnancy (Blake & Beard, 1999).

1. If a pregnant adolescent receives support during her pregnancy, then adaptation to the phenomenon of pregnancy can occur.
2. If the adolescent adapts to the physiological and psychological alterations that can occur during pregnancy, then adaptation will contribute to positive outcomes for the adolescent and her infant.
3. If a pregnant adolescent does not receive support during pregnancy, then maladaption to the phenomenon of pregnancy can occur.
4. If maladaption occurs during adolescent pregnancy, then negative outcomes for the adolescent and her infant could occur.
5. Goal setting between the nurse and the pregnant adolescent can be utilized to promote adaptation and reduce stress.
6. Goal setting between the nurse and the pregnant adolescent can contribute to positive outcomes for the adolescent and her infant.

Assumptions for This Research

The assumptions for this research are derived from the theoretical propositions of the Conceptual Model of Support during Adolescent Pregnancy. Pregnancy during adolescence may result in physiological and psychological stress. If the pregnant adolescent receives support perceived as appropriate during pregnancy, stress will be reduced and adaptation to pregnancy can occur. This adaptation will contribute to positive outcomes for the adolescent and her infant. If a pregnant adolescent does not receive support during pregnancy, stress will not be reduced, and maladaption to pregnancy may occur. This maladaption may result in negative outcomes such as depressive symptomatology and low self-esteem. Goal setting between the nurse and

the pregnant adolescent should be utilized to promote adaptation, reduce stress, and contribute to positive outcomes for the adolescent and her infant.

CHAPTER II

REVIEW OF RELEVANT LITERATURE

Although there is a growing body of research in the area of adolescent pregnancy and parenting, findings related to factors that affect the psychological well-being of the pregnant adolescent are conflicting. Studies to date have not directly examined the utility of screening for antenatal depression of the adolescent during pregnancy. This literature review addresses research related to the concepts of depressive symptomatology, self-esteem, family support, and peer support for the pregnant adolescent. While a number of factors have been studied in relation to pregnancy in women older than twenty, review of the literature revealed limited documentation of research-based articles related to these concepts in the pregnant adolescent. A critique of the strengths and weaknesses of the research is included and gaps in the knowledge base are identified. This chapter concludes with a statement of how this study contributes to the body of knowledge in relation to adolescent pregnancy.

Depressive Symptomatology

Historically, the study of depression in adolescents has been influenced by prevailing beliefs that depression is a component of normal adolescent development and inevitable due to the developmental process (Farmer, 2002). This notion that an adolescent is just going through a moody stage is no longer a viable concept. Research has begun to throw doubts on these ideas and additional facts about adolescent

depression have emerged (Mondimore, 2002; Nunley, 1996). Another problem inherent to the study and diagnosis of depression in adolescents is the belief that adolescents experience the same symptoms as adults. More recent researchers have begun to incorporate developmental considerations into their methodologies and believe the assumption can no longer be made that symptoms of adolescent depression are identical to that of adults (Mondimore, 2002; Nunley, 1996; Shugart & Lopez, 2002). Symptoms of anxiety, complaints such as headache and stomachaches, irritability and frustration with frequent temper outburst are usually more prominent in adolescents. Children and adolescents tend to be critical of themselves, have poor self-esteem, may become negative, pessimistic, and feel unloved. The assessment and treatment strategies based on adult models may not truly reflect the experiences and needs of adolescents (Farmer, 2002; Mondimore). It is important to recognize that adolescents' cognitive and emotional functioning differ from that of adults (Cicchetti & Toth, 1998; Leppert, 1984; Piaget, 1952).

Farmer (2002) utilized a phenomenologic approach to describe the experience of major depression from the adolescent's perspective. Adolescents ($N = 5$) focused on anger, fatigue, and interpersonal difficulties as characteristic of depression. Interpersonal difficulties were characterized by an emotional emptiness, an absence of affection for themselves and others. The role of friends during depression was described differently. Two participants described friends as unreliable while, two other participants described friends as numerous, loyal, and helpful through the depression. Farmer believes this research draws attention to the unique and

unexplored aspects of adolescent depression, including intense anger and responses to friendship and family changes.

Numerous studies have examined predictors of postpartum depression in older, pregnant women (Beck, 1992; Beck, 1993; Beck, 2001; Beck, 2002; Beck & Gable, 2001; Horowitz & Damato, 1999; Morse, 1993). Beck (2002) developed a revised version of the Postpartum Depression Predictors Inventory (PDPI) based on the results of an updated meta-analysis. This revised inventory consists of 13 risk factors related to postpartum depression. These risk factors include low self-esteem, prenatal depression, prenatal anxiety, unplanned/unwanted pregnancy, history of depression and inadequate social support. Depressed mood during pregnancy has been linked to adverse outcomes. Women who experience depression during pregnancy are at risk for preterm delivery (Dayan et al., 2002), lower birth weight (Norbeck, DeJoseph, & Smith, 1996) and engaging in adverse health behaviors such as smoking and alcohol use during pregnancy (Cunningham & Zayas, 2002; Marcus, Flynn, Blow, & Barry, 2003; Steer, Scholl, Hediger, & Fischer, 1992).

The study by Marcus and colleagues (2003) concluded 20% ($N = 689$) of the pregnant women, ages 18 to 24, who were screened for depression during pregnancy had significant symptoms of depression. This large study ($N = 3472$) of pregnant obstetric patients revealed both underdiagnosis and undertreatment of depression during pregnancy. Only 13.8% of these women were receiving any form of mental health care. History of depression, poorer overall health, alcohol related consequences, smoking, and lower educational attainment were significantly

associated with symptoms of depression during pregnancy in this study. Maternal age, parity, gestation, and race/ethnicity were found to be unrelated to depression scores.

Hayes, Muller, and Bradley (2001) conducted a prospective, randomized intervention study to determine the effect of an antenatal education intervention in the reduction of postnatal depression with primiparous women, ages 21 to 30. The intervention consisted of providing the intervention group with an informational booklet and video designed and piloted for pregnant women, their partners, and extended family. A midwife guided the participants through the process. Both the intervention group and the control group were interviewed and information regarding mood state, social support and demographic data were obtained. The outcome of changes in mood state was measured once antenatally and twice postnatally. A significant and steady decline in scores was observed over time for both groups and revealed significant improvement in symptoms of depression. Yet, no difference was detected in postnatal levels of depression when comparing the intervention group with the control group. These findings challenge the assumptions that depression can be reduced through education. Secondly, it challenges the belief that antenatal education interventions influence behavior in the postnatal period. The control group scored slightly higher on social support, therefore, support should be considered a contributing factor to decreased levels of depression in the control group. The researchers concluded if the structured interviews received by both groups are an explanation for the reduction in depression, these findings support both antenatal screening of women for symptoms of depression with the follow-up of women during pregnancy and the postpartum. The finding from this study reveals other variables

such as support, in addition to prenatal education, should be considered when addressing depression during pregnancy. Randomization in this study added a high level of credibility to the findings.

Less research has been conducted with the adolescent population in relation to depression during pregnancy and the postpartum period. According to the American Academy of Child and Adolescent Psychiatry (2004), there are many different emotional reactions to adolescent pregnancy. Depression is one of the emotional reactions. Early research conducted with adolescent mothers concluded adolescent mothers, by virtue of being pregnant, are at greater risk for depressive symptomatology than older mothers or peers who delay having children (Barnet et al., 1996; Thomas, Rickel, Butler, & Montgomery, 1990).

More recently, Hudson and colleagues (2000) conducted a pilot study to examine the relationship of depression, self-esteem, loneliness, and social support in adolescent mothers participating in the New Parents Project. A convenience sample ($N = 21$) of adolescent mothers between the ages of 16 and 19 was recruited for the study. Each participant was supplied with a computer and internet access to obtain information, social support, and access to professional assistance. The depression scores were high for 53% of the adolescents and depression was associated with increased feelings of loneliness and decreased social support. There was a significant negative correlation between self-esteem and loneliness, which has also been found in other adolescent populations (Klein, 1998).

Logsdon, Birkimer, Simpson, and Looney (2005) conducted research to determine the effectiveness of a social support intervention delivered to pregnant

adolescents in preventing symptoms of depression at 6 weeks postpartum. The intervention was administered to the participants between 32 and 36 weeks gestation and consisted of either: pamphlet, video, or pamphlet plus video. The social support intervention was based on a synthesis of the literature describing social support needed and desired by postpartum adolescents. There were no significant differences in depression scores at six weeks postpartum between the three intervention groups and the control group. These findings indicate an isolated intervention in pregnancy to strengthen social support is not sufficient to prevent symptoms of postpartum depression. These findings are similar to those from the study by Hayes et al. (2001). Lack of statistical power could have been a factor in the failure of the study to support the hypothesis. Logsdon et al. (2005) conducted a secondary analysis of the data using path analysis of the combined sample from previous studies (Logsdon, McBride, & Birkimer, 1994; Logsdon & Usui, 2001) to compare results. The path analysis revealed that support and self-esteem both have statistically significant direct effects on postpartum depression. Support was perceived negatively in this study and increased postpartum depression while low self-esteem was a predictor of postpartum depression. These findings support previous studies that indicated receiving excessive amounts of support, particularly if the support is unwanted, may not relieve stress. This support may make the postpartum adolescent feel inadequate (Logsdon, Cross, Williams, & Simpson, 2004). This study by Logsdon et al. (2004) was conducted in an alternative school and 68 % of the pregnant adolescents (N = 26) demonstrated symptoms of depression. This research was built on earlier work by Logsdon,

McBride, and Birkimer (1994) and concluded that effective support must match the need and preferences of the recipient.

Summary

Limited research related to depressive symptomatology during pregnancy has been conducted with the adolescent population. Prenatal depression has been identified as a predictor of postpartum depression and has been linked to adverse outcomes; therefore, this is an area that needs more attention. The incidence of depression from this literature review is higher than the 13% commonly reported in the literature for adult women. This is clearly indicative of the need for further research in this area. Even though the interventions in this review were not statistically significant, the science in the area of adolescent pregnancy was advanced by the findings. Perhaps studies with larger, heterogeneous samples would increase generalizability. The documented studies in this review of literature in relation to ethnicity found no differences in levels of depressive symptomatology among racial groups.

Self-Esteem

Self-esteem as a psychological construct has been examined extensively in adolescents (Dubois, Bull, Sherman, & Roberts, 1998; Gray-Little & Hafdahl, 2000; Koenig, Howard, Offer, & Cremerius, 1984; McGee & Williams, 2000; Rosenberg, 1965). Deficits in self-esteem are included as *Diagnostic and Statistical Manual of Mental Disorders (5th Ed.)(DSM-IV)* (American Psychiatric Association (APA), 2000) criteria for both Major Depressive Disorder and Dysthymic Disorder. These deficits have been viewed as a possible predisposing factor in depression (APA, 2000; Becker,

1979; Coley & Chase-Lansdale, 1998; Farmer, 2002). Depression and self-esteem may be viewed as a vicious cycle because the inability to relate positively in social situations may lead to low self-esteem, which leads to depression.

One of the most frequent findings from research during the 1970s was girls report lower self-esteem than boys particularly around puberty. Girls seem to be troubled more by interpersonal relationships and these findings possibly reflect societal views that orient females toward interpersonal, family, and psychological concerns (Simmons & Rosemberg, 1975). A study by Harper and Marshall (1991) concluded girls had significantly lower self-esteem than boys. Two major areas of concern that influenced the self-esteem of girls were health and physical development and home and family. Findings from a study by Feldman and Elliot (1990) regarding self-esteem of girls versus boys were similar to the findings of Harper and Marshall. Feldman and Elliot further concluded parents have a positive effect on their child's self-esteem when they provide encouragement and model openness and acceptance of new ideas. Additional areas that affect self-esteem identified by Feldman and Elliot were social success and school transition. This success may include confidence in appearance, academic ability, athletic ability, and social belonging. Adolescents who do not experience a sense of belonging exhibit lower self-esteem. Female adolescents are vulnerable to low self-image in later adolescence. These findings are of significance to the pregnant adolescent due to the physical changes experienced during pregnancy, the possible interruption of academic studies, and the resulting isolation (Feldman & Elliot). Initial reaction of the adolescent to the pregnancy may be fear of rejection by family and peers. The adolescent may be unsure in whom to confide.

Future educational plans and perception of support from parents are significant factors when making decisions about the pregnancy. Self-conscientiousness and low self-esteem are likely to increase with rapid breast enlargement and abdominal enlargement of pregnancy, particularly for the younger adolescent (Olds, London, Ladewig & Davidson, 2004).

Research supports female adolescents are at increased risk for low self-esteem in comparison to male adolescents. Yet, little research has been conducted to address self-esteem and pregnancy. Robinson and Frank (1994) conducted a qualitative study to examine self-esteem in relation to sexual behaviors of adolescents and unplanned pregnancy. In this study, sexual activity or virginity were not related to levels of self-esteem. Findings from a study conducted by Spencer (1998) are inconsistent with the conclusions from the study by Robinson and Frank. The longitudinal study by Spencer explored the gender differences in self-esteem as a predictor of subsequent initiation of coitus in early adolescents. Results confirm that gender differences in self-esteem exist but lower levels of self-esteem are predictive of sexual debut for girls. Additionally findings from the study by Robinson and Frank concluded pregnant teens and nonpregnant teens had similar levels of self-esteem. Robinson and Frank support similar levels of self-esteem in the pregnant and nonpregnant teens in this study may be due to the fact most teens were from rural areas where the family is supportive of the pregnant teen. In populations where adolescent pregnancy is more prevalent and more socially acceptable, family and friends may be more supportive of the pregnant adolescent. Also, some of the teens were in their last trimester of pregnancy and had possibly adapted to the pregnancy with a positive self-concept.

Connelly (1998) utilized a cross-sectional design to describe the perceptions of hopefulness, self-esteem, and social support among pregnant ($N = 58$) and nonpregnant ($N = 91$) adolescents. Connelly determined that although adolescent pregnancy is assumed to be associated with hopelessness, low self-esteem, and inadequate social support, the empirical data to support this assumption is weak. In 1998, The National Institute of Health (NIH) recognized the unique issues regarding research with children and adolescents and recommended when there is a sound scientific rationale for including children in research, they should be included unless there are overriding reasons for exclusion (NIH Guide, 1998). Since this time, researchers working with adolescents have produced meaningful studies. Findings by Connelly revealed pregnancy status was not associated with hopefulness, self-esteem, or perceived social support without the influence of age and socioeconomic status (SES). Pregnancy status was correlated with self-esteem and tangible support, but these effects disappeared when age and SES were controlled. Connelly concluded some adolescents may not view pregnancy as a hopeless situation. The goal of having a child may be for some the same as the goal of going to college and establishing a career. Connelly further concluded trimester of pregnancy may influence the adolescent's self-esteem. Adaptation to the pregnancy, peer support, and family acceptance may increase as the pregnancy progresses. Conclusions from this study should be considered tentative until replication studies can be conducted. The adolescents in this study were affiliated with supportive networks such as school, health care agencies, and social services. Therefore, the social support received may

result from attention to ensure adequate prenatal care and the need to complete school (Connelly,1998).

Levels of self-esteem must also be considered in the context of racial and ethnic differences. Studies have been conducted to include participants from various ethnic and religious backgrounds (Despenza-Myers, 2005; Robinson & Frank, 1994). Despenza-Myers conducted a study of 61 African American adult women who were pregnant during adolescence. The data from this small sample revealed that during and immediately after an adolescent pregnancy, the young mothers' overall evaluations of themselves were lower than before the pregnancy and the overall evaluations were also lower than their current self-esteem. Yet, relatively little research has been conducted to compare levels of self-esteem in relation to ethnicity. Carlson, Uppal, and Prosser (2000) examined ethnic differences in self-esteem for adolescent girls, ages 11 to 16. This study by Carlson et al. revealed no differences between African Americans' and Caucasians' global self-esteem among 2,000 middle school students in Texas.

Summary

The literature reveals females report lower self-esteem than males particularly around puberty and females are more concerned with body image and physical development. There are relatively few documented studies that address self-esteem and adolescent pregnancy. Research examining levels of self-esteem between pregnant and nonpregnant adolescents is inconclusive. The sample selection for these studies was relatively homogeneous with respect to ethnicity, geographic location and socioeconomic status. Studies conducted in relation to ethnicity found no differences

when comparing levels of self-esteem. Lack of minority participation may result in self-selection bias. Additional research is needed to examine the relationship between self-esteem and other variables such as social support, age, ethnicity, and socioeconomic status in the pregnant adolescent. Longitudinal studies should be conducted to capture the complex phenomena under study.

Social Support

Social support is comprised of a multidimensional collection of material, emotional, or informational resources. These resources are provided through social ties with family, friends, groups, or professionals (Canuso, 2003; Norbeck, Lindsey, & Carrieri, 1981; Procidano & Heller, 1983). Social support is an ongoing human need; yet, the need becomes more acutely felt during times of transition such as pregnancy. The choice of support for an adolescent is greatly affected by age and developmental level. Early adolescents attach more importance to acceptance by peers. Therefore, friendships and peer groups often fulfill developmental needs at this stage rather than relationships with parents (Erikson, 1963; Van Beest & Baerveldt, 1999). The adolescent hopes to attain autonomy from the family and develop a sense of personal identity (Erikson). Pregnancy during this developmental period may complicate this struggle for self-identity and independence.

A correlational study by Stevenson, Maton, and Teti (1999) examined the role of social support and relationship quality on the psychological well-being of pregnant adolescents. Particular noteworthy is the finding that bi-directional exchange of support between parents and adolescents is positively associated with well-being. These findings suggest a supportive relationship between a pregnant teen and her

parents leads to an increased sense of mastery and life satisfaction. These teens also exhibited decreased depression and anxiety. In regards to support from friends, this study determined support from friends who have little understanding of the demands of pregnancy is seldom helpful.

Conflicting findings from two more recent studies revealed that even though the most frequent providers of social support to pregnant and parenting adolescents are the adolescents' mothers, and the fathers of the infants, the relationship is not always a positive one (Paskiewicz, 2001; Rentschler, 2003). Paskiewicz conducted a qualitative study to explore and describe the relationships between African American pregnant adolescents ($N = 15$) and their mothers. Four major themes emerged from the analysis: communication between mother and daughter, role change, conflict, and social isolation. The absence of communication regarding the pregnancy was almost universal. This lack of communication resulted in denial, anger, and guilt. Mothers and daughters who felt negative about their relationships expressed negative feelings about the change in their lives and roles since the birth of the baby. Conflicts within the relationships before and after birth of the baby were described by all of the mothers and daughters. Social isolation appeared to be more frustrating to the teen because it limited the time spent with friends.

Rentschler (2003) conducted a descriptive qualitative study to gain a clearer understanding of teens' perspectives on pregnancy and parenting. One of the major themes that emerged was "transformed relationships." Despite the positive attention some of the teens received from friends, a major concern revolved around lost friendships, loneliness, and decreased social activities. The teens found it more

difficult to be a part of social activities that reflect normal teen life. Findings regarding mother-daughter relationships were similar to findings from the study by Paskiewicz (2001). A common thread identified throughout the interview was conflict, and loss of autonomy. Some daughters had chosen to live apart from the mother but the pregnancy forced the teen to relinquish their independence. In contrast, 12 of the teens ($N = 20$) felt their relationships with their mothers seemed to change from being antagonistic to a relationship of understanding and empathy. The mothers of the teens now filled the void created by lost relationships with peers. This study also explored relationships with the father of the infant. Fourteen of the pregnant teens did not want to have any communication with the father of the baby. Two of the teens planned to marry the father and were confidant the relationship would work. Four of the teens planned to continue the relationship with the father but working out issues related to the role of the father was a major concern.

Spear (2001) conducted a hermeneutic study to gain insight into the day-to-day experience of pregnancy from the perspectives of pregnant adolescents. Eight pregnant adolescents were interviewed twice over a 16-week period. The findings suggest the adolescents were optimistic and had a tendency to minimize the negative aspects associated with early childbearing. These adolescents were more motivated academically and enjoyed close relationships with their mothers. The adolescents in this study believed that becoming a mother would elevate them to adult status and would have little impact on their personal lives. Yet, the teens indicated they would rely on adult family members for support, particularly their mothers, to care for their children. Spear concluded that from a developmental and cognitive standpoint, some

adolescents are unable to see the connection between pregnancy and parenting. This may be indicative of the limited ability of some adolescents to think abstractly (Piaget, 1952). All of the teens expected the fathers of their infants to be involved in their lives and viewed marriage as an option but not a necessity. Only one teen mentioned a relationship with her own father and spoke of his excitement about the pregnancy.

Spear (2004) conducted follow-up interviews with two adolescent mothers who participated in the earlier study by Spear (2001) on teen pregnancy. Even though the two young mothers still maintained a sense of optimism and hope for the future, it was tempered by feelings of regret, isolation, and mourning of a lost childhood. Both teens felt they were no longer able to have fun with friends. These teens were able to adequately manage single motherhood with the support of family, maternal grandmothers in particular. Both teens had renewed relationships with their own fathers and felt they were very supportive and willing to help.

Summary

The choice of support for an adolescent is greatly affected by age, developmental level, and personal situations. Some adolescents in this literature review spoke positively of the support received from family but often times this support conflicted with their search for independence. The teens also voiced feelings of isolation due to lost friendships. The concept of social support related to the adolescent has been examined in recent research studies but the findings are conflicting. The qualitative studies are significant since qualitative designs are appropriate when little is known about a subject or when findings are inconsistent

(Creswell, 1998; Fain, 2004). Additional research with different populations will increase generalizability of findings.

Conclusions of Review of Literature

Several concerns have been identified following this review of literature. Adolescent depression as a whole remains under recognized. Limited research has been conducted to address depressive symptomatology of the pregnant adolescent even though depression during pregnancy has been identified as a risk factor for postpartum depression and other adverse outcomes. Most studies in this review lack a theoretical framework to guide the research. The qualitative studies may contribute to theory development and refinement of existing theories that relate to the concepts of depression, self-esteem, and social support. Research conducted in the area of adolescent well-being and pregnancy has been defined differently by researchers and findings are inconsistent. Findings are conflicting regarding the relationship between depressive symptomatology, self-esteem, and social support. There is no consistent definition of the concept of social support. Studies to date have not examined the utility of screening for antenatal depression in the pregnant adolescent. Undiagnosed and untreated depression affects the mother directly and the infant indirectly through the mother's behaviors. This research study expanded the knowledge base related to depressive symptomatology, self-esteem, perceived social support from family, and perceived social support from friends in the pregnant adolescent. Findings from this research study have the potential to guide healthcare providers in the development of strategies and interventions that are vital in promoting the health and well-being of adolescents during pregnancy.

CHAPTER III

METHODOLOGY

This chapter describes the methodology that was used to conduct the study. The following sections are included: study design, definitions, sample, setting, methods utilized to protect human subjects, instruments used to measure the study variables, procedures followed to collect data, and statistical techniques used to analyze the data.

Study Design

A descriptive correlational study was used to describe characteristics of the pregnant adolescent (age, race or ethnicity, educational level, and annual income). The study further examined levels of depressive symptomatology, self-esteem, perceived social support from family, perceived social support from friends, and the relationships among these variables in the pregnant adolescent. The investigator scheduled visits to each of the participating sites to collect data from the pregnant teenagers who met inclusion criteria. Paper and pencil questionnaires were administered to each of the teenagers to obtain data for the study.

Definitions

The following terms and definitions were used for this study.

Pregnant Adolescent

Pregnant adolescents participating in this study were 13 to 18 years of age. Adolescence is defined as the period from the beginning of puberty until maturity.

The onset of maturity is a gradual process with developmental differences within each age group in terms of cognitive ability, communication, and social skills (Erikson, 1963; Piaget, 1952). Very little research has been conducted with the younger adolescent so this age group was included to expand the knowledge base related to these teens. Nineteen year olds were excluded from this study because most of the adolescents in this age group have completed their high school education. Upon graduation, adolescents generally establish a different support system from one associated with the school environment and this could have impacted the study findings.

Depressive Symptomatology

The most prevalent definition of depression is "a mood disturbance characterized by feelings of sadness, despair, and discouragement resulting from and normally proportionate to some personal loss or tragedy (Mosby, 1998, p. 467). Mosby further defines depression as "an abnormal emotional state characterized by exaggerated feelings of sadness, melancholy, dejection, worthlessness, emptiness, and hopelessness that are inappropriate and out of proportion to reality." According to the *Diagnostic and Statistical Manual of Mental Disorders IV* (American Psychiatric Association, 2000), the essential features of a depressive episode is a period of either depressed mood or the loss of interest or pleasure in nearly all activities for at least two weeks. The mood for children and adolescents may be irritable rather than sad. Depression in the adolescent is expressed not as a single symptom but as a cluster of symptoms that may include lowered self-esteem, social withdrawal, fatigue, impaired school performance, crying spells, sleeping and eating disturbances, and self-

destructive impulses (APA, 2000). Depressive symptomatology was operationally defined as the score on the Reynolds Adolescent Depression Scale (RADS).

Self-Esteem

A commonly accepted definition of self-esteem is the "evaluation which the individual makes and customarily maintains with regard to himself, expressed as an attitude of approval or disapproval" (Rosenberg, 1965, p. 5). Self-esteem is an on-going developmental process and is influenced by new situations and events. Positive experiences lead to higher evaluations of self-esteem, while failure or rejection lead to a decline in self-esteem (Mruk, 1995). Generally, adolescents are more keenly concerned with their self-image and what others think of them than other age groups. Social acceptance and interpersonal relationships have a significant affect on self-esteem (Nunley, 1996). Friendships are known to contribute to self-esteem from adolescence through adulthood (Cauce, Mason, Gonzales, Hiraga, & Liu, 1994; Franco & Levitt, 1998). Support from close family members has also been associated with higher self-esteem for children and adolescents (Halter, 1998). Self-esteem was operationally defined as the score on the Rosenberg Self-Esteem Scale (RSES) (Rosenberg, 1989).

Perceived Family Support and Perceived Peer Support

Social support is conceptualized as the people that are important to an individual (May, 1992). Social support functions to promote psychosocial development and help individuals negotiate developmental tasks. Perceived social support refers to the impact social connections within the environment have on an individual (Procidano & Heller, 1983). Support from different sources, such as family

or peers, may serve different functions and have different consequences for adjustment. This distinction between family support and friend support is considered important because different populations may rely on or benefit from friend or family support to different extents (Procidano & Heller, 1983). Perceived family support in this study was defined as "the extent to which an individual believes that her needs for support, information, and feedback are fulfilled" by her family (Procidano & Heller, 1983, p. 2). During adolescence, the youth's activities expand beyond parental influence and members of one's peer group take on increased significance (Connelly, 1998; Erikson, 1963). Perceived peer support was defined as "support received from friends of similar age, sharing the same activities, and characterized by trust, self-disclosure and loyalty" (Procidano & Heller, p. 2). Family support and peer support were operationally defined as the scores on the Perceived Social Support from Family (PSS-Fa) scale and the Perceived Social Support from Friends (PSS-Fr) scale (Procidano & Heller).

Sample

The sample of interest for this study was single adolescents experiencing an uncomplicated pregnancy. The study utilized a non-probability convenience sample of pregnant teens ($N = 90$) between the ages of 13 and 18 who were completing their first pregnancy to term. All racial or ethnic groups who read and speak English were included in the study. The participants were recruited during the second trimester (13 weeks to 27 weeks) of pregnancy. Adolescents in the first trimester were excluded because they may not have made a decision to continue the pregnancy. This crisis situation may alter the results. Teens in the last trimester of pregnancy were excluded

because they have possibly adapted to the pregnancy. Subjects treated previously for clinical depression were excluded from the study.

Access of Participants

Participants were recruited from four sites in Southwest Georgia: a local physician's office who provides obstetrical care for approximately 15 teenage deliveries a month, a teen pregnancy clinic affiliated with a local medical center where there are approximately 20 teenage deliveries each month, an alternative school offered as an option for pregnant and parenting teen with an average enrollment of 50 pregnant teens, and a hospital sponsored program that provides prenatal education to approximately 100 pregnant teens in 9 high schools within a 5 county radius. The investigator scheduled visits to each facility and all pregnant teens meeting the criteria were invited to participate in the research process. According to Cohen (1977), a sample size of 88 with an alpha level set at .05 will yield a moderate effect size and a power of .80 (see Appendix A).

Protection of Human Subjects

Approval was obtained from the investigator's dissertation committee and Georgia State University's Institutional Review Board (Appendix B). Approval was obtained from the Institutional Review Board of the local medical facility, the school system, and local administrators prior to recruitment of adolescents (Appendix C).

An informed consent process was conducted with each participant by the investigator. The nature of the study and the risks and benefits of participation were explained to the participants and their family. Written consent was obtained during initial contact. Informed consent was obtained from the parent or guardian (Appendix

D) and assent was obtained from the adolescent (Appendix E). Adolescents emancipated through special circumstances provided informed consent (Appendix F). The consent forms were read to the teens allowing time for questions and clarification. Each of the demographic forms and questionnaires were assigned a code number to maintain confidentiality. Names or any other identifying information were not used on the questionnaires. The teens were informed participation in the study was voluntary and they had the right to refuse or discontinue participation at any time. It was stressed their medical care or education would not be affected if they chose not to participate.

The participants were instructed that a counselor from the school or a private agency would be available to talk with them if they became emotionally upset at anytime during the process. Each school system provides counseling services for students. Those participants recruited outside the school system were provided information regarding a private agency available to them without charge. This private agency was also available to those participants within the school system who felt more comfortable seeking help from an outside source. The private agency is fully accredited with a multi-disciplinary team of highly trained, post graduate professionals who are skilled in psychology, social work, marriage and family therapy, and counseling. Participants were referred for counseling if they scored 77 or greater on the RADS.

Participants were instructed that completion time would be approximately 30 minutes and upon completion, each participant would receive a $10.00 gift certificate as a "thank you" for their time. The safeguards for privacy and confidentiality were

reviewed. Signed consent and assent forms were stored in separate files and retained by the investigator. Scores from the questionnaires along with demographic data were entered into the Statistical Package for Social Sciences (SPSS) on the computer and stored on disks. The paper questionnaires and disks were stored in a locked filing cabinet drawer.

Instrumentation

A demographic information form (Appendix G) was used to obtain baseline information from each teen regarding age, gestation, education, race or ethnicity, and income. Previously validated instruments were utilized to evaluate depressive symptomatology, self-esteem, perceived social support from family, and perceived social support from friends. A brief summary of the following instruments with supporting documentation for reliability and validity are provided: The Reynolds Adolescent Depression Scale (RADS-2), The Rosenberg Self- Esteem Scale (RSES), Perceived Social Support from Family Scale (PSS-Fa), and Perceived Social Support from Friends Scale (PSS-Fr).

The Reynolds Adolescent Depression Scale

The RADS-2 was used to measure depressive symptomatology (Appendix H). The RADS-2 is a brief, easily administered self-report questionnaire used to measure depression in clinical and community adolescent samples (Reynolds, 2002). The RADS-2 consists of 30 items, rated on a 4-point scale and can be completed in 5 to 10 minutes. This scale is used to evaluate the severity of depressive symptoms in adolescents ages 12 through 18 years of age. The response format requires the adolescent to endorse whether the symptom-related item has occurred: “almost never,”

"hardly ever," "sometimes," or "most of the time." Adolescents are encouraged to respond to the items by choosing the response that best indicates how they usually feel. Items are worded in the present tense to elicit current symptoms. Seven items are inconsistent with depression and are reverse-scored. The inclusion of reverse-scored items requires the participants to pay more attention to each individual item. The total score on the RADS-2 can range from 30 to 120 (Matson & Nieminen, 1987; Reynolds & Coates, 1986; Reynolds & Mazza, 1998; Weber, 2000). A cutoff on the RADS-2 may be used to judge the severity of depression in the adolescent. An adolescent who scores at or above 77 on the RADS-2 should be scheduled for further evaluation aimed at diagnosing potential significant psychopathologoy (Reynolds & Coates, 1986). Adolescents in this study who scored 77 or greater were referred for counseling.

Reynolds (1986b) summarized data from 6,000 adolescents to provide evidence for the reliability and validity of the scale. Reliability of the RADS was evaluated using Cronbach's coefficient alpha (Cronbach, 1951), an index of internal consistency reliability as well as test-retest reliability. Nunnally and Bernstein (1994) recommend a coefficient alpha of 0.6 to 0.8 if the rating scale is to be used as a screening instrument in the clinical setting. Reliability estimates, in studies conducted by Reynolds are quite high, with internal consistency coefficients ranging from $r = .91$ to $r = .96$. Test-retest reliability based on a sample of 104 adolescents who were tested with a 6-week interval between testing was $r = .84$. A 12-week test-retest reliability coefficient of $r = .79$ was found on the RADS with a sample of 415 high school students (Reynolds, 1986b).

Reynolds and Mazza (1998) administered the self-report assessment to 89 participants in grades six through eight with a total mean age of 12.53. The gender breakdown included 36 males and 53 females. Ethnicity of the sample was 71% African-American, 20% Hispanic American, 1% Caucasian, and 8% other. The RADS was administered to the participants and then they were interviewed within one to five weeks later with the Hamilton Depression Rating Scale (HDRS). A second administration of the RADS was given just prior to the interview to evaluate test-retest reliability. Researchers found that the internal consistency reliability was high (.91) as was the test-retest reliability (.87). The criterion-related validity was measured by the correlation coefficient between the HDRS and the second administration of the RADS and was considered strong (Reynolds & Mazza).

Concurrent validity of the RADS has been shown in a number of other studies that have examined relationships of the RADS with other depression scales and measures of correlated constructs (Reynolds & Mazza, 1998). The RADS has demonstrated validity correlations with other self-report measures of depression, including the Beck Depression Inventory, the Zung Self-Rating Depression Scale, the Center for Epidemiological Studies Depression Scale, and the Hamilton Depression Rating Scale (Carey, Finch, & Carey, 1991; Matson & Nieminen, 1987; Reynolds & Mazza, 1998; Reynolds & Stark, 1987).

Criterion-related validity of the RADS has been shown using semi-structured clinical interviews of depression. Reynolds and Stark (1987) reported a correlation of .83 between the RADS and the HDRS in a school based study of 111 older adolescents. In a study of adolescents with major depression, Shain, Naylor and

Alessi (1990) reported a correlation of .73 between the RADS and the HDRS. Overall, in studies of adolescents, investigators have reported strong evidence for criterion-related validity for the RADS with diagnostic and semi-structured clinical interview measures of depression (Reynolds & Mazza, 1998).

Another important aspect of validity relates to the psychometric utility of a measure's cutoff score (Reynolds & Mazza, 1998). As state previously, the cutoff score of 77 was established to identify youngsters who manifest clinical levels of depressive symptomatology. The clinical efficacy of the RADS cutoff score as compared to clinical levels of depression based on the HDRS interview was found to be high. These findings support the use of the RADS cutoff score in identifying relevant levels of depressive symptomotology. Sensitivity and specificity were high, particularly for the comparison of a brief paper and pencil measure in relation to an individually administered clinical interview. The RADS cutoff did result in an over-identification of youngsters as depressed. Reynolds and Mazza support that false positives are more desirable than false negatives when making decisions about a youngster's clinical level of depression.

The Rosenberg Self-Esteem Scale

The Rosenberg Self-Esteem Scale (RSES) (1989) is perhaps the most widely used self-esteem measure in social science research and has been translated into many languages. The RSES is a ten-item survey with a four-option Likert scale that ranges from "Strongly Agree" to "Strongly Disagree" (Appendix I). The scale ranges from 0 to 30, with 30 indicating the highest possible score when responses are scored with 0 to 3 value. The scoring for some items is reversed and in each case the scores range

from less to more self-esteem. There are no discrete cut-off points to delineate high and low self-esteem. A high score on this survey generally indicates the participant feels she is a person of value and worthy of self-respect.

The scale was developed in the 1960s and the sample consisted of 5,024 high school juniors and seniors from 10 randomly selected schools in New York State (Rosenberg, 1965). The scale has high reliability: test-retest correlations are typically in the range of .82 to .88, and Cronbach's alpha for various samples are in the range of .77 to .88. Construct, convergent, and discriminate validity have been demonstrated (Rosenberg, 1989). A study conducted by Connelly (1998) of pregnant ($N = 58$) and nonpregnant ($N = 91$) adolescents between the ages of 14 and 18 revealed high internal consistency reliabilities (Cronbach's alpha = .89). This study utilized a cross-sectional design to describe the perceptions of hopefulness, self-esteem, and perceived social support.

Perceived Social Support from Family and Perceived Social Support from Friends

Procidano and Heller (1983) developed instruments to measure Perceived Social Support from Family (PSS-Fa) and Perceived Social Support from Friends (PSS-Fr). The authors support these scales represent two different sources of support categories and different dimensions of social relationships (Procidano & Heller). Procidano and Heller developed the PSS-Fa Scale and the PSS-Fr Scale based on three validation studies using a sample of 222 participants with a mean age of 19.

The PSS-Fa scale (Appendix J) is used to measure family support. This scale consists of 20 declarative statements intended to measure the extent to which an individual believes her family is meeting her need for emotional support. The

participant answers "yes," "no," or "don't know" and each response indicative of perceived social support from family is scored as 1. The total score range is 0 to 20, with a high score indicating emotional support. A score is not given to the "don't know" category. The instrument has a test-retest reliability of $r = .83$ for a 1-month interval and a Cronbach's alpha of .90 ($N = 222$). Construct validity using correlational and hypothesis testing has been reported (Procidano & Heller, 1983).

The PSS-Fr (Procidano & Heller, 1983) is used to measure peer support (Appendix K). The format for the PSS-Fr Scale and the instructions are identical to the PSS-Fa Scale. The PSS-Fr Scale has a test-retest reliability $r = .83$ for a 1-month interval and a Cronbach's alpha of .90 ($N = 222$) (Procidano & Heller).

Mapanga and Andrew (1995) conducted a study to examine the influence of emotional support from family and friends on unmarried teenage primiparas ($N = 75$) self-care agency and the influence of self-care agency on use of contraceptives. The PSS-Fa was administered to determine the extent to which an unmarried teenage primipara believed her needs for affection and information were met by her self-defined family of origin. The PSS-Fr was administered to determine the extent to which an unmarried teenage primipara believed her needs for affection and information were met by her friends. Reliability for the PSS-Fa in this study was .91 and the reliability for the PSS-Fr was .83.

Data Collection Process

Data collection began after appropriate consent forms had been obtained. Each participate was handed a survey packet. All packets were assigned code numbers and the participants were reminded not to put identifying information on the forms. The

participants were asked to complete the demographic form and the four questionnaires: the RADS-2, the Rosenberg Self-Esteem Scale, the PSS-Fa Scale, and the PSS-Fr Scale. The questionnaires were administered in the same order to control for a possible carry over effect. The participants were instructed there were no right or wrong answers to the questions but the questions are designed to obtain information about their feelings and opinions. The survey packets were collected from each participant immediately after completion by the investigator.

Participants were reminded of support persons available if for any reason they felt a need to talk about feelings that may have surfaced. The RADS-2 Test Booklet was hand-scored using the built in scoring key. Referral letters with contact information for the private agency were given to those participants scoring 77 or greater on the RADS-2. The participants were reminded they were responsible for contacting the referral agency.

Data Analysis

Data were initially entered into the Statistical Package for Social Sciences (SPSS) and then transposed to MIINITAB for analysis. Frequencies and percentages were used to describe the sample and demographic information. A one-way analysis of variance (ANOVA) was computed to determine the significance between the depression scores and each of the demographic variables. Strengths of correlations between the adolescent's total depression score and self-esteem, perceived family support and perceived peer support were determined by computing Pearson product-moment correlations. Regression analyses were conducted to determine the best linear model to explain the variance in the total depression scores and the combination of the

independent variables (self-esteem, perceived social support from family, and perceived social support from friends) in pregnant adolescents.

CHAPTER IV

RESULTS

The results of this study to examine levels of depressive symptomatology, self-esteem, perceived social support from family, perceived social support from friends, and the relationships among these variables in the pregnant adolescent will be presented in this chapter. A description of the characteristics of the pregnant adolescent (age, race or ethnicity, educational level, and annual income), findings from the questionnaires, and data analysis will be reported.

Data were obtained through the administration of questionnaires by the investigator to 90 single pregnant adolescents. The questionnaires used for data collection included demographic items (Appendix G) and behavioral and psychosocial instruments (Appendices H, I, J, & K). Pregnant adolescents participating in this study were 13 to 18 years of age and were 13 to 27 weeks pregnant. Depressive symptomatology was operationally defined as the score on the Reynolds Adolescent Depression Scale (RADS-2). The total depression score was derived from the subscale scores of dysphoric mood, anhedonia/negative affect, negative self-evaluation, and somatic complaints. Self-esteem was operationally defined as the score on the Rosenberg Self-Esteem Scale. The distinction between family support and support from friends was considered important and was operationally defined as the scores on the Perceived Social Support from Family (PSS-Fa) scale and the Perceived Social Support from Friends (PSS-Fr) scale.

Sample

Demographic Characteristics of Sample

Pregnant Adolescents

Demographic data were analyzed using descriptive statistics. Demographic characteristics of the sample are summarized in Table 1. The mean age at study entry was 16.3 (*SD* = 1.4). Adolescents were recruited between 13 and 27 weeks of pregnancy with a mean gestation of 22.1 weeks (*SD* = 4.5). Seventy-five (83.3%) of the participants were African American, nine (10%) were Caucasian, and six (6.7%) were Hispanic. The adolescents reported having obtained a mean grade level of 9.7 years (*SD* = 1.4). The minimum educational level reported was sixth grade and seven of the adolescents had completed high school. The number of members in the household ranged from 2 to 13 with a mean of 4.4 (*SD* = 1.9). Sixty-eight (75.6%) of the adolescents were unable to identify the total monthly household income. Three adolescents had experienced a miscarriage in a previous pregnancy. Twenty-eight (31.2%) adolescents were recruited from a private physician's office or a teen pregnancy clinic. Forty-nine (54.4%) adolescents were recruited from an alternative school for pregnant and parenting teens and 13 (14.4%) adolescents were recruited from a program for pregnant and parenting teens sponsored by a local hospital.

Table 1

Demographic Characteristics of Pregnant Adolescents (N = 90)

Characteristics	*n*	*%*
Age (*M* = 16.3, *SD* = 1.4)		
13	2	2.2
14	6	6.6
15	23	25.5
16	13	14.4
17	24	26.6
18	22	24.4
Gestation (*M* = 22.1, *SD* = 4.5)		
13 – 15	12	13.4
16 – 18	6	6.6
19 – 21	19	21.2
22 – 24	17	18.8
25 – 27	36	40.0
Ethnicity		
African American	75	83.3
Caucasian	9	10.0
Hispanic	6	6.7
Formal Education (grade completed)		
6^{th} – 7^{th} grade	7	7.7
8^{th} – 9^{th} grade	30	33.3
10^{th} – 11^{th} grade	46	51.1
12^{th} grade	7	7.7
Members per household (*M* = 4.4, *SD* = 1.9)		
2	9	10.0
3	24	26.6
4	21	23.3
5	16	17.7
6	9	10.0
7	5	5.5
8	2	2.2
9	3	3.3
13	1	1.1

Instruments

Reynolds Adolescent Depression Scale

Each adolescent ($N = 90$) completed the 30-item Reynolds Adolescent Depression Scale (RADS-2) (see Appendix H). The RADS-2 is rated on a 4-point scale and the total depression score is obtained from the sum of four subscale scores of dysphoric mood, anhedonia/negative affect, negative self-evaluation, and somatic complaints. Seven items from the RADS-2 are inconsistent with depression and are reverse-scored before summing the items.

The mean RADS-2 score for the adolescents in the study was 60.6 ($SD = 14.6$) with a minimum score of 33 and a maximum score of 97. Thirteen (14%) of the 90 adolescents exceeded the clinical cutoff score of 77. This total depression score indicates a level of depressive symptom severity that is deemed to be clinically significant (Reynolds, 2002). These adolescents received letters of referral to either school counselors or The Family Center. The mean, standard deviation, maximum score, and minimum score for the RADS subscales and total depression scores are summarized in Table 2.

The Rosenberg Self-Esteem Scale

The Rosenberg Self-Esteem Scale (Rosenberg, 1989) was completed by each adolescent ($N = 90$). The Rosenberg Self-Esteem Scale is a ten-item survey with a four-option Likert scale. Five items are stated in the negative, therefore, reverse scoring procedures were performed before summing the items. A high score indicates the adolescent feels she is a person of value and worthy of self-respect. The mean score on the Rosenberg Self-Esteem Scale was 23 ($SD = 5.4$) with scores ranging

from 10 to 30. Table 2 summarizes the mean, standard deviation, maximum score and minimum score for the Rosenberg Self-Esteem Scale.

Perceived Social Support from Family Scale and Perceived Social Support from Friends Scale

The adolescents ($N = 90$) completed the PSS-Fa scale and the PSS-Fr scale (Procidano & Heller, 1983). Each scale consists of 20 declarative statements intended to measure either perceived support from family or perceived support from friends. Each "yes" response is given a score of 1. The total score range is 0 to 20, with a high score indicating perceived emotional support from family or friends. The mean score on the PSS-Fa scale was 13.3 ($SD = 5.5$) and the mean score on the PSS-Fr scale was 14.5 ($SD = 4.9$). Both the PSS-Fa scale and the PSS-Fr scale had a minimum score of zero and a maximum score of 20. Table 2 summarizes these findings.

Table 2

Means and Standard Deviations of Variables of Interest

Variables	*M*	*SD*	Range
RADS Total Depression Score	60.6	14.6	33.00 – 97.00
Dysphoric Mood	17.9	5.3	9.00 – 31.00
Anhedonia/negative Affect	11.7	3.2	7.00 – 22.00
Negative Self-Evaluation	13.2	5.1	8.00 – 27.00
Somatic Complaints	17.8	4.1	7.00 – 26.00
Rosenberg Self-Esteem Scale	23.0	5.4	10.00 – 30.00
PSS-Fa Scale	13.3	5.5	0.00 – 20.00
PSS-Fr Scale	14.5	5.0	0.00 – 20.00

Results

Research Question One

What is the prevalence of depressive symptomatology for the pregnant adolescent?

Each adolescent ($N = 90$) in this study completed the Reynolds Adolescent Depression Scale. The mean RADS-2 score for the adolescents was 60.6 ($SD = 14.6$) with a minimum score of 33 and a maximum score of 97. Thirteen (14%) of the 90 adolescents exceeded the cutoff score of 77. This total depression score indicates a level of depressive symptom severity that is deemed to be clinically significant (Reynolds, 2002)

Research Question Two

What is the relationship between depressive symptomatology, self-esteem, perceived family support, and perceived peer support in the pregnant adolescent?

A one-way analysis of variance (ANOVA) was computed to determine the significance between the depression scores and each of the demographic variables. The total depression scores were not statistically significantly in relation to age, level of education, gestation, race or members per household at the 5% level. The total depression scores were statistically significant in regards to annual income and research site. The significance of the findings regarding annual income must be considered in light of the fact that 68 (75.6%) of the adolescents were unable to identify the total monthly household income.

The relationship between the adolescent's total depression score and self-esteem, perceived family support and perceived peer support was determined by computing Pearson product-moment correlations. Findings between the RADS-2 and each of the other three scales were statistically significant at the $p < 0.01$ level. A strong negative correlation (r = -.66, p = .000) was found between the RADS-2 and the Rosenberg Self-Esteem Scale. There was a negative correlation between the RADS and the PSS-Fa scale (r = -.57, p = .000) and the PSS-Fr scale (r = -.45, p = .000).

Correlations between the Rosenberg Self-Esteem Scale and the PSS-Fa scale and the PSS-Fr scale were statistically significant at the $p < 0.01$ level. There was a positive correlation between the Rosenberg Self-Esteem Scale and the PSS-Fa scale (r = .44, p = .000) and a positive correlation between the Rosenberg Self-Esteem Scale and the PSS-Fr scale (r = .31, $p < .003$). Correlations between the PSS-Fa scale and PSS-Fr scale were statistically significant at the $p < 0.01$ level with a positive correlation (r = .35, $p < .001$). These findings are summarized in Table 3.

Table 3

Correlation Total Scores

Variables	Self-Esteem	PSS-Fa	PSS-Fr
RADS	-.66**	-.57**	-. 45**
Self-Esteem		.44**	.31**
PSS-Fa			.35**

** Correlation is significant at the 0.01 level

The negative correlation between the total depression score and self-esteem (r = -.66, p =.000) indicates that with increased self-esteem in the adolescent, there

was a decrease in depression symptomatology. The negative correlation between the total depression score and the PSS-Fa score (r = -.57, p = .000) and the PSS-Fr score (r = -.45, p = .000) indicates that perceived social support from family and friends also decreases depressive symptomatology in the adolescent. Perceived support from family and friends increases the adolescents' self-esteem.

Regression analyses were conducted to determine the best linear model to explain the variance in the total depression scores and the combination of the independent variables (self-esteem, perceived social support from family, and perceived social support from friends) in pregnant adolescents. To control for other factors potentially confounding the relationship between depression and the identified variables, the additional variables of gestation, number in household and age were added to the equation.

The analysis of variance (ANOVA) supports the findings that the overall analysis is significant at the .000 level (Table 4). A summary of regression coefficients presented in Table 5 indicates three predictors contribute significantly to variance in total depression scores: self-esteem (p = .000), perceived support from family (p = .000), perceived support from friends (p = .010).

Table 4

ANOVA

Model	*SS*	*df*	*MS*	*F*	*p*
Regression	10795.9	3	3598.6	37.88	.000
Residual	8171.0	86	95.0		
Total	18966.9	89			

Table 5

Coefficients for Model Variables

	Coef	*SE Coef*	*t*	*p*
(Constant)	108.42	4.820	22.49	.000
Self-Esteem	-1.250	0.214	-5.81	.000
PSS-Fa	-.782	0.214	-3.65	.000
PSS-Fr	-.596	0.225	-2.64	.010

The final model was found and the prediction equation for this linear regression model is:

Predicted total score on RAD = 108 – 1.25 (self-esteem) – 0.782 (PSS-Fa) – 0.596(PSS-Fr).

There is a strong linear association between the total depression scores and the independent variables (self-esteem, perceived social support from family, and perceived social support from friends). Increased levels of self-esteem and support from family and friends will lead to a decreased level of depression. An increase of one unit on the self-esteem score would lead to a deduction of 1.25 units on the total depression score (RADS-2) for an adolescent who experiences no change in perceived support from family or friends. If the score for the same adolescent remains constant for self-esteem and perceived support from friends, an increase of one unit on the PSS-Fa would lead to a deduction of 0.782 units on the total depression score. Finally, if the score for self-esteem and perceived support from family remains constant, an increase of one unit on the PSS-Fr would lead to a deduction of 0.596 units on the total depression score. In Model Summary (Table 6), the regression analysis of the RADS-2 score on the predictor variables (self-esteem, perceived support from family, and perceived support from friends) accounts for 56.9% of variance in depression of adolescents during pregnancy.

Table 6

Model Summary

Model	*R*	R^2	R^2_{adj}	*SE*
3	.754	.569	.554	9.75

Summary

The sample for this study consisted of 90 single pregnant adolescents. The adolescents ranged in age from 13 to 18 and were 13 to 27 weeks pregnant. The majority of adolescents were African American and presently attending either an alternative school for pregnant and parenting teenagers or public school. The number of members per household ranged from 2 to 13. Socioeconomic status could not be considered as a contributing factor to depressive symptomatology in this study because 68 (75.6%) of the adolescents were unable to identify the total monthly household income.

Thirteen (14%) of the adolescents ($N = 90$) exceeded the cutoff score off 77. This total score for these adolescents indicates a level of depressive symptomatology that is deemed to be clinically significant (Reynolds, 2002). The adolescents in this study who experienced increased self-esteem and perceived support from family and friends had decreased scores on the RADS-2 scale. Increased self-esteem or feelings of self-worth was the most significant variable in this study as a predictor of depressive symptomatology. Further discussions of the findings in this study will be included in Chapter V.

CHAPTER V

DISCUSSION AND CONCLUSIONS

This chapter presents a discussion of the study results and subsequent conclusions. Study results include discussion of the demographic findings, the research questions, congruence of findings with the literature, correlations among the variables of interest, and the relationship of these variables to the theoretical model. The discussion includes strengths and limitations of the study, implications for nursing, and recommendations for future research. The chapter concludes with a summary of the study.

Discussion of the Findings

Demographics

The adolescents ($N = 90$) in this study ranged in age from 13 to 18 with a mean age of 16.3. Eight (8.8%) of the adolescents were 13 to 14 years of age, 36 (39.9%) of the adolescents were 15 to 16 years old, and 46 (51%) of the adolescents were 17 to 18 years of age. The inclusion of eight participants in the early adolescent age group is significant since there is limited research with this age group. Adolescent pregnancy rates in each age group are comparable to pregnancy rates for the region included in the study with the exception of the 13 to 14 year olds. Adolescent pregnancy rates for this age group are 4% of the total adolescent pregnancies in the region served (Georgia Department of Human Resources, 2004) as compared to 8.8% in the present study. Seventy-five (83.3%) of the participants were African American, nine (10%) were Caucasian, and six (6.7%) were Hispanic. African American, Caucasian, and Hispanic adolescents have experienced

declines in pregnancy rates although to different extents. The pregnancy rate among African American women aged 15 to 19 fell by 32% between 1990 and 2000 (from 224 to 153 per 1000). Among white teenagers, the pregnancy rate declined by 28% during the same time. Hispanic teenagers have experienced the lowest decline. The pregnancy rate among Hispanic teenagers increased from 162 to 170 per 1000 women aged 15 to 19 between 1990 and 1992, but then fell to 138 per 1000 by 2000 (Alan Guttmacher Institute, 2004). The decline in pregnancy rates relative to ethnicity is not reflected in the present study. The adolescents reported having obtained a mean grade level of 9.7 years. Seven of the adolescents had completed high school and only two adolescents had dropped out of school. These two adolescents indicated a desire to take the High School Equivalency Test. Limited educational attainment and subsequent poverty are risks for teenagers who become pregnant during adolescents (Coley & Chase-Lansdale, 1998; Corcoran, 1998; Lesser, Koniak-Griffin, & Anderson, 1999). Eighty-eight (98%) of the adolescents either had graduated or were continuing with their education regardless of the pregnancy. Even though 62 (68.8%) of the adolescents were recruited from school-based sites, these findings are encouraging.

Research Questions

Discussion of Research Question One

The first question addressed the prevalence of depressive symptomatology for the pregnant adolescent. Each adolescent ($N = 90$) in this study completed the Reynolds Adolescent Depression Scale (RADS-2). Thirteen (14%) of the 90 adolescents exceeded the cutoff score of 77. Two (25%) of the younger adolescents were among the group of adolescents who scored 77 or greater on the RADS-2. This total depression score

indicates a level of depressive symptom severity that is deemed to be clinically significant (Reynolds, 2002). Six (7%) of the remaining adolescents scored 70 or greater on the RADS-2 but less than 77. These scores are also indicative of emotional distress in the adolescent and create an area of concern. According to Healthy People 2010, one in five children and adolescents between the ages of 9 and 17 years has a diagnosable mental health disorder in a given year. The National Comorbidity Survey (NCS) by Kessler and Waters (1998) examined clinical diagnosis of depression and other psychiatric disorders in a sample of 1769 adolescents and young adults ages 15 to 24. Major Depression was the most common diagnosis with 15.3% of the sample reporting this disorder. Females 15 to 16 years of age had the highest incidence, with 21.5% of the group receiving a diagnosis of Major Depression.

The prevalence of emotional distress in this study correlated with adolescent norms but the prevalence of significant emotional distress in previous studies has exceeded expectation based on these norms. The pilot study by Hudson and colleagues (2000) examined the relationship of depression, self-esteem, loneliness, and social support in adolescent mothers participating in the New Parents Project. The depression scores were high for 53% of the adolescents and depression was associated with increased feelings of loneliness and decreased social support. The study by Marcus and colleagues (2003) concluded 20% ($N = 689$) of the pregnant women, ages 18 to 24, who were screened for depression during pregnancy had significant symptoms of depression. Only 13.8% of these women were receiving any form of mental health care. Logsdon et al. (2004) conducted a study to examine the relationship between postpartum social support and symptoms of depression in pregnant adolescents. This study by Logsdon et al. was

conducted in an alternative school and 68% of the pregnant adolescents ($N = 26$) demonstrated symptoms of depression.

Discussion of Research Question Two

The second research question addressed the relationship between depressive symptomatology, self-esteem, perceived family support, and perceived peer support in the pregnant adolescent. This study revealed a negative correlation between the total depression score and self-esteem indicating a relationship between increased self-esteem in the adolescent and decreased depression symptomatology. The negative correlation between the total depression score and the PSS-Fa score and the PSS-Fr score indicated that perceived social support from family and friends was correlated with decreased depressive symptomatology in the adolescent. Finally, perceived support from family and friends was correlated with increased feelings of self- worth and self-esteem in the pregnant adolescent. Findings from this research are consistent with findings from research conducted by Hudson and colleagues (2000). The pilot study by Hudson and colleagues found a significant association between adolescent depression scores, increased feelings of loneliness, and decreased social support. There was also a significant negative correlation between self-esteem and loneliness. Other research also supports pregnant teens are at increased risk for stress, despair, depression, feelings of helpfulness, low self-esteem, and a sense of personal failure (Heights et al., 1997; Klein, 1998).

Regression analyses were conducted to determine the best linear model to explain the variance in the total depression scores and the combination of the independent variables (self-esteem, perceived social support from family, and perceived social support from friends) in pregnant adolescents. The three variables, self-esteem, perceived social

support from family, and perceived social support from friends were found to be significant predictors of depressive symptomatology in the pregnant adolescent. These three predictor variables explained 56.9% of variance in depression of adolescents during pregnancy. Increased self-esteem or feelings of self-worth was the most significant variable in this study as a predictor of depressive symptomatology.

The social support intervention by Logsdon et al. (2005) determined the effectiveness of an isolated intervention in pregnancy to strengthen social support was not sufficient to prevent symptoms of postpartum depression. Yet, the secondary analysis by Logsdon et al. (2005) of the combined sample from previous studies (Logsdon, McBride, & Birkmir, 1994; Logsdon & Usui, 2001) revealed postpartum depression was more prevalent in adolescents who reported decreased levels of self-esteem. Findings from the study by Hayes et al. (2001) challenge the assumption that depression can be reduced through education. This study concluded other variables such as support, in addition to prenatal education, should be considered when addressing depression during pregnancy.

Findings from the study by Stevenson et al. (1999) suggested a supportive relationship between a pregnant teen and her parent leads to an increased sense of mastery and life satisfaction. These teens also exhibited decreased depression and anxiety. This study further determined support from friends who have little understanding of the demands of pregnancy is selfdom helpful. These findings are consistent with Erikson's (1963) stages of development. The choice of support for an adolescent is greatly affected by age and developmental level and the need for support becomes more acutely felt during times of transition such as pregnancy.

In contrast, other studies revealed relationships between adolescents and their mother became strained and complicated due to the pregnancy. Mothers and daughters in the study by Paskiewicz (2001) talked about absence of communication regarding the pregnancy, conflict and negative feelings about the change in their lives, and social isolation. Findings from the study by Rentschler (2003) were similar to the findings from the study by Paskiewicz. A common thread identified throughout the interview was conflict and loss of autonomy. Relationships with friends also became strained. Despite the positive attention some teens received from friends, pregnancy resulted in lost friendships, loneliness, and decreased social activities.

Findings from the research conducted by Connelly (1998) are inconsistent with findings from the present study and previous research. Connelly concluded pregnancy status was not associated with hopelessness, self-esteem or perceived social support without the influence of age and socioeconomic status. Connelly further concluded trimester of pregnancy may influence he adolescent's self-esteem. Adaptation to the pregnancy, peer support, and family support may increase as the pregnancy progresses.

Conclusions

Limitations and Strengths of Study

One limitation of the study includes the use of a convenience sample of single pregnant adolescents. It should be noted that one of the barriers to conducting research in the field of adolescent pregnancy is the difficulty of recruiting participants. Therefore, it is often necessary to utilize a convenience sample. The homogeneous (primarily African American) sample limits the generalizability of the findings. Because the participants in this study were homogeneous in race and socioeconomic status, sociocultural differences

were not tested. Recruiting adolescents from additional sites would possibly provide a more heterogeneous sample. Measurement of socioeconomic status was difficult because the majority of adolescents in this study were unable to report household income. Obtaining additional demographic information regarding work status, educational level of the parent, and type of medical insurance might prove helpful. Although the sample size of 90 adolescents was adequate for the purposes of this study, more participants would have been ideal to allow for group comparison. This study is also limited in that it only provides information from one contact with the adolescent and does not allow for change over time.

Paper and pencil questionnaires do not allow for probing questions by the researcher. More in depth information regarding the home environment and family support may have proved beneficial. This could be accomplished by adding a qualitative component to the study. It may have been helpful to determine if the adolescents lived in a single-parent household or a two-parent household. The adolescents were only asked to document the number of people living in the household. Self-report measures may have presented problems with the integrity of the responses and social desirability may have impacted how the participants responded to the questions.

Strength of the study includes the documented reliability and validity of the instruments with the adolescent population and across cultures. The RADS-2 was designed specifically for use with the adolescent population. "The examination of individual differences in RADS-2 total scale and subscale scores by salient respondent characteristics such as gender, age, and ethnicity is useful for understanding the general expression of depression as evaluated by the RADS-2" (Reynolds, 2002, p. 24). The

Rosenberg Self-Esteem Scale (RSES) is perhaps the most widely used self-esteem measure in social science research and has been translated into many languages. A limitation is there are no norms for the (RSES), therefore, it is difficult to compare groups within the research such as those experiencing low self-esteem versus those experiencing high self-esteem. The PSS-Fa and PSS-Fr were designed specifically for use with the adolescent population. A limitation to the PSS-Fa and PSS-Fr is the scales have "Yes," "No,' and "Don't Know" categories. These categories sometimes make it difficult to respond accurately. Expanding the scales to five categories would increase their sensitivity (Frank-Stromberg & Olsen, 1997).

An additional strength of the study is recruiting techniques and data collection remained consistent. All questionnaires were completed on site and collected by the primary investigator. These procedures helped to maintain the integrity of the research.

Implications for Nursing

This study of pregnant adolescents has implications for nurses who work with teenagers in healthcare and school settings. Health care professionals and counselors in school-based clinics and community health settings are in a key position to assess the need for mental health promotion services in pregnant adolescents as part of their comprehensive services. Comprehensive screening, diagnosis, referral, and treatment for depression in both pregnant and postpartum adolescents are needed to prevent adverse consequences for the adolescent and her baby. Assessing for depression and identifying associated factors that affect the psychological well-being of the adolescent during pregnancy will contribute significantly to the outcomes of the pregnancy. Findings from this study reveal there is a significant relationship between depressive symptomatology,

self-esteem, and perceived support from family and friends. Ensuring that pregnant adolescents possess a positive self-esteem will assist these young mothers-to-be as they transition to their premature roles as adults. Understanding the role of social support to the adolescent is of utmost importance. Health care professionals must realize social support is most effective when tailored to meet the adolescent's specific needs. Conceptualizing social support and realizing perceived social support is support one thinks is available rather than what is received is also significant.

Recommendations for Future Research

Future research should strive to obtain more representative samples with recognition of the barriers associated with accessing teenagers. Longitudinal studies designed to follow the adolescent from pregnancy through the postpartum period would allow for change over time. The difficulty in conducting longitudinal designs, such as expense, sample recruitment, cooperation, and attrition must also be considered. Studies should be conducted to examine the utility of screening for antenatal depression in obstetrics settings for optimizing identification of depression during pregnancy and the postpartum period. Antenatal mood disorders often precede postpartum depression and mood difficulties. As researchers, we need to direct further attention to the unique and under explored aspects of adolescent depression, including stress, low self-esteem, and responses to friendship and family during pregnancy. Intervention studies should be implemented to identify avenues to improve self-esteem and strengthen social support for the adolescent during pregnancy. Interventions designed to help adolescent mothers deal with negative cognitions and emotions need to be identified because these negative cognitions and emotions may affect how the adolescent cares for herself and her infant.

The role of the school health nurse and school counselors should be explored further in the development of school based mental health services for pregnant and parenting teenagers. Research is needed to investigate levels of self-esteem in relation to trimester to determine whether the adolescent's self-esteem changes over time. More research is needed to understand the factors that endanger and protect pregnant adolescents from depression and to inform practice, programs, and policy.

Study Summary

Adolescent pregnancy continues to be major concern in the United States today despite the decline in births among adolescents. Although there is a growing body of research in the area of adolescent pregnancy and parenting, relatively little research has addressed the psychological effects of pregnancy on the adolescent. Findings from this research have been conflicting and have failed to identify the processes that allow some adolescents to overcome this disruptive situation (Coley & Chase-Lansdale, 1998; Spear, 2001; Spear, 2004). The purpose of this study was to examine levels of depressive symptomatology, self-esteem, perceived social support from family, perceived social support from friends, and the relationship among these variables in the pregnant adolescent.

The Conceptual Model of Support during Adolescent Pregnancy provided a framework to address the following questions. What is the prevalence of depressive symptomatology for the pregnant adolescent? What is the relationship between depressive symptomatology, self-esteem, perceived family support and perceived peer support in the pregnant adolescent? The findings from this research provide a clearer understanding of the potential psychological impact stress from pregnancy can have on

the pregnant adolescent. The research further addressed the area of support during pregnancy in an effort to identify the support system that is associated with positive adaptation during pregnancy. Finally, this research explored the relationship between the adolescent's personal self-concept and depressive symptomatology.

Following an analysis of the data using correlation and regression, several important findings emerged. The adolescents in this study who experienced increased self-esteem and perceived adequate support from family and friends had decreased scores on the depression scale. Increased self-esteem or feelings of self-worth was the most significant variable in this study as a predictor of depressive symptomatology.

Assumptions for this research derived from the theoretical propositions of the Conceptual Model of Support during Pregnancy were supported by this research. Pregnancy during adolescence may result in psychological stress or depressive symptomatology. This depressive symptomatology is reduced through increased self-esteem in the adolescent and support from family and friends that is designed to meet the needs of the pregnant adolescent. The perception of social support is useful for appraisal and subsequent coping with stress. Adaptation to the physiological and psychological alterations that can occur during pregnancy will contribute to positive outcomes for the adolescent and her infant.

Findings from this research are important for healthcare professionals who work with pregnant adolescents. These healthcare providers have the opportunity to interact with pregnant adolescents in a variety of settings. It is important for nursing researchers and clinicians to continue to explore strategies and interventions that are effective in dealing with psychological adaptation of the adolescent during pregnancy.

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Appendix A

Power Analysis

Power Analysis

The number of subjects needed in multiple regression is a function of effect size, number of predictors, desired power, and the significance criterion to be used. According to Cohen (1988), estimated population effect size is: either small ($R^2 = .02$), moderate ($R^2 = .13$), or large ($R^2 = .30$).

The population effect size selected for this study to determine sample size was moderate ($R^2 = .13$) and it was applied to the following formula;

$$N = y + k = 1 \quad \frac{L}{}$$

For $a = .05$ and a power of .80 with 3 predictors, the value of L is 10.90 (Polit, 1996, p. 286).

$$N = 0.13 + 3 + 1 = 88 \quad \frac{10.90}{}$$

Appendix B

Georgia State University Institutional Review Board

03/13/2006 14:00 4046513056

GEORGIA STATE UNIVERSITY INSTITUTIONAL REVIEW BOARD

Mailing Address:
P.O. Box 3999
Atlanta GA 30302-3999

Phone: 404/463-0674
Fax: 404/654-5838
Website: http://www.gsu.edu/~wwwvpr

Georgia State University

February 18, 2005

MEMORANDUM

TO: Janice Harris
Howell, Carol
Nursing

FROM: Ann C, Kruger
Institutional Review Board

RE: Approval of Human Subjects Application No. H05195
Type of Review: Expedited
Approval Period: 01/03/2005 – 01/02/2006

The Georgia State University Institutional Review Board reviewed and **approved** your IRB protocol entitled "Self-Esteem, Family Support, Peer Support, and Depressive Symptomatology: A Descriptive Correlational Study of Pregnant Adolescents", and your informed consent(s). The approval period is listed above.

Approval periods are one (1) year in length. This protocol **must be renewed at least 30 days before** 01/02/2006 if research is to continue beyond that time frame. Renewal proposals may be resubmitted in abbreviated form.

Any adverse reactions or problems resulting from this investigation must be reported immediately to the University Institutional Review Board. For more information, please visit our website at www.gsu.edu/irb.

ACK:sev

Federal Wide Assurance Number: 00000129

Appendix C

Supporting Documentation from Facilities

COLUMBUS REGIONAL
Medical Center

December 17, 2004

Janice Harris, RN
371 Mountain Hill Road
Fortson, Georgia 31808

RE: "Self-Esteem, Family Support, Peer Support, and Depressive Symptomatology: A Descriptive Correlational Study of Pregnant Adolescents"

Dear Ms. Harris,

On December 14, 2004, the Columbus Regional Institutional Review Committee reviewed the above referenced protocol for approval. The Committee approved the protocol and the questionnaire. The Committee also approved the informed consent forms. For those subjects under the age of eighteen, please have the parental form and assent form signed. Please utilize a copy of the stamped informed consent forms for all participating subjects.

If any changes are made to the protocol, letter, or questionnaire, this Committee must approve the changes prior to the implementation of any change. At the completion of this study, please submit a summary report to this Committee to include information such as, the number of subjects entered into the research study, number of withdrawals from the research, reasons for withdrawals, and description of the research results. This is information which the FDA requires that the Committee obtain.

This approval shall expire in one year. Should this research need to extend beyond one year, the study would need to be re-approved by this Committee. To apply for renewal of approval, you will need to provide an interim summary report with the information listed above and including preliminary research results, a current risk-benefit assessment, and any new information since this Committee's last review. Requests to approve studies for continuation should be submitted in writing and along with the interim progress report at least two weeks prior to the one year anniversary date from last IRB approval.

Should there be any changes to the study protocol or informed consent documents approved by this Committee, proposed revisions must be promptly submitted to the Committee approved by this Committee prior to implementation. Requests to approve revisions should be submitted in writing.

Sincerely,

E. M. Molnar, Sr., M. D.
Chairman, Institutional Review Committee

VHA
United to Improve America's Health

Muscogee County School District
Columbus, Georgia

Carol C. Bradshaw, Ph.D.
Coordinator

Research and Evaluation

December 17, 2004

TO: John A. Phillips, Jr., Ph.D.
Superintendent of Education

FROM: Carol C. Bradshaw

RE: Request to Conduct Research

Janice Harris, a doctoral student at Georgia State University, has requested permission administer a survey to pregnant students at the Teenage Parenting Center. Neither the district, the schools, nor the individuals will be identified. Attached you will find her letter of request, IRB form, and survey.

I have reviewed the request and recommend that it be approved.

This research request has been APPROVED / DISAPPROVED.

John A. Phillips, Jr.

P.O. Box 2427 • Columbus, Georgia 31902-2427
Phone (706) 649-0846 • FAX (706) 641-4090
E-Mail: cbradshaw@mcsdga.net

Muscogee County School District
Columbus, Georgia

Carol C. Bradshaw, Ph.D.
Coordinator
Research and Evaluation

December 17, 2004

Janice Harris
371 Mountain Hill Road
Fortson, GA 31808

Re: Approval to Conduct Research

Congratulations! Your project has been approved. This approval, signed by Dr. Phillips, gives you permission to collect data according to the plan that has been submitted. Be sure to have a copy of the attached document available to show to anyone who may question your authorization to collect data from the students.

Good luck on your project. Keep me posted and let me know if I can help further.

Sincerely,

Carol Bradshaw

Dr. Carol C. Bradshaw

Copy to Patricia Turner, Principal of Teenage Parenting Center

P.O. Box 2427 • Columbus, Georgia 31902-2427
Phone (706) 649-0846 • FAX (706) 641-4090
E-Mail: cbradshaw@mcsdga.net

THOMAS N. MALONE,M.D.
2039 TENTH AVENUE
COLUMBUS, GEORGIA 31901

PHONE # 706-324-2485
FAX# 706-327-9769

November 11, 2004

Dear Ms. Harris:

I have received your request to conduct a research study using patients 13 to 18 years of age between 13 to 27 weeks gestation. The study addresses self esteem, depression and the patient's family support. This will be completely voluntary and free to my patients.

You have ensured me that confidentiality will be maintained at all times.

The majority of my OB patients are seen on Tuesdays and I will make available to you those that agreed and who are within your criteria.

Sincerely,

Thomas N. Malone, MD

Thomas N. Malone, MD

PHOEBE PUTNEY MEMORIAL HOSPITAL

Georgia State University
College of Health and Human Services
Janice G. Harris, PhD (c) , MSN,RNC
Byrdine F. Lewis School of Nursing

Dear Janice,

The Network of Trust program is designed to work with pregnant and parenting teens as a Community Outreach Education program. The Network of Trust 5 county service area Dougherty, Lee, Worth, Terrell and Calhoun counties includes 9 High schools and 6 Middle Schools here in Southwest Georgia. Our unique program design is implemented in two phases: Phase I includes prenatal and parenting education for the expectant parents and Phase II is Parenting and other curriculums designed to meet the needs of parenting teens.

We are honored to have our program included in your research as part of your doctoral program in the nursing program at Georgia State University. We will be working as a partner with you in this project with our teens enrolled in our programs as well as for referrals as needed from our program partners. Our mission is to work together to change lives one heart at the time!

Please contact me at 229.312.4620 as you make progress with this project or need our help. We will work to meet the goals in place for this project and return documentation to you in a timely fashion.

Respectfully,

Angie Barber
Phoebe Putney Memorial Hospital
Network of Trust
School Health Program Director

229.312.4620 Office
229.312.4625 Fax

417 Third Avenue / P.O. Box 1828
Albany, Georgia 31702-1828
912-883-1800

VHA

Appendix D

Parental Consent Form

Georgia State University
College of Health and Human Services
Byrdine F. Lewis School of Nursing

Parental Consent Form

Title: Self-Esteem, Family Support, Peer Support, and Depressive Symptomatology: A Descriptive Correlational Study of Pregnant Adolescents

Principal Investigator: Janice Harris, PhD(c), MSN, RNC
Doctoral Student
Georgia State University

I. Introduction/Background/Purpose:
Teenage pregnancy continues to be a major concern in the United States today despite the decline in births among adolescents in recent years. The emotional health and well-being of the adolescent during pregnancy is a major concern that has received little attention. The main purpose of this research study is to examine the relationship between depression, self-esteem, family support, and peer support in the pregnant adolescent.

Approximately 130 pregnant adolescents between the ages of 13 and 18 will be asked to volunteer to participate in this research process. The participants will be 13 to 27 weeks pregnant and experiencing a normal pregnancy. The research process will require approximately 45 minutes to complete.

II. Procedures:
Participants in this research will be asked to complete a form that will request personal information about themselves and their pregnancy. Participants will also be asked to complete 4 questionnaires that will provide information about how they feel about their self-esteem, the support they receive from family and friends, and signs of depression. There are no right or wrong answers to these questions. They are designed to obtain information about the participant's feelings and opinions. The adolescents will not be required to leave this facility to participate in this research.

III. Risks:
There are no physical risks for participation in this research study. If any participant becomes emotionally upset at anytime during the process, a counselor from the school or a private agency will be available to talk with them. This service will be provided without charge. If the answers on the questionnaire that measures depression suggest that a participant may be quite depressed, a referral to a counselor will be recommended.

IV. Benefits:
There may be no direct benefits to those participating in this study. If counseling services are necessary, they will be provided without charge. Referral information will be provided. It will be the responsibility of the participant to contact the referral agency. Other pregnant adolescents may benefit from the results of this study by providing information regarding emotional health and well-being of the adolescent during pregnancy.

V. Voluntary Participation and Withdrawal:
Participation in this research is voluntary. Any potential participant has the right to refuse to be in this study. If a participant decides to be in the study and changes their mind, they have the right to drop out at any time. They may discontinue participation at any time. However, any information already used to the point when they withdraw consent will not be removed. Whatever the decision, the participant will not lose any benefits to which they are otherwise entitled. Health care outside of the study, the payment for health care, and health care benefits will not be affected if the participant does not sign this form. This consent form must be signed for participation in the research study.

VI. Confidentiality:
The principal investigator will keep all records private to the extent allowed by law. A study number rather than a name will be used on study records. All information that can identify the participant will be removed. The personal health information provided will be used for this research study. The information will be shared with other people for this research study. If the participant decides to be in this study it means they agree to let personal health information be used and shared for the reasons listed in this Consent form. The people and places that will be able to look at the personal health information are: the principal investigator, Dr. Carol Howell, Dr. Dana Edwards, & Dr. Patsy Ruchala. They will look at it so they can work on this research study. Health information may also be shared with the Georgia State University Institutional Review Board (IRB) and Columbus Regional Health Care System IRB. It will be shared in a way that does not fall under the protection of federal regulations that apply to the privacy of health information. This research may be shown to other researchers. This research may be published, but we will take steps to make sure no one can be identified.

A signature on this consent form means the investigator may use personal health information until the end of the study. The participant has the right to say that they do not want personal health information used after it has been collected. If the participant decides they don't want the information used anymore, a letter **must** be written asking the principal investigator not to use your information. The investigator who received the completed questionnaires is the only person who will be able to know which questionnaire is the participant's because the questionnaires do not have names or addresses on them. If a participant doesn't want information used anymore, the investigator will stop using it but any information that has already been used in the study will not be removed.

The participant will not be able to look at or get a copy of their health information that they gave the investigator while doing the research; however, they will be able to look at it or get a copy at the end of the study.

VII. Contact Person:
Janice Harris may be contacted at 706-322-3951 if you have questions about this study. If you have any questions or concerns about the rights of a participant in this research study, you may contact the Institutional Review Board (IRB) at Georgia State University. Susan Vogtner in the office of research compliance can be reached at 404-463-0674. Or you may contact the Institutional Review Committee for Columbus Regional Health Care System at 710 Center Street, Columbus, Georgia, 31902.

I will give you a copy of this consent form to keep.

_____ _____
Teenager's Name Date

_____ _____
Parent/Guardian/Legally Authorized Representative Date

_____ _____
Principal Investigator Date

Appendix E

Adolescent Assent Form

Georgia State University
College of Health and Human Services
Byrdine F. Lewis School of Nursing

Informed Assent Form

Title: Self-Esteem, Family Support, Peer Support and Depressive Symptomatology: A Descriptive Correlational Study of Pregnant Adolescents

Principal Investigator: Janice Harris, PhD(c), MSN, RNC
Doctoral Student
Georgia State University

I. Introduction/Background/Purpose:
Teenage pregnancy continues to be a major concern in the United States today despite the decline in births among adolescents in recent years. The emotional health and well-being of the adolescent during pregnancy is a major concern that has received little attention. The main purpose of this research study is to examine the relationship between depression, self-esteem, family support, and peer support in the pregnant adolescent.

Approximately 130 pregnant adolescents between the ages of 13 and 18 will be asked to volunteer to participate in this research process. The participants will be 13 to 27 weeks pregnant and experiencing a normal pregnancy. The research process will require approximately 45 minutes to complete.

II. Procedures:
If you decide to participate in this research, you will be asked to complete a form that will request information about you and your pregnancy. You will also be asked to complete 4 questionnaires that will provide information about how you feel about your self-esteem, the support you receive from your family and friends, and signs of depression. There are no right or wrong answers to these questions. They are designed to obtain information about your feelings and opinions. You will not be required to leave this facility to participate in this research.

III. Risks:
There are no physical risks for participation in this research study. If you become emotionally upset at anytime during the process, a counselor from the school or a private agency will be available to talk with you. This service will be provided without charge. If your answers on the questionnaire that measures depression suggest that you are quite depressed, you will be referred to a counselor.

IV. Benefits:
There may be no direct benefits to you for your participation in this study. If counseling services are necessary, they will be provided without charge. Referral information will be provided. It will be your responsibility to contact the referral agency. Other pregnant adolescents may benefit from the results of this study by providing information regarding the emotional well-being and health of the adolescent during pregnancy.

V. Voluntary Participation and Withdrawal:
Participation in this research is voluntary. You have the right to refuse to be in this study. If you decide to be in the study and change your mind, you have the right to drop out at any time. You may discontinue participation at any time. However, any information already used to the point when you withdraw consent will not be removed. Whatever you decide, you will not lose any benefits to which you are otherwise entitled. Your health care outside of the study, the payment for your health care, and your health care benefits will not be affected if you do not sign this form. If you do not sign this consent form, you will not be able to participate in the research study.

VI. Confidentiality:
The principal investigator will keep your records private to the extent allowed by law. A study number rather than your name will be used on study records. All information that can identify you will be removed. The personal health information you provide will be used for this research study. The information will be shared with other people for this research study. If you decide you want to be in this study it means that you agree to let your personal health information be used and shared for the reasons listed in this Consent form. The people and places that will be able to look at your personal health information are: the principal investigator, Dr. Carol Howell, Dr. Dana Edwards, & Dr. Patsy Ruchala. They will look at it so they can work on this research study. Your health information may also be shared with the Georgia State University Institutional Review Board (IRB) and Columbus Regional Health Care System IRB. It will be shared in a way that does not fall under the protection of federal regulations that apply to the privacy of health information. This research may be shown to other researchers. This research may be published, but we will take steps to make sure that you cannot be identified.

If you sign this consent form you are letting the investigator use your personal health information until the end of the study. You have the right to say that you do not want your personal health information used after it has been collected. If you decide you don't want the information used anymore you **must** write a letter asking the principal investigator not to use your information. The investigator who received your completed questionnaires is the only person who will be able to know which questionnaire is yours because the questionnaires do not have your name or address on them. If you don't want your information used anymore, the investigator will stop using it but any information that has already been used in the study will not be removed.

You will not be able to look at or get a copy of your health information that you gave the investigator while doing the research; however, you will be able to look at it or get a copy at the end of the study.

VII. Contact Person:
You may contact Janice Harris at 706-322-3951 if you have questions about this study . If you have any questions or concerns about your rights as a participant in this research study, you may contact the Institutional Review Board (IRB) at Georgia State University. Susan Vogtner in the office of research compliance can be reached at 404-463-0674. Or you may contact the Institutional Review Committee for Columbus Regional Health Care System at 710 Center Street, Columbus, Georgia, 31902.

I will give you a copy of this consent form to keep.

If you are willing to volunteer for this research, please sign below.

_____ _____
Teenager's Name Date

_____ _____
Teenager's Signature Date

_____ _____
Principal Investigator Date

Appendix F

Adolescent Consent Form

Georgia State University
College of Health and Human Services
Byrdine F. Lewis School of Nursing

Informed Consent Form

Title: Self-Esteem, Family Support, Peer Support and Depressive Symptomatology: A Descriptive Correlational Study of Pregnant Adolescents

Principal Investigator: Janice Harris, PhD(c), MSN, RNC
Doctoral Student
Georgia State University

I. Introduction/Background/Purpose:
Teenage pregnancy continues to be a major concern in the United States today despite the decline in births among adolescents in recent years. The emotional health and well-being of the adolescent during pregnancy is a major concern that has received little attention. The main purpose of this research study is to examine the relationship between depression, self-esteem, family support, and peer support in the pregnant adolescent.

Approximately 130 pregnant adolescents between the ages of 13 and 18 will be asked to volunteer to participate in this research process. The participants will be 13 to 27 weeks pregnant and experiencing a normal pregnancy. The research process will require approximately 45 minutes to complete.

II. Procedures:
If you decide to participate in this research, you will be asked to complete a form that will request information about you and your pregnancy. You will also be asked to complete 4 questionnaires that will provide information about how you feel about your self-esteem, the support you receive from your family and friends, and signs of depression. There are no right or wrong answers to these questions. They are designed to obtain information about your feelings and opinions. You will not be required to leave this facility to participate in this research.

III. Risks:
There are no physical risks for participation in this research study. If you become emotionally upset at anytime during the process, a counselor from the school or a private agency will be available to talk with you. This service will be provided without charge. If your answers on the questionnaire that measures depression suggest that you are quite depressed, you will be referred to a counselor.

IV. Benefits:
There may be no direct benefits to you for your participation in this study. If counseling services are necessary, they will be provided without charge. Referral information will be provided. It will be your responsibility to contact the referral agency. Other pregnant adolescents may benefit from the results of this study by providing information regarding the emotional well-being and health of the adolescent during pregnancy.

V. Voluntary Participation and Withdrawal:
Participation in this research is voluntary. You have the right to refuse to be in this study. If you decide to be in the study and change your mind, you have the right to drop out at any time. You may discontinue participation at any time. However, any information already used to the point when you withdraw consent will not be removed. Whatever you decide, you will not lose any benefits to which you are otherwise entitled. Your health care outside of the study, the payment for your health care, and your health care benefits will not be affected if you do not sign this form. If you do not sign this consent form, you will not be able to participate in the research study.

VI. Confidentiality:
The principal investigator will keep your records private to the extent allowed by law. A study number rather than your name will be used on study records. All information that can identify you will be removed. The personal health information you provide will be used for this research study. The information will be shared with other people for this research study. If you decide you want to be in this study it means that you agree to let your personal health information be used and shared for the reasons listed in this Consent form. The people and places that will be able to look at your personal health information are: the principal investigator, Dr. Carol Howell, Dr. Dana Edwards, & Dr. Patsy Ruchala. They will look at it so they can work on this research study. Your health information may also be shared with the Georgia State University Institutional Review Board (IRB) and Columbus Regional Health Care System IRB. It will be shared in a way that does not fall under the protection of federal regulations that apply to the privacy of health information. This research may be shown to other researchers. This research may be published, but we will take steps to make sure that you cannot be identified.

If you sign this consent form you are letting the investigator use your personal health information until the end of the study. You have the right to say that you do not want your personal health information used after it has been collected. If you decide you don't want the information used anymore you **must** write a letter asking the principal investigator not to use your information. The investigator who received your completed questionnaires is the only person who will be able to know which questionnaire is yours because the questionnaires do not have your name or address on them. If you don't want your information used anymore, the investigator will stop using it but any information that has already been used in the study will not be removed.

You will not be able to look at or get a copy of your health information that you gave the investigator while doing the research; however, you will be able to look at it or get a copy at the end of the study.

VII. Contact Person:
You may contact Janice Harris at 706-322-3951 if you have questions about this study . If you have any questions or concerns about your rights as a participant in this research study, you may contact the Institutional Review Board (IRB) at Georgia State University. Susan Vogtner in the office of research compliance can be reached at 404-463-0674. Or you may contact the Institutional Review Committee for Columbus Regional Health Care System at 710 Center Street, Columbus, Georgia, 31902.

I will give you a copy of this consent form to keep.

If you are willing to volunteer for this research, please sign below.

_____ _____
Teenager's Name Date

_____ _____
Teenager's Signature Date

_____ _____
Principal Investigator Date

Appendix G

Demographic Data Sheet

Demographic Information

Identification Number:_____

Date:_____

Age:_____

Expected due date for delivery:_____

Race/ethnicity:_____

Last year of education completed (Circle one):

1 2 3 4 5 6 7 8 9 10 11 12

How many times have you been pregnant?_____

Have you ever had a miscarriage?_____

Have you ever been treated for depression?_____

How many people live in your household?_____

Annual Household Income (Circle one):

1.Less than $9,999

2. $10,000-$19,999

3. $20,000-$29,000

4. $30,000-$39,999

5. $40,000-$49,999

6. $50,000-$59,000

7. Don't Know

Appendix H

Reynolds Adolescent Depression Scale

RADS-2 Test Booklet

by William M. Reynolds, PhD

Name _____ Age _____ Sex: ☐ Male ☐ Female Today's Date: ___/___/___ (Mo. Day Yr.)

Grade in School: _____ Ethnicity/Race: _____ School/Agency _____

Directions: Listed below are some sentences about how you feel. Read each sentence and decide how often you fee this way. Decide if you feel this way almost never, hardly ever, sometimes, or most of the time. To answer each item circle the number under the answer that best describes how you really feel. Remember, there are no right or wrong answers. Just choose the answer that tells how you usually feel.

		Almost never	Hardly ever	Some-times	Most of the time
1.	I feel happy	1	2	3	4
2.	I worry about school	1	2	3	4
3.	I feel lonely	1	2	3	4
4.	I feel my parents don't like me	1	2	3	4
5.	I feel important	1	2	3	4
6.	I feel like hiding from people	1	2	3	4
7.	I feel sad	1	2	3	4
8.	I feel like crying	1	2	3	4
9.	I feel that no one cares about me	1	2	3	4
10.	I feel like having fun with other students	1	2	3	4
11.	I feel sick	1	2	3	4
12.	I feel loved	1	2	3	4
13.	I feel like running away	1	2	3	4
14.	I feel like hurting myself	1	2	3	4
15.	I feel that other students don't like me	1	2	3	4
16.	I feel upset	1	2	3	4
17.	I feel life is unfair	1	2	3	4
18.	I feel tired	1	2	3	4
19.	I feel I am bad	1	2	3	4
20.	I feel I am no good	1	2	3	4
21.	I feel sorry for myself	1	2	3	4
22.	I feel mad about things	1	2	3	4
23.	I feel like talking to other students	1	2	3	4
24.	I have trouble sleeping	1	2	3	4
25.	I feel like having fun	1	2	3	4
26.	I feel worried	1	2	3	4
27.	I get stomachaches	1	2	3	4
28.	I feel bored	1	2	3	4
29.	I like eating meals	1	2	3	4
30.	I feel like nothing I do helps any more	1	2	3	4

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Appendix I

Rosenberg Self-Esteem Scale

ROSENBERG SELF-ESTEEM SCALE

INSTRUCTIONS: BELOW IS A LIST OF STATEMENTS DEALING WITH YOUR GENERAL FEELINGS ABOUT YOURSELF. IF YOU **STRONGLY AGREE**, CIRCLE **SA**. IF YOU **AGREE** WITH THE STATEMENT, CIRCLE **A**. IF YOU **DISAGREE**, CIRCLE **D**. IF YOU **STRONGLY DISAGREE**, CIRCLE **SD**.

		1. Strongly Agree	2. Agree	3. Disagree	4. Strongly Disagree
1.	I feel that I'm a person of worth, at least on an equal plane with others.	SA	A	D	SD
2.	I feel that I have a number of good qualities.	SA	A	D	SD
3.	All in all, I am inclined to feel that I am a failure	SA	A	D	SD
4.	I am able to do things as well as most people.	SA	A	D	SD
5.	I feel I do not have much to be proud of.	SA	A	D	SD
6.	I take a positive attitude toward myself.	SA	A	D	SD
7.	On the whole, I am satisfied with myself.	SA	A	D	SD
8.	I wish I could have more respect for myself.	SA	A	D	SD
9.	I certainly feel useless at times.	SA	A	D	SD
10.	At times I think I am no good at all	SA	A	D	SD

Appendix J

Perceived Social Support from Family Scale

PERCEIVED SOCIAL SUPPORT FROM FAMILY

INSTRUCTIONS:THE STATEMENTS WHICH FOLLOW REFER TO FEELINGSAND EXPERIENCES WHICH OCCUR TO MOST PEOPLE AT ONE TIME OR ANOTHER IN THEIR RELATIONSHIPS WITH THEIR **FAMILIES**. FOR EACH STATEMENT THERE ARE THREE POSSIBLE ANSWERS: YES, NO, DON'T KNOW. PLEASE CIRCLE THE ANSWER YOU CHOOSE FOR EACH ITEM. COMPLETE ITEMS 1-20.

1.	My family gives me the moral support I need.	Yes	No	Don't Know
2.	I get good ideas about how to do things or make things from my family.	Yes	No	Don't Know
3.	Most other people are closer to their family than I am.	Yes	No	Don't Know
4.	When I confide in the members of my family who are closest to me, I get the idea that it makes them uncomfortable.	Yes	No	Don't Know
5.	My family enjoys hearing about what I think.	Yes	No	Don't Know
6.	Members of my family share many of my interests.	Yes	No	Don't Know
7.	Certain members of my family come to me when they have problems or need advice.	Yes	No	Don't Know
8.	I rely on my family for emotional support.	Yes	No	Don't Know
9.	There is a member of my family I could go to if I were just feeling down, without feeling funny about it later.	Yes	No	Don't Know
10.	My family and I are very open about what we think about things.	Yes	No	Don't Know
11.	My family is sensitive to my personal needs.	Yes	No	Don't Know
12.	Members of my family come to me for emotional support.	Yes	No	Don't Know
13.	Members of my family are good at helping me solve problems.	Yes	No	Don't Know

14.	I have a deep sharing relationship with a number of members of my family.	Yes	No	Don't Know
15.	Members of my family get good ideas about how to do things or make things from me.	Yes	No	Don't Know
16.	When I confide in members of my family, it makes me uncomfortable.	Yes	No	Don't Know
17.	Members of my family seek me out for companionship.	Yes	No	Don't Know
18.	I think that my family feels that I'm good at helping them solve problems.	Yes	No	Don't Know
19.	I don't have a relationship with a member of my family that is as close as other people's relationships with family members.	Yes	No	Don't Know
20.	I wish my family were different.	Yes	No	Don't know

.

Appendix K

Perceived Social Support from Friends

PERCEIVED SOCIAL SUPPORT FROM FRIENDS SCALE

INSTRUCTIONS: THE STATEMENTS WHICH FOLLOW REFER TO FEELINGS AND EXPERIENCES WHICH OCCUR TO MOST PEOPLE AT ONE TIME OR ANOTHER IN THEIR RELATIONSHIPS WITH **FRIENDS**. FOR EACH STATEMENT THERE ARE THREE POSSIBLE ANSWERS: YES, NO, DON'T KNOW. PLEAE CIRCLE THE ANSWER YOU CHOOSE FOR EACH ITEM. COMPLETE ITEMS 1 TO 20.

1.	My friends give me the moral support I need.	Yes	No	Don't Know
2.	Most other people are closer to their friends than I am.	Yes	No	Don't Know
3.	My friends enjoy hearing about what I think.	Yes	No	Don't Know
4.	Certain friends come to me when they have problems or need advice.	Yes	No	Don't Know
5.	I rely on my friends for emotional support.	Yes	No	Don't Know
6.	If I felt that one or more of my friends were upset with me, I'd just keep it to myself.	Yes	No	Don't Know
7.	I feel that I'm on the fringe in my circle of friends.	Yes	No	Don't know
8.	There is a friend I could go to if I were just feeling down, without feeling funny about it later.	Yes	No	Don't Know
9.	My friends and I are very open about what we think about things.	Yes	No	Don't Know
10.	My friends are sensitive to my personal needs.	Yes	No	Don't Know
11.	My friends come to me for emotional support.	Yes	No	Don't Know
12.	My friends are good at helping me solve problems.	Yes	No	Don't Know
13.	I have a deep sharing relationship with a number of friends.	Yes	No	Don't Know

14.	My friends get good ideas about how to do things or make things from me.	Yes	No	Don't Know
15.	When I confide in friends, it makes me feel uncomfortable.	Yes	No	Don't Know
16.	My friends seek me out for companionship.	Yes	No	Don't Know
17.	I think that my friends feel that I'm good at helping them solve problems.	Yes	No	Don't Know
18.	I don't have a relationship with a friend that is as intimate as other people's relationships with friends.	Yes	No	Don't know
19.	I've recently gotten a good idea about how to do something from a friend.	Yes	No	Don't Know
20.	I wish my friends were much different.	Yes	No	Don't Know