

THE RELATIONSHIP BETWEEN FEMALE ADOLESCENT SELF-ESTEEM,  
DECISION MAKING AND CONTRACEPTIVE BEHAVIOR

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## Abstract

### *Context*

Adolescence is a period of transition that involves biological, cognitive, psychological and social changes. During the vulnerable transition period of adolescence, decisions relating to contraception may occur. The purpose of this study was to examine the relationship between female adolescent self-esteem, decision making and contraceptive behavior. Understanding the relationship between female adolescent self-esteem, decision-making and contraceptive behavior has contributed to the knowledge base about female contraceptive behavior. Gaining further insight into these relationships will help health care professionals provide counseling and health care to female adolescents.

### *Methods*

Using a descriptive cross sectional survey design, data were collected from a convenience sample of 98 female adolescents aged 14-17 who came to 5 different clinics in Hawaii for health care. Along with a brief demographic questionnaire, global self-esteem was measured by Rosenberg's Self Esteem Scale (Rosenberg, 1965), decision-making was measured by the Flinders Adolescent Decision Making Questionnaire (Mann, Harmoni, Power, Beswick & Ormond, 1988) and sexual activity and contraception use was measured by a Sexual History and Contraceptive Use Questionnaire developed for this study. The conceptual framework for this study was Janis and Mann's (1977) conflict theory of decision-making. Descriptive statistics, logistic regression and correlations were used to analyze associations and correlations

between age, global self esteem, decision self esteem, decision coping (vigilant and maladaptive) and contraceptive use for sexually active female adolescents.

### *Results*

No significant associations or correlations were found between age, global self-esteem, decision self esteem, decision coping (vigilance) and their decision to use contraception in sexually active adolescent females. There was, however, significant negative correlation ( $p < .05$ ) between maladaptive decision-making and contraceptive use in sexually active female adolescents. This suggests that sexually active adolescent females with higher maladaptive scores are less likely to use contraception. There was also significant association ( $p < .05$ ) between maladaptive decision-making in contraceptive use and sexually active female adolescents. For every one unit increase on the maladaptive scale, the odds of using contraception were estimated to decrease by 7% meaning those who scored higher on the maladaptive scale were less competent or poor decision makers and less likely to use contraception.

### *Conclusions*

Adolescents who score higher on the maladaptive decision-making scale are less competent in decision-making and are less likely to use contraception. Interventions focused on improving decision-making skills and stimulating thinking around not only sexual issues, but also relationship and communication in adolescent issues, may facilitate more competent decision-making.

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## CHAPTER ONE

### Introduction

The teen pregnancy rate in the United States is one of the highest among the western world (Dangal, 2006). An estimated 78% of these pregnancies are unintended (Guttmacher, 2004). Teen pregnancy costs in the United States are 7 billion dollars annually (National Campaign to Prevent Teen Pregnancy, 2005). Although the teen birth rate has declined 30% between 1991 and 2002 (National Vital Statistics Report, 2003), each year in the United States, 800,000 to 900,000 adolescents ages 19 or younger become pregnant (National Campaign to Prevent Teen Pregnancy, 2005). Approximately 30% of the adolescent pregnancies in the United States result in abortion while 56% result in live births and 14% result in miscarriages (Guttmacher, 2004). Each year there are 84 pregnancies per 1,000 women aged 15-19 in the United States (National Campaign to Prevent Teen Pregnancy, 2005). While teen pregnancy persists in the United States, between 1991-2004 there was a 33% decrease in births to adolescents ages 15-19. For adolescents ages 15-19 the rate has dropped from 61.8 per 1,000 in 1991 to 41.2 per 1,000 in 2004. There has also been a decrease in births to adolescents aged 10-14 from 13,000 in the 1990's to 6,789 in 2004 (National Vital Statistics, 2004).

There are 93 pregnancies annually per 1,000 women aged 15-19 in Hawaii (National Campaign to Prevent Teen Pregnancy, 2005). The Center on the Family at the University of Hawaii (2000) reports that teen pregnancy in Hawaii for ages 15-19 years old is the highest in the rural areas of Kauai with 81.7 per 1,000 and the Big Island of Hawaii at 94 per 1,000.

The majority of adolescents become sexually active by mid to late adolescence in the United States (Blum, 1997). In the United States, 45.3% of females and 48% of male adolescents between ages 15-19 have had intercourse (National Campaign to Prevent Teen Pregnancy, 2005). The average age of first intercourse in the United States has decreased to age 17 for females and age 16 for males. In the United States, approximately one fourth of adolescents have reported they had intercourse prior to age 15 (Dangal, 2006). Despite the number of safe effective contraceptive methods available, pregnancy among teenagers is still prevalent. These consistent high rates of adolescent pregnancies in the United States continue to generate public concerns, as adolescent pregnancy has been associated with adverse health and social consequences. Adolescent mothers, particularly those under 17, are more likely to have truncated education, lower-paying jobs, higher levels of unemployment, larger families with close spacing of children and a higher likelihood of marital disruption, future out-of-wedlock pregnancies, low birth weight babies and poverty status (Aquilino & Bragadottir, 2000).

The National Campaign to Prevent Teen Pregnancy (2005) reports that 79% of adolescents use some form of contraception (usually condoms) with first intercourse. Of those adolescents that do not use contraception there is a 90% chance of pregnancy in the first year of becoming sexually active. The Hawaii School Health Survey (2002) reports that 75% of high school students and 42% of middle school students used contraception with their last sexual intercourse. Although access to initiating contraception for adolescents has increased, adolescents are erratic contraceptors, as they do not use contraception consistently (Glei, 1999). With nearly one million teenage pregnancies occurring each year in the United States an understanding of adolescents' decision-

making for contraception is one of the first steps towards creating solutions for this problem.

### *Adolescent Development*

Adolescence is a period of transition that involves biological, cognitive, psychological and social changes. It involves transition from immaturity to maturity. Puberty occurs with the changes in physical appearance in both males and females. During this period, the adolescent becomes interested in sex and is biologically capable of having children. The frontal cortex of the brain, which is responsible for impulse control, planning and decision-making, is undergoing maturation (Weinberger, Elvevag & Giedd, 2005). Through maturation, cognitively, the adolescent becomes wiser and more sophisticated in decision-making. Self-awareness evolves and they become interested in the future. Psychosocial development occurs, involving changes in identity, autonomy, intimacy, sexuality and achievement. With identity formation the development of self-esteem and self-concept occurs. Adolescents are more aware of themselves and are concerned about what others think when compared to other age groups. Major tasks of adolescence are developing a positive self-concept, self-image and self-esteem. These changes occur gradually over the adolescent years. Self-esteem and doing well in academic performance are enhanced by the approval of peers, parents. Adolescents' physical self-esteem, or how they feel about themselves, is the most important in predicting overall self-esteem (Steinberg, 2005).

As the adolescent ages, autonomy develops and the adolescent attempts to become independent. Changes in intimacy result in establishing trusting and loyal relationships with peers. Awareness of sexuality during adolescence changes the

relationships between adolescents and their peers. The adolescent attempts to resolve issues about sexual values and morals. Decisions about schooling and careers occur in this period. Some of these decisions depend on achievement in school, or their self-evaluation of their competency and capabilities or futuristic goals (Steinberg, 2005).

### *Stages of Adolescence*

Adolescence spans a period of ten years that begins with puberty and continues to early adulthood. Steinberg (2005) states the stages of adolescence are divided between early adolescence (10-13 years old), middle adolescence (14-17 years old) and late adolescence (18-22 years old). While all stages are important, the focus of this research involves the period of middle adolescence.

#### *Middle Adolescence.*

During this stage, the adolescent becomes more interested in peer relationships, and the opposite sex. They are more independent in their decision-making and lifestyle behaviors. There is conformity to peers and heightened peer pressure. There is increasing importance of opposite sex peers. Sexual experimentation is common and many adolescents have their first intercourse at this stage of life. Cognitive transitions occur as the adolescent enters the stage of formal operational thinking. The beginning of abstract thinking occurs. The adolescent's focus expands to include more philosophical and futuristic concerns. The forming of identity, sexual orientation and the adolescent's own code of ethics evolves during this stage (Steinberg, 2005).

#### *Imaginary Audience and Personal Fable.*

Elkind's (1967) model of egocentrism states that as adolescents develop they gain the ability to understand issues from another person's point of view. During this

egocentric stage the adolescent can be self-focused. The imaginary audience and the personal fable are associated with important changes in cognitive development during adolescence. Cognitive egocentrism is defined as a failure to differentiate between one's own thoughts and those of others. This lack of differentiation reveals itself as what is known as the imaginary audience. There is a heightened sense of self-consciousness. An example of this is the adolescent may believe others are just as preoccupied with their appearance and behavior as they are. Elkind (1967) defines personal fable as that of immortality and invulnerability. The adolescent feels that his or her experiences are unique. Sometimes personal fable can have some protective benefits as it enhances self-esteem. Other times it is not beneficial as the adolescent may feel they are unique and immune to the consequences of dangerous activity. The lack of use of contraceptives can be related to this theory in that adolescents believe that pregnancy could not happen to them (Gordon, 1996; Steinberg, 2005).

### *Risk Taking*

During this vulnerable transitional stage, adolescents are faced with many decisions. Some of these decisions involving substance abuse, reckless driving or unprotected intercourse can be life changing. Substance abuse and/or dependence, long-term health consequences resulting from motor vehicle accidents and pregnancy resulting from unprotected sex can change the course of adolescence. Risk taking is common with adolescents. Researchers have examined adolescent risk taking from a cognitive viewpoint. The consensus is that adolescents engage in risky behavior not because of errors in decision-making but because they evaluate consequences of their actions differently than adults do.

Adolescents also have emotional and social factors that influence their judgment (Steinberg, 2005). Sexually active adolescents who have had unprotected intercourse have failed to evaluate the consequences of their actions accurately, thus resulting in a 90% chance of getting pregnant in the first year of becoming sexually active.

Kahneman, Slovic & Tversky (1982) studied adolescent risk taking behavior from a behavioral decision making perspective. This process draws from the economic perspective and depicts decision making as a rational process where individuals weigh the costs and benefits of alternative courses of action. The decision maker chooses an alternative that maximizes benefits and minimizes costs (Gruber, 2001). Adolescents' decisions, however, are not always made in a straightforward rational way as suggested by behavioral decision theory. Small, Silverberg, & Kerns (1993) reported that the adolescent's perception of the *benefits* of engaging in risky behavior such as sexual intercourse, were not nearly as predictive as to how they behaved as were their perceptions of *costs*. The higher the cost in a particular behavior the less likely the adolescent was to engage in it. Many adolescents do not believe the costs of unprotected sex are great enough to cause them to avoid this risky behavior. Pregnancy results in adolescents who underestimate the chance of getting pregnant with unprotected intercourse.

While all of these risk-taking behaviors are important, the focus of this research is to address the relationship between female adolescent self-esteem, decision making and contraceptive behavior. As many adolescents are sexually active, contraception remains a significant part of the national effort to reduce adolescent pregnancy. The consequences of adolescent pregnancy have been associated with adverse health and social

consequences. Adolescent pregnancy carries with it the consequences of increased risk of morbidity and mortality (Aquilino & Bragadottir, 2000).

### *Decision Making*

Understanding how adolescents make decisions about sexual activity and the use of contraception poses a challenge. Several views suggest that adolescents make decisions differently than adults. Gage (1998) states that the physiological changes occurring in adolescence contribute to increased sexual motivation. Gage also proposes that as adolescents go through adolescence they are susceptible to peer pressure. Perceptions about what peers are doing and thinking and what is accepted are strong motivators related to engaging in sexual activity. These seem to outweigh their perceptions about the opinions of parents and of other family members. Weinberger et al. (2005) proposes that less than mature frontal lobes of the brains of adolescents contributes to poor decision making, in relation to estimating frequencies and probabilities. Steinberg (2005) proposes that adolescents' evaluate possible consequences from their actions differently than adults do, resulting in more risky decisions with adverse outcomes.

One of the main ways that adolescents become more autonomous is in the growth of their decision-making capabilities. Decision-making capabilities improve as the adolescent ages. As the adolescent ages and develops more competence in decision-making, the adolescent becomes more autonomous. This more sophisticated reasoning process allows the adolescent to hold multiple viewpoints and compare them. Older adolescents are more likely to be aware of risks and more likely to consider future

consequences. They are able to seek out, weigh the advice of individuals, and use this information to make independent decisions.

The importance of adolescent self-esteem and decision-making has made a compelling case for further research in this area. The purpose of this study is to explore the relationship female adolescent self-esteem, decision-making and contraceptive behavior. The female gender has been selected as the population to be studied, as it is the main gender accessing health care for contraception (Guttmacher, 2004).

#### *Aims*

In a sample of 14-17 year old female adolescents the specific aims of the study are to:

1. Describe global self-esteem, decision self-esteem, decision coping patterns and contraceptive behavior.
2. Determine the relationship between age, global self-esteem, decision self-esteem, decision coping patterns and adolescent contraceptive behavior.
3. Determine if age, global self-esteem, decisional self-esteem, decision coping patterns have significant association with contraceptive behavior.

## CHAPTER TWO

### Literature Review

The literature review on adolescent decision-making and contraception was grouped into the following sections: (a) Development of Competence in Adolescent Decision Making, (b) Cognitive Ability and Academic Factors and Contraceptive Decision Making, (c) Adolescent Self-Esteem, Sexual and Contraceptive Decision Making (d) Ethnicity and Cultural Influences on Contraceptive Decision-making and (e) Parental Influence on Sexual Activity and Contraceptive Behavior.

#### *Development of Competence in Adolescent Decision Making*

Piaget, a well-known cognitive theorist, describes elements in adolescent development. Formal operational reasoning in Piaget's developmental theory (Inhelder & Piaget, 1958) is critical in adolescent contraceptive decision-making. Piaget's theory of formal operation reasoning includes: generating or envisioning alternatives, evaluating alternatives, engaging in perspective taking and reasoning about chance and probability (Inhelder & Piaget, 1958).

According to Piaget, formal operations allows for the consideration of what is possible. Thus, the formal operator is able to see alternative solutions to a problem. This ability to consider various actions and solutions to a problem is needed to enable the adolescent to make decisions regarding contraception. The concept, evaluation of alternatives, utilizes the premise of propositional logic, the "if then" scenario. Formal reasoners are able to hypothesize about how personal actions result in various consequences (Inhelder & Piaget, 1958). With the development of perspective taking, the adolescent is able to adopt another's viewpoint; this is enhanced as adolescents develop.

Consideration of chance and probability, allow formal operators, when given the odds, the ability to estimate the probability of an event occurring. Gordon's (1990) integrative literature review showed that understanding notions of chance and probability might be an important factor in sexual risk-taking behavior in adolescence. He surmised that the adolescents who had unintended pregnancy had difficulty with envisioning alternatives, evaluating alternatives via propositional logic, engaging in perspective taking and reasoning about chance and probability in decision making.

Janis & Mann (1977) proposed a general framework for considering the relationship among knowledge, belief and behavior. Janis and Mann's (1977) well known model of conflict theory depicts seven criteria for processing information in adult decision-making. Janis and Mann's "vigilant" decision maker is a highly competent person who thoroughly considers a wide range of alternative sources of action and objectives and values implicated by the choice, weighs positive and negative consequences, searches for new information and plans the implementation of the decision.

Mann, Harmoni & Power (1989), use Janis and Mann's framework to investigate adolescents. Based on evidence in the literature relating to the development of decision-making competence in adolescence, Mann et al. described nine elements of competent adolescent decision-making: choice, comprehension, creativity, compromise, consequentiality, correctness, credibility, consistency, and commitment. By age 15, adolescents show a reliable level of competence in understanding decision-making, creative problem solving, correctness of choice and commitment to a course of action. They found that young adolescents aged 12-14 are less able to create options, identify a

wide range of risks and benefits, foresee consequences of alternatives and gauge credibility of information from sources with vested interests.

Congruent with the Mann et al. (1989) model was Ormond, Luszcz, Mann & Beswick's (1991) study of (N=84) both male and female (43 in early adolescent ages 13-14 and 41 in middle adolescence aged 15-17) from two South Australian high schools. There was a progressive sophistication across early to mid adolescence in decision-making. A positive correlation existed between adolescent age and transitions in adolescent thinking to become more competent decision makers.

Competency and coping have also been found to influence adolescent decision-making. Friedman & Mann (1993) modified the conflict theory in decision-making introduced by Janis and Mann (1977), and studied adolescent decision coping patterns and competency. The decision coping patterns, which are Janis and Mann's (1977) different styles in decision-making are: decision self esteem, vigilance, hypervigilance (panic), defensive avoidance (evasiveness or cop out) and complacency. Their study compared 13-14 year old Australian adolescents (N=428, 230 boys, 198 girls) and similar aged Israeli adolescents (N=1028, 579 boys, 449 girls) on self-confidence of decision-making. Boys ( $n=809$ ) outscored girls ( $n=747$ ) on self-confidence in decision-making. Those with higher self-confidence scored lower on panicky behavior. Two clusters of decision makers were found: adaptive decision makers with a vigilant strategy and maladaptive. The vigilant decision maker is one in which the decision maker feels there is enough time to make a decision, is optimistic a solution can be found, searches a wide range of alternatives and evaluates their costs and benefits before making a final decision. A maladaptive decision maker fails to meet many of these criteria, which are

requirements of quality information processing. Friedman (2000) a behavioral scientist, describes a deliberation-resolution approach used to study the association between decision-making coping patterns, sense of confidence, involvement and experience in decision-making. Deliberation involves identifying the problem, then exploring it, and developing a range of alternative solutions. Resolution means a clear, stable choice of one of the options with a contingency plan should one be needed. Through content analysis, Friedman identified four principal decision making coping patterns used by adolescents: (a) thoughtful determination (b) vacillation (c) shallowness, and (d) avoidance. His study of 17-18 year old predominantly male ( $n=222$ ) and female ( $n=47$ ) students from academic, vocational and comprehensive high schools categorized those with thoughtful determination as the most common coping pattern in decision-making. Significant positive correlations were found between the adolescents' sense of confidence and thoughtful determination and negative correlations between sense of confidence, experience in making decisions, vacillation and shallowness.

#### *Cognitive Ability and Academic Factors and Contraceptive Decision Making*

In a sample of 86 urban Black females aged 14-19 from working class families, Sachs (1985) examined the relationship between stage of cognitive development, self-determination, previous exposure to contraceptive situations, relevant knowledge and chronologic age as predictors of contraceptive and non-contraceptive decision-making abilities. In these adolescents, the stage of cognitive development was the best single predictor of contraceptive decision-making ability. Age and relevant sexual knowledge also contributed to explaining this ability but was less important than the cognitive stage.

Holmbeck, Crossman, Wandrei & Gasiewski (1994) studied cognitive development, egocentrism and self-esteem and their relation to contraceptive knowledge, attitudes and behaviors in a sample of ( $n=101$  males,  $n=199$  females) 14-19 year old high school students. Their findings in this sample of Caucasian (70%), African American (10%) and other ethnic groups (13%), revealed that adolescents with higher cognitive development and higher self-esteem scores were associated with increased knowledge about sexuality and contraceptives and were more likely to report usage of contraceptives during sexual intercourse. Gender specific analysis revealed that males had higher cognitive development and higher self-esteem scores than females did.

The relationship between competence factors, cognitive egocentrism (inability to differentiate the thoughts of others from self or over-differentiates his/her thoughts) and experience (familiarity with contraceptives) and an adolescent contraceptive usage problem was examined by Green & Johnson (1992) in a sample of ( $N=50$ ) of African-American ( $n=21$ ) and Caucasian ( $n=29$ ) unmarried females, aged 14-19, of low economic status. Their study identifies factors influencing the lack of contraceptive use in adolescents. A higher level of cognitive function positively related to a higher level of decision-making. Cognitive function was measured by two cognitive tasks, Displaced Volume and Puns. Displaced Volume required the subject to identify the relevant variables and then mentally manipulate them in order to predict their effect on the level of water in a pictured container. Puns is a test that requires the subject to explain two meanings implied in each of three puns so it is called a Puns test. Cognitive egocentrism was a factor that negatively influenced decision-making performance. A person with high cognitive egocentrism was less likely to be aware of the thoughts of others. They may be

unable to differentiate the thoughts of others from self or over differentiate his/her thoughts. This can lead to the adolescents' perception of their "self" as special and unique and may in turn lead to a sense of being invulnerable. They would be less likely to see outside their own thought processes and generate more steps to a solution. Johnson and Green (1993) studied 60 sexually active 14-18 year old females who were Black, Hispanic and White, and of low economic status. Their study was consistent with the literature that subscribes to a developmental model, which assumes that as adolescents get older they function at a higher cognitive level. They reported that age and grade were positively related to ability to use abstract reasoning. However, increased cognitive capacity is not guaranteed with increased adolescent age. One of the common assumptions of the Piagetian model is that not all people reach formal operational thinking in the adolescent years, and some people never achieve it (Gordon, 1990).

Other researchers studied the relationship between academic, cognitive and personality factors and decision-making. Sandler, Watson & Levine (1992) studied 37 Caucasian, Black and Latino 13-16-year-old females, from low-income families. The participants were divided into three groups: sexually active using contraception ( $n=13$ ), sexually active not using contraception consistently ( $n=12$ ) and those not sexually active ( $n=12$ ). Higher scores on vocabulary were found among adolescents who were sexually active and using contraception. Adolescents who did not use contraception had a more external locus of control, lower self-concept and less future orientation. Adolescents who were not sexually active had mean scores that were intermediate and not significantly different. Holden & Nelson, (1993) studied a diverse sample of (African-American, Caucasian, Hispanic, Oriental or racially mixed) pregnant ( $n=69$ ) and non-pregnant teens

( $n=58$ ) aged 14-19. Pregnant teens were more likely to do poorly in school and less likely to use contraception than non-pregnant teens. In a sample of 14-19 year olds, primarily minority (Latino and Black) females, Gordon (1996) reported that low academic skills and poverty resulted in pregnancy rather than pregnancy leading to high school dropouts and a life of poverty.

Other studies have addressed the relationship between contraception and gender, attitudes about contraception and decision-making and future orientation. Although these studies are dated, they were still relevant information about adolescent contraception. Rogel, Zuehlke, Petersen, Tobin & Shelton's (1980) qualitative and quantitative research ( $N=120$ ) of primarily black females, aged 11-19 years old, from low economic status examined the sexual and contraceptive behavior of these girls and found that they generally were poor contraceptors. They viewed the costs of contraception (in terms of safety) as high. In her study investigating the contraceptive decision making process with adolescent females, Peacock (1982) found that teens grossly underestimated their own fertility ( $N=1321$ ). Her study of Caucasian females, aged 15-19, showed that the older the girl and the longer the exclusive dating of one person were associated with being more likely to use contraception. White's (1984) study ( $N=100$ ) of primarily black adolescent females, aged 14-19, of low economic status and living in an urban area, found that adolescents who initiated contraception use were more likely to consider themselves susceptible to pregnancy, anticipated no side effects and had become sexually active at age 16 or older.

In summary, two areas of adolescent decision-making have been discussed. The first is related to the development of competence in adolescent decision making in

general and the second is related to cognitive and academic factors and contraceptive decision-making. The stage of cognitive development is one of the most important factors in adolescent decision-making. With increasing age, adolescents are likely to function at a higher cognitive level, which increases competency in decision-making (Green & Johnson, 1992; Janis & Mann, 1977; Ormond et al., 1991; Sachs, 1985). Adolescents demonstrating higher cognitive development and higher self-esteem were associated with increased contraceptive use (Holmbeck et al., 1994). Self-confidence is positively related to competency and coping in decision-making. Coping patterns such as Vigilant and Maladaptive (Friedman & Mann, 1993) and Thoughtful Determination, Vacillation, Shallowness and Avoidance (Friedman, 2000) have emerged in the research showing the way adolescents process decision-making. Higher academic achievement positively influences competent decision-making (Sandler, Watson & Levine, 1992). Adolescents who considered themselves susceptible to pregnancy and anticipated fewer side effects were more likely to use contraception (White, 1984). Factors that lead to less competent decision makers were adolescents with low academic skills, external locus of control, lower self-concept, decreased future time orientation and poverty (Holden & Nelson, 1993; Rogel et al., 1980; Sandler, Watson & Levine, 1992). Attitudes about contraceptive decision-making and future orientation also play a role in adolescents' decision to use contraception and need to be factored in along with cognitive ability. "Cognitive development involves the interplay of neuropsychological maturation, environmental stimulation, environmental responses and constant internal cognitive reorganization. Stress often inhibits the ability to plan, produce, prevent and think in futuristic terms" (M. Stark, personal communication, May 12, 2004).

*Self Esteem, Sexual and Contraceptive Decision Making*

Herold, Goodwin & Lero (1979) examined the relationship between locus of control, self-esteem and attitudes about contraception and contraceptive behavior in 486 females' aged 13-20 attending 10 birth control centers in Southern Ontario, Canada. Effective contraceptors had higher self-esteem. Self-esteem was positively related to attitudes towards using birth control, less embarrassment about obtaining contraception, and more effective consistent contraceptive use. Persons with high self-esteem had less need for social approval. Adolescents with low self-esteem were significantly more likely to report feelings of guilt regarding sexual behavior and less likely to use effective contraception.

In an examination of self-esteem in relation to sexual behavior resulting in teenage pregnancy in multiethnic high school students aged 13-19 (N=287), Robinson & Frank (1994) reported no difference in self-esteem between males and females. Sexual activity or virginity also was not related to self-esteem. There was no difference on self-esteem between pregnant and non-pregnant teens. However, teen males who had fathered a child had lower self-esteem.

Spencer, Zimet, Aalsma & Orr (2002) studied 12-14 year old adolescents in an urban area (N=188); boys with higher self-esteem were more likely to initiate intercourse. Girls with higher self-esteem were more likely to remain virgins than those with low self-esteem. The transition into puberty was unrelated to initiation of coitus.

Paul, Fitzjohn, Herbison and Dickson's (2000) longitudinal study in New Zealand involved a cohort of male and female participants (N=1037). Data was collected every two years from age 3 until age 15, then at 18 and 21 years of age attempting to

identify protective and risk factors for initiation of sexual intercourse prior to age 16.

This study consisted of adolescents of predominantly European decent with only 3% Maori or Pacific Island Polynesians. For males, independent predictors for early sexual intercourse were: a) no outside interests, b) no religious activity, c) not being attached to school, f) low reading score and e) having a conduct disorder. For females, the independent factors predicting early sexual intercourse were: a) middle socioeconomic status, b) mother having her first child before age 20, c) middle IQ range, d) not being attached to school, e) being in trouble in school, f) planning to leave school early, g) cigarette smoking and H) higher self esteem scores.

The relationship between self-esteem and both sexual behavior and intended sexual behavior of adolescents in a sample of rural junior and high school seniors (N=1,659), was examined by Young, Denny & Spear (1999). Higher peer self esteem (a means of being accepted by their peers) was associated with increased likelihood of participation and greater intent of sexual intercourse. Harper & Marshall (1991) reported that in adolescents aged 14-16 years old there were more problems and lower self-esteem in girls ( $n=101$ ) than boys ( $n=100$ ). Girls had more problems with interpersonal relationships, personal adjustment and health and family issues than boys did.

Rosenthal, Moore and Flynn (1990) investigated the sexual self-efficacy and sexual self-esteem of males and females and the relationship of sexual risk taking. Their definition of sexual self-efficacy is that people's behavior depends upon how they judge their own capabilities. Sexual self-esteem is defined as the attitudes towards oneself and the perceptions of adequacy in the sexual domain. Their study (N=1788) of 17-20 year old Australian males (27%) and females (73%) showed that males had higher levels of

self-esteem and were more confident to assert their sexual needs, but less confident that they could say no to sexual demands. Males were more confident than females that they could use condoms. For females, greater sexual risk with a regular partner was associated with lower confidence in their ability to say no, greater confidence in their ability to assert their sexual needs and higher levels of their own sexual self-esteem.

Pete-McGadney (1995) studied self-concept of pregnant adolescent African Americans girls, aged 12-19 years old, from urban and rural areas (N=199). Self-concept was defined as a “psychological dimension that tells how good we feel about ourselves” (p.96). The study hypothesis that age and geographic location were not related to self-concept of pregnant adolescents was supported. Self-concept scores however, in both groups of urban and rural adolescents, were not as high as those of a nonpregnant group of adolescent girls.

Salazar, DiClemente, Wingood, Crosby, Harrington, Davies, Hook and Oh (2004) studied the relationship between self-concept and unwanted, unprotected sex refusal among low income, 14-18 year old sexually active African American female adolescents (N=335). The concept of self-concept was defined as a combination of self-esteem, ethnic identity and body image. The African American girls who had a positive self-concept were significantly more likely to have a higher level of refusals of unprotected intercourse and stronger partner communication.

Kowaleski-Jones & Mott (1998) studied attitudes and behaviors related to engaging in sexual activity, use of contraceptives and becoming a parent in White, Black and Latino males ( $n=496$ ) and females ( $n=463$ ) adolescents aged 14-18. Sexually active females were more likely to be depressed than males. Young women who had intercourse

at an early age and who were not using contraception were associated with personal feelings of failure. Females who had a child were linked with depression, low self-esteem and little sense of control over their lives. The results for males were less consistent and often opposite than that of the female. For those who became parents during adolescence greater maturity was evident than their childless peers.

Wild, Flisher, Bhana and Lombard (2004) studied self esteem in 6 domains (peers, school, family, sports/athletics, body image and self-worth) and risk behaviors related to substance abuse, sexuality, suicides and bullying in N=920 male (44%) and female (56%) adolescents aged 14-17 years old. This study of multiethnic (51% colored-derived of Asian, European and African ancestry), Black (26%), White (23%) and Asian (3%) high school students in Cape Town, Africa found that self-esteem was significantly associated with at least one risk behavior. Low global self-esteem was significantly associated in both sexes with suicide, having been bullied and alcohol use in boys. In girls, low global self-esteem was associated with risky sexual behavior.

Chapman & Mullis (1999, 2000) examined self-esteem and coping strategies. The sample included 146 males and 215 females, aged 12-19, from lower to middleclass, rural middle and high schools of African American ( $n=245$ ) and European American descent ( $n=116$ ). Adolescents with lower self-esteem used more avoidance coping strategies. Males used more avoidance coping than females. Females used more social and spiritual supports than males. Age was not related to self-esteem or coping strategies (Chapman & Mullis, 1999). In a subsequent publication, Chapman and Mullis (2000) reported racial differences in the use of coping strategies. African Americans reported using diversions, self-reliance, spiritual support, close friends, demanding activities, solving family

problems, and relaxation more frequently than European American adolescents do.

European American adolescents used more strategies of avoidance and ventilation of feelings.

Birndorf, Ryan, Auinger and Aten's (2005) prospective cohort study followed a group of multiethnic (10% Hispanic, 13.2% African American, 71.7% Caucasian, 4.5% other) public and private high school teenagers. The first wave (N=24,599) were in the 8<sup>th</sup> grade and both the second and third waves were N=16,439 (males  $n=50.2%$ , females  $n=49.8%$ ) in the 10<sup>th</sup> and 12<sup>th</sup> grades. A significantly higher percentage of boys reported high self-esteem as compared with girls in all grade levels. For females, both Hispanic and African-Americans were more likely to report higher self-esteem in grade 12 when compared to Caucasians. Results showed that not only were there difference across grades but also between genders and ethnicities.

Cole's (1997) review of the literature encompassed 1972-1997 examining the relationship between self-esteem and the practice of safer sexual behaviors. While it is often assumed that higher self-esteem is associated with safer sexual practices, quite the opposite was discovered. Cole's literature review found that higher levels of self-esteem were associated with adolescents practicing risky sexual behavior and having more sexual partners.

In summary, the research to date is not consistent on the influence of self-esteem and sexual and contraceptive behavior. Some studies report that adolescents with higher self-esteem are more effective contraceptors (Herold, Goodwin & Lero, 1979). Male adolescents with higher self-esteem were more confident to assert their sexual needs and more likely to use condoms (Rosenthal et. al., 1990) and those with increased peer self

esteem were more likely to be sexually active (Young, et al., 1999). Females with high self-esteem were more likely to be virgins (Spencer, et al., 2002), demonstrated more refusal of unprotected intercourse, had better partner communication (Salazar et al., 2004) and were able to assert their sexual needs (Rosenthal et. al., 1990). Cole's (1997) literature review, however, found that those adolescents with higher self-esteem were associated with more risky sexual behavior and Paul et. al., (2000) reported that early female sexual behavior was associated with higher self-esteem.

In a Canadian study of adolescents attending birth control clinics, adolescents with low self-esteem had more feelings of guilt related to sexual activity and were less likely to contracept (Herold, Goodwin & Lero, 1979). Wild et al. (2004) found that adolescents with low global self-esteem also had risky sexual behavior. Findings from a study of multi-ethnic students in United States high schools (Kowalseki-Jones & Mott, 1998) were similar in that those females who engaged in early sexual activity and not using contraception reported more personal feelings of failure. Conversely, another study reported that sexual activity was not related to self-esteem or virginity (Robinson & Frank, 1994). The differences in settings of the studies could be a factor in explaining the conflicting results.

Adolescents with lower self-esteem used more avoidance coping strategies and females tended to have more interpersonal and personal adjustment problems. There were differences in coping strategies among racial groups (Chapman & Mullis, 2000). Prior research was also inconsistent regarding pregnancy and self-esteem. One study reported there was no difference in self-esteem and pregnant and non-pregnant teens (Robinson &

Frank, 1994) while another reported there was decreased self-concept among pregnant girls (Kowalseki-Jones & Mott, 1998; Pete-McGadney, 1995).

### *Ethnicity and Cultural Influences on Contraceptive Decision Making*

It is prudent first to discuss cultural beliefs about teenage pregnancy before examining contraception and decision-making. Horn (1983) gathered beliefs from African Americans, Native American and Caucasians via qualitative research on teenage pregnancy in different cultures (N=45). American Indians believed that contraception should not be used until after the first child. African Americans felt contraception was appropriate but using IUD's or oral contraceptives was not as they altered the menstrual cycle. The beliefs of Caucasian adolescents stemmed more from their religious background. In Caucasians there were some who were supportive and some who were opposed to adolescent pregnancy.

The cultural value of the importance and timing of becoming a mother varied across cultures. American Indians felt early pregnancy validated one's feminine role while African Americans felt becoming a mother at a young age, although not desirable, was acceptable. Caucasians, on the other hand, believed it was not acceptable. American Indian adolescents felt they had support if they became pregnant where Caucasians felt they did not.

Pukui, Haertig & Lee (1985) state in Hawaiian culture, when males and females in their teens had sexual relations resulting in pregnancy, there is no disruption of family life. Sexual relations at an early age did not produce censure. Their focus was more on whether or not the adolescent's partner could be a good provider. The children resulting

from teenage pregnancy are loved and welcomed. For Hawaiians there was no aversion to contraception. Hawaiian attitudes on contraception were not influenced by religion.

Noone (2000) reviewed the literature on culture and contraception to provide knowledge for health care providers who provide contraceptive counseling. She reviewed 89 articles to gain a better perspective on different cultures and contraception in both adolescents and adults. Contraceptive use/non-use in Blacks was related to myths and misconceptions about sex and contraception, lack of information related to contraceptive effectiveness, inexperience and inability to discuss issues with parents or partners. Internal locus of control was associated with greater knowledge of contraceptives in this cultural group. Hispanics lacked knowledge about contraceptives and their use, thought contraception was dangerous to their health, and feared side effects. In Asians, the belief of hot and cold are incorporated in health and illness. Southeast Asian women believed that conception occurred when the body was cool, where birth control pills work by making the body hot. Asian Hmong husbands did not approve of contraceptive use, were debased if used condoms, and felt the body became hot with condoms, which was not desirable. Some Vietnamese women were against hormonal methods because they felt it would cause the body to become too hot.

Scott, Shifman, Orr, Owen & Fawcett (1988) studied beliefs and knowledge about sexuality in 14-16 year olds. In their qualitative study of African Americans and Hispanics (N=87), Hispanic males ( $n=19$ ) were more knowledgeable and Hispanic females ( $n=19$ ) the least knowledgeable about sexuality. Black males ( $n=25$ ) and females ( $n=24$ ) had intermediate knowledge. The consensus was that birth control was good

because it prevented pregnancy but various birth control methods were bad because they carried serious health hazards.

Villarruel's (1998) ethnographic study of Puerto Rican and Mexican-American adolescents ( $n=49$ ) and their mothers ( $n=21$ ) found that there was protectiveness of families toward girls, gender differences in rules (more monitoring of daughters' contact outside the group and higher supervision), value placed on virginity and the importance of having a family. Virginity, although important, was not associated with religious doctrine or practice. The necessity of preventing pregnancy was considered important. Villarruel concluded the Latino culture needs to be incorporated into primary and secondary prevention efforts to decrease the risks associated with early and unprotected sexual activity.

Pachauri & Santhya (2002) examined contraceptive behaviors among Asian females aged 15-49. Although awareness of contraception was almost universal among married adolescents, knowledge of specific methods and supplies was limited. There was an increase in use but unmet needs were still high. The vast majority of unmarried adolescent Asians either do not use any contraception or use traditional methods.

In comparing Asian and Pacific Islanders and other racial ethnic groups' behaviors, beliefs and attitudes, Schuster, Bell, Nakajima & Kanouse (1998) found in their sample of 9-12<sup>th</sup> graders ( $N=2026$ ) that Asian and Pacific Islanders were at lower sexual risk than other racial/ethnic groups. Pacific Islanders were more likely to use condoms at first intercourse but had not used condoms consistently. They also were more likely to expect parental disapproval if they had intercourse. Maxwell, Bastani & Warda (2000) assessed Filipino-American adolescents and young adults ( $N=211$ ) in relation to

their attitudes and behavior related to AIDS. They found that condom use and HIV knowledge was high in this group. Females were more comfortable in refusing sex if no condom was used and in asking their partner to use condoms. Males were more comfortable just to use condoms without asking.

In summary, review of the research has shown that there are different cultural views on adolescent pregnancy and contraception. American Indian's cultural beliefs showed that pregnancy validates the female role and that contraception be deterred until after the first child (Horn, 1983). African Americans felt adolescent pregnancy was acceptable and that many myths and misconceptions were associated with the lack of contraception (Horn, 1983). Caucasian adolescents had mixed views regarding pregnancy; however, pregnancy was not supported by their families (Horn, 1983). Hispanic males were more knowledgeable about contraception than Hispanic females (Scott et al., 1988). A strong family influence, family protection, and virginity are highly valued among Hispanic females (Villarruel, 1998). Similar to Hispanics, Pacific Islanders were more likely to expect parental disapproval if they were sexually active (Schuster et al., 1998). Hawaiians do not censure adolescent pregnancy and welcome the babies into the family (Pukui et al., 1985). The Asian cultural belief system relates to hot, cold, good and bad. In these ethnic minorities, the knowledge needs are unmet (Noone, 2000). Asian and Pacific Islander populations are unique among themselves in their health belief system. Few studies have been conducted to study adolescent self-esteem, decision-making and contraceptive behavior in Asian and Pacific Islander adolescents in Hawaii.

*Parental Influence on Sexual Activity and Contraceptive Decision Making*

Parental influence also has been studied in relationship to adolescent decision-making and contraception. Casper (1990) studied if family interaction could avert adolescent sexual activity in a sample of females aged 15-19 (N=1888). Family interaction was not associated with forestalling adolescent sexual activity. However, family communication about birth control significantly influenced the adolescent's use of contraceptives.

Newcomer and Udry (1985) studied the value and influence of parent-child communication on adolescent sexual behavior. Their study (N=1,100) consisted of 12-16 year olds, 49% males and 51% females in which 27% were black (the rest of ethnicities were not disclosed), from a sunbelt city. Interviews were also completed with 67% of the mothers and 20% of the fathers or stepfathers. They report some contradictions in descriptions of some of the discussions between parents and adolescents. When mothers reported that they had discussed sex with their daughters, these daughters were less likely to subsequently initiate coitus. Girls who reported that their mothers had discussed birth control with them were more likely to use effective contraceptives. However, the former association disappeared when it was the daughters who reported the communication about sex, and the latter disappeared when it was the mothers who reported they had discussed birth control. These results show that adolescents and parents frequently disagree about the kinds of discussion they have had about sex related topics. The outcomes are different depending on who is reporting the discussion.

In a random sample (N=106) of African American females, aged 11-14, adolescents were influenced by their mothers, not their fathers or peers, in their intentions to abstain from early sexual behavior (Doswell, Kim, Kitutu & Hsu, 2003). Miller & Levin (1998) researched the timing of communication between mothers and adolescents regarding condom

use. In their study ( N=372) of 14-17 year old, Hispanic and African Americans high school students, from New York, Alabama and Puerto Rico they found that mother/adolescent discussions about condom use prior to first intercourse and in recent intercourse was strongly associated with increased condom use.

In the examination of the influence of both parents and friends on adolescent decision-making, Wilk's (1986) sample included family and friends (n=175 fathers, 175 mothers, 83 sons, 83 male friends, 92 daughters, 92 female friends). Parents were rated more important than friends were for long term, more important difficult decisions. Parents were also perceived as being most important in future oriented areas while friend's opinions were more valued with current, short term, less important decisions.

Bednar & Fisher (2003) studied parenting style and adolescent decision-making in 108 males and 154 females aged 14-25. Adolescents raised by authoritative parents, tended to refer to their parents for moral and informational decisions. In contrast, adolescents raised by authoritarian, permissive or neglecting-rejecting parents often referred to their peers for moral and informational decisions. Ferrari and Olivette (1993) researched the development of frequent procrastination of decision-making tendencies among late adolescent females. Their study of 86 females with a mean age of 19.1 years, in a small private college, showed that authoritarian parental style that was stern, inflexible and overcontrolling was related to daughters' developing chronic indecision tendencies. In comparison, authoritative parenting styles, perceived as accepting, supportive, and permissive, were not related to decisional procrastination scores in these females.

The influence of parental monitoring on a spectrum of adolescent health compromising behaviors and outcomes was examined by DiClemente, Wingood, Crosby, Sionean, Cobb, Harrington, Davies, Hook and Oh (2001). Their study of 14-18 year old

Black adolescents (N=522) showed a consistent pattern of health risk behavior (lack of condom use, multiple sex partners, risky sex partners, no contraceptive use with last intercourse) and adverse biological outcomes (sexually transmitted diseases) associated with lower parental monitoring.

Miller's (2002) literature review looked at family influences on adolescent sexual and contraceptive behavior. It described that parent-child closeness or connectedness, and parental supervision or regulation of children, along with parent's values against adolescent unprotected intercourse decreased the risk of adolescent pregnancy. The most consistent finding was that parental behavioral monitoring of adolescents lowered pregnancy rates; however, overly controlling parental behavior was related to higher risk of pregnancy. Kirby's (2001) literature review on risk and protective factors of adolescent risk taking noted that adolescents who feel connected with their parents and if parents appropriately monitor their children, adolescents will be less likely to engage in sexual risk-taking. If parents express positive feelings about contraception, that adolescents are more likely to use contraception.

Whitaker, Miller, May & Levin's (1999) research with mother/adolescent dyads (teens were sexually active Black and Hispanic aged 14-17) found that parent/teen discussions about sexuality were effective if parents were open, skilled and comfortable in having these discussions. These discussions, in turn, increased the likelihood of teen-partner discussions about sexual risks, contraceptive decision-making and condom use. Wyatt (1989) studied ethnic differences with respect to age at first intercourse comparing African American (126) and white females (n=122) aged 18-36 yrs old. Women's perceptions of their parents were more influential than peers during adolescence and being in love and ready for sex were predictors of an older age at first intercourse. Ethnicity was not significantly

associated with age of first coitus. Factors that best predicted age of first intercourse were similar in both ethnic groups.

Brown and Mann (1990) examined the relationship between family structure and process variables and adolescent participation in family decisions and vigilant decision-making. Based upon Janis & Mann's (1977) framework their study (N=585) of 12-16 year olds, revealed adolescents from one parent families participated in more family decisions than two parent families. High family cohesion was associated with good parent/adolescent communication and more vigilant decision-making.

Lagana (1999) reviewed the literature on the psychosocial correlates of contraceptive practices among sexually active late adolescents who were primarily college undergraduates. Media and sex education had a positive relationship with contraceptive effectiveness. Family oriented interventions such as stressing responsibility, providing education and discussion about contraception were important, as family values were related to adolescents' attitude and behavior. An informative family and peer environment was supportive to responsible sex choices and conducive to contraception.

In summary, higher family cohesion promoted more vigilant decision making (Brown & Mann, 1990) and open family communication stressing responsibility, providing education about sexually transmitted diseases, sexuality and contraception, positively influenced adolescent decision making regarding contraception (Lagana, 1999; Whitaker, Miller & Levin, 1999). Open communication between mothers/adolescents often delayed sexual activity (Doswell et al., 2003) and increased condom use (Miller & Levin, 1998). Some contradictions were reported in descriptions of discussions between adolescents and parents about sexual activity showing that outcomes can be different depending on who was reporting the discussions (Newcomer & Udry, 2005). Adolescents perceived their parents as

most important in influencing their long-term decisions (Wilks, 1986; Wyatt, 1989).

Adolescents referred to parents with authoritative parenting style for more moral decisions.

In contrast, adolescents with parents that had authoritarian parenting styles referred to their peers for moral and informational decisions (Bednar & Fisher, 2003) and had more chronic indecision tendencies (Ferrari & Olivette, 1993). Over controlling parents was related to a

higher risk of pregnancy (Miller, 2002). Maternal approval for contraception resulted in higher use of contraception but also increased incidence of sexual activity (Casper, 1990).

Lower parental monitoring adversely affected adolescent health risk behavior (DiClemente et al. 2001) while proper monitoring by parents resulted in increased adolescent contraception (Kirby, 2001). Parental connectedness, closeness, supervision and behavioral monitoring decreased risk of adolescent pregnancy (Kirby, 2001; Miller, 2002).

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## CHAPTER THREE

### Conceptual Framework

The theory used to guide this study Janis and Mann's (1977) conflict theory of decision-making. Janis and Mann's (1977) conflict theory stems from a social psychological perspective and involves using a stress and coping framework. It views the decision making process as one that involves choice, commitment and conflict as well the potential for loss (Janis & Mann, 1977). Decisions are associated with stress and are motivationally and emotionally driven. The ideal level of stress is in the intermediate range, as too little or too much, can negatively affect quality decision making. There are perceived losses no matter what course of action or alternative is chosen (Hollen, 1998). The decision maker goes through the stages of choosing the best course of action and makes a commitment to the alternative chosen. When the choice is made, the decision maker may experience decisional conflicts about the final course of actions related to possible consequences of loss. Anticipatory regret about these potential losses leads to degrees of decisional conflict and stress (Chambers and Rew, 2003).

#### *Conflict Theory of Decision Making*

The conflict theory of decision-making, derived from various sources, describes and enumerates the criteria for vigilant decision-making as follows:

1. Emphasizes the importance of decisional conflict, balance and esteem in decision-making.
2. Identifies antecedent conditions for vigilant and less than vigilant decision-making.

3. Forms a schematic of possible decision-making patterns based on criteria and conditions (Janis & Mann, 1977; Chambers & Rew, 2003).

*The Vigilant Decision Maker.*

Janis and Mann's (1977) epitome of the highest level of a decision maker is the vigilant decision maker. The vigilant decision maker follows the following steps to reach a decision:

1. Thoroughly canvasses a wide range of alternative courses of action.
2. Surveys the full range of objectives to be fulfilled and the values implicated by the choice.
3. Carefully weighs whatever is known about the costs and risks of negative consequences, as well as the positive consequences, that could flow from each alternative.
4. Intensively searches for new information relevant to further evaluation of the alternatives.
5. Correctly assimilates and takes into account any new information or expert judgment to which he/she is exposed, even when the information or judgment does not support the course of action preferred.
6. Reexamines the positive and negative consequences of all known alternatives, including those originally regarded as unacceptable, before making a final choice.
7. Makes detailed provisions for implementing or executing the chosen course of action, with special attention to contingency plans that might be required if various known risks were to materialize. (p.11)

Janis and Mann (1977) view the vigilant decision maker as one who performs a thorough information search, and is able to assimilate new information. The nonvigilant decision makers are often adaptive and save time, effort and emotional wear and tear in routine minor decision-making. However, the nonvigilant decision maker is viewed as an incompetent decision maker as their decisions often result in defective decision making when faced with a vital choice that has serious consequences.

*Decisional Conflict and Balance.*

Janis & Mann's (1977) assumption is that stress caused by decisional conflict is a major determining factor for the failure to achieve high quality decision making.

Psychological stress is a term that designates unpleasant emotional states caused by threatening environmental events or stimuli. The relationship between psychological stress and decisional conflict are based on the assumptions that:

1. Stress is aroused when the decision maker realizes he stands to gain or lose goals.
2. When a decision maker is tempted to change, the losses she/he expects to suffer from failing to fulfill a prior contract constitute a major source of stress that discourages adopting a new course of action.
3. When decisional conflict is severe, each alternative poses a threat of serious risks.
4. In a severe decisional conflict where the decision maker anticipates there is insufficient time to find a means of escaping serious losses. (p. 50).

Janis and Mann's (1977) conflict model identifies threats to personal reputation and personal standing for a decision maker as a major source of stress and decisional conflict (Friedman and Mann, 1993; Mann, Burnett, Radford, & Ford, 1997). The psychological stress caused by decisional conflict stems from at least two sources: (a) concern about severe personal, material and social losses incurred whatever the chosen alternative and (b) a concern over loss of reputation and self-esteem if the decision goes wrong. (Mann et al., 1997)

Janis and Mann (1977) describe the concept of decisional balance as the decision maker's checklist of potential positive and negative consequences of each alternative. The decision maker goes through a process in which pros and cons related to self-esteem and social consequences are weighed. The decision maker processes: "(a) utilitarian gains and losses for self, (b) utilitarian gains and losses for significant others, (c) self-approval or disapproval (moral considerations, living up to personal ideals) and (d) approval or disapproval from significant others" (Janis and Mann, 1977, p. 137).

### *Coping Patterns.*

Janis and Mann, in their conflict decision-making theory, have generated five basic patterns of coping with the stress that is generated by a difficult or conflictive decision. These patterns are:

#### 1. Unconflicted Adherence (Complacency)

"The decision maker ignores information about the risk of losses and decides complacently, to continue the present course of action" (Mann, et al. 1997, p. 2). The decision maker, just sticks to what they have been doing. Complacency in decision-making is associated with low stress (Hollen, 1998).

## 2. Unconflicted Change (Complacency)

“The decision maker uncritically adopts whichever new course of action is most salient or most strongly recommended” (Mann, et al., 1997, p. 2). The decision maker does not put much thought into the decision and just picks the decision that seems to be the best choice. The decision is associated with low stress (Hollen, 1998).

## 3. Defensive avoidance (Copout)

“The decision maker escapes conflict by procrastinating, shifting responsibility to someone else, or constructing wishful rationalizations to bolster the least objectionable alternative. Each of these expressions of defensive avoidance is associated with incomplete and often biased evaluation of information, leading to faulty decisions” (Mann, et al., 1997, p. 2.). The decision maker shifts the responsibility, puts off making a decision and has someone else make the decision. Defensive avoidance is associated with high stress (Hollen, 1998).

## 4. Hyper-vigilance (Panic)

In the hyper-vigilance coping pattern the decision maker panics and frantically searches for a way out of dilemmas. Due to time pressure, the decision maker impulsively seizes solutions that seem to promise immediate relief. Mann et al. (1997) states that “In its more extreme form, hyper-vigilance coping pattern is a ‘panic’-like state in which the decision maker vacillates between unpleasant alternatives” (p. 2). The decision maker quickly makes a decision without much thought so they do not have to deal with the stress anymore. Hyper-vigilance is associated with severe emotional stress (Hollen, 1998).

## 5. Vigilance

In the vigilant coping pattern the decision maker clarifies objectives to be achieved by the decision, canvasses an array of alternatives, searches painstakingly for relevant information, assimilates information in an unbiased manner, and evaluates alternatives carefully before making a choice. A moderate level of psychological stress is associated with vigilance. According to the decision-making conflict model, Mann et al. (1997) state that, “vigilance is the only coping pattern that allows sound and rational decision making” (p. 2). The decision maker, after getting all the information, carefully makes a decision. Vigilant decision-making is associated with moderate stress (Hollen, 1998).

### *Antecedent Conditions for Decision Making Coping Patterns*

Janis and Mann (1977) describe three antecedents that may or may not be present to determine reliance on a particular coping pattern. The three conditions are:

1. Awareness of serious risks about preferred alternatives.
2. Hope of finding a better alternative.
3. Belief that there is adequate time to search and deliberate before a decision is required.

The risks the decision makers perceive from changing or not changing the course of action creates decisional conflict. Vigilance, for example, needs the fulfillment of all three conditions. Avoidance is triggered by the belief that there is little prospect of finding a good solution to the problem; therefore it does not meet any of the antecedent conditions (Mann, et al., 1997).

Personality variables such as trait anxiety, information-processing capability and self-esteem also influence the use of one or another pattern of decision-making. Mann et

al., (1997) also states that psychological stress, the personality trait of optimism/pessimism and time constraints can influence decision-making patterns.

### *Maladaptive and Adaptive Decision Making*

In the Janis and Mann Model (1977), the coping patterns are classified under two categories: “adaptive” and “maladaptive” coping behaviors. Adaptive is a carefully deliberated vigilant decision-making behavior. Maladaptive fails to meet many requirements needed for quality information processing (Friedman & Mann 1993). Maladaptive includes unconflicted adherence, unconflicted change, defensive avoidance and hyper-vigilance (Chambers & Rew, 2003; Janis & Mann, 1977).

A pattern of unconflicted inertia is likely to have positive value only when warnings turn out to be false alarms or pertain to improbable dangers not worth the time or effort to do anything about. Similar, unconflicted change can prove to be maladaptive where authorities’ recommendations are vague or based on guesswork. Defensive avoidance, which results in ignoring unpleasant information about threats, generally reduces the chances of averting serious losses at times when the protective action is essential. Hyper-vigilance facilitates taking drastic action that a person might refuse if they were less aroused but rarely facilitates successful escape. Hyper-vigilance most often leads to maladaptive actions. The pattern of vigilance, on the other hand generally leads to adaptive patterns. With hyper-vigilance, there is a marked loss of cognitive ability at moments of crisis and less than ideal decisions or maladaptive actions results. (Janis and Mann, 1977 p. 64).

Conflict theory predicts that people, who have a specific sense of self-esteem and self-confidence in one's decision-making ability, or decisional self-esteem, are associated with a positive general self-concept and are more likely to engage in vigilant decision-making. Conversely, those that have low self-esteem or low self confidence experience more stress and are likely to practice hyper-vigilant, panicky, defensive-avoidance (evasiveness-cop out) or complacent decision-making. (Mann, et al. 1989).

In summary, the conflict decision-making theory, although initially used in adults, has provided a sound conceptual framework for adolescent decision-making. Researchers have used it as a framework and have provided more insight into adolescent decision making in a variety of areas. These areas consist of: (a) adolescent decision making in high school curriculum (Mann et al.,1988); (b)the relationship between meta-cognition and decision making (Ormond et al., 1991); (c) decision making and coping patterns in Israeli and Australian adolescents (Friedman & Mann, 1993); (d) fact finding in adolescent decision making (Johnson, 1994); (e) decision-making and risk behaviors in cancer surviving making in adolescence (Hollen, 1998); (e) adolescent decision-making and peer groups (Tuinstra, van Sonderen, Groothoff & van den Heuvel, 2000); and (f) depression and decision-making in African American adolescents (Okwumabua & Wong, 2003). Chambers and Rew (2003) hypothesized that adolescent women's decisions about safer sexual practices are emotional and that the unplanned nature of sexual activities create pressure in safer sexual decision-making. Janis and Mann's (1977) conflict theory is a beneficial theory that can be used for safer adolescent sexual decision-making and contraceptive decision-making. Contraceptive decision-making clearly addresses the losses, conflict and stress involved in decision-making as well as the decision-making

patterns described by Janis and Mann. Janis and Mann (1977) characterize decision making as a process that involves emotions and conflicts and that decision-making patterns result in stress and conflict. The importance of decision self-esteem needs further exploration to determine its relationship to adolescent contraceptive decision making.

### *Global Self Esteem*

During adolescent development identity formation occurs and with it the important development of self esteem (Steinberg, 2005). Among the studies included in the literature review there was no consensus as to the conceptualization and operational definition of self-esteem. Most of the researchers investigating the relationship of self-esteem and adolescent behavior in relation to sexual activity have used a generalized or global self-esteem scale. Rosenberg (1965) defines self-esteem as the evaluation the individual makes and maintains with regard to himself, which is expressed as an attitude of approval or disapproval. This study operationalized global self-esteem using Rosenberg's definition and the Self Esteem Scale developed by Rosenberg in 1965. The Rosenberg's Self Esteem Scale has been used in the past in Hawaii with multiethnic adolescent populations of part Hawaiian, Asian and Samoan ethnicities (Adolescent Health Network's Teen Health Advisor Report, 1991).

Janis and Mann's (1977) model provides a valid framework and can be particularly informative in examining adolescent contraceptive decision-making. The purpose of this study using this framework was to explore the relationship between female adolescent self-esteem, decision-making and contraceptive behavior.

Using this framework, intervention strategies can be planned to help this at risk population.

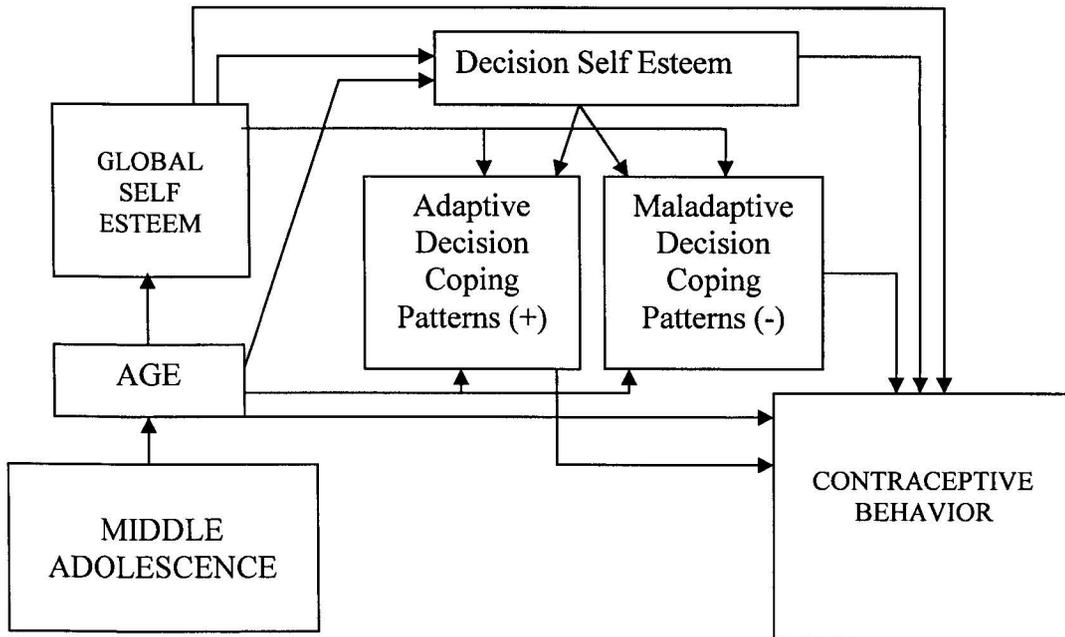
### *Research Questions*

Based on the literature review and the conflict decision-making theory (Janis & Mann, 1977) the following research questions will be addressed in this study:

In a sample of 14-17 year old females

1. What is the level of global self-esteem, decisional self-esteem, decision coping patterns and contraceptive behavior?
2. What is the relationship between age, global self-esteem, decision self-esteem, decision coping patterns and adolescent contraceptive behavior?
3. Is there a significant association between age, decision self-esteem, decision coping patterns and adolescent contraceptive behavior?

See Figure 1 for a diagram of the study model and variables.



*Figure 1.* Decision making model

The Decision Making Model has been adapted from a combination of sources: *Decision Making: A Psychological Analysis of Conflict, Choice and Commitment*, by I. L. Janis & L. Mann (1977) New York: The Free Press; *Conceiving the Self* by M. Rosenberg (1979) New York: Basic Books.

## CHAPTER FOUR

### Methods

#### *Design*

This study used a cross sectional survey design. This design is the most common approach to survey design research. Cross sectional surveys are those carried out at one point in time (Isaac & Michael, 1990).

#### *Setting*

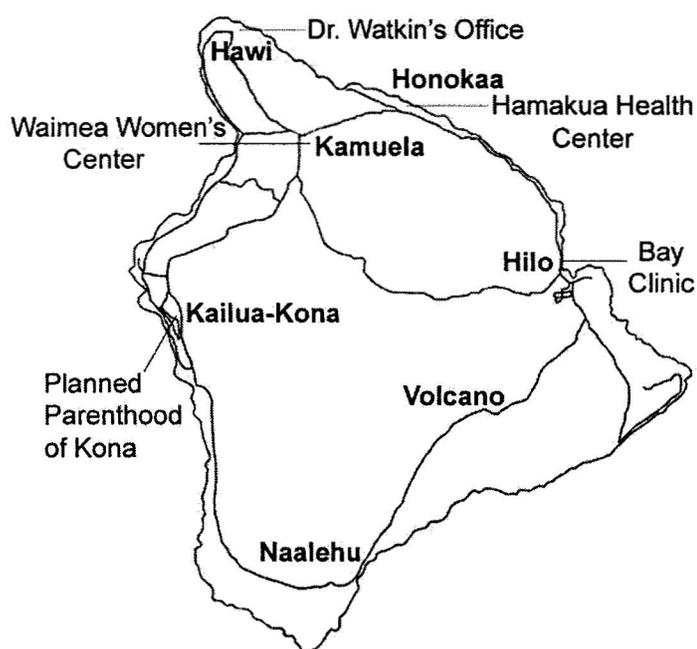
The participants in this study were recruited from the Big Island of Hawaii. The Big Island of Hawaii is approximately 4,038 square miles and the largest in the Hawaiian Island chain. It is divided into seven districts (north and south Kohala, north and south Kona, Hamakua, north and south Hilo, Puna and Kau). According to the State Hawaii Data Book (2000), the population is approximately 148,677 with 11,089 in the 15-19 years category.

Four clinics and one private physician's office located in different geographical regions of the Big Island agreed to participate in the research study. All of the clinics and the physician's office provided care to diverse ethnic and socioeconomic populations.

The survey sites were:

1. Waimea Women's Center, a full service obstetrics and gynecology clinic located in the ranching community of Kamuela northern middle part of the Big Island. As the only women's center that offers options of physicians or midwife care it serves a population encompassing the entire island. It was the only site in the study that provides obstetrical care.

2. The Hamakua Health Center, located in Honakaa, on the rural eastern coast of the Big Island, is a general medical service clinic. The health care providers, physicians and nurse practitioner also provide family planning services and limited gynecological care. The Hamakua Health Center provides care mostly to residents of the eastern coast of the Big Island.
3. Bay Clinic, in Hilo, is located on the southeastern part of the Big Island. Hilo is the largest and most populated city on the Big Island. Bay Clinic has physicians and nurse practitioners providing general medical, family planning and limited gynecological services. Bay Clinic also has 2 satellite clinics in Pahoa and Kau and serves a huge population encompassing the southern, volcano and Hamakua coast areas of the Big Island.
4. Planned Parenthood of Kona, located on the western part of the big island in Kailua-Kona is a family planning, gynecology clinic. It provides most of the abortion care on the Big Island. While serving mostly the western coast it does have clients from all over the island.
5. Dr. Robert Watkins, a private family practice physician's clinic is located in Hawi in the Kohala district on the northern part of the Big Island. Dr. Watkins provides general medical, family planning and limited gynecology care (see Figure 2 for map).



*Figure 2.* Location of Participating Clinics and Physician Office

### *Sample*

The convenience sample included 14-17 year old females who came into the clinics for health care. Female adolescents in this age range were invited to participate. Exclusion criteria included those who did not speak English and those who were seeking prenatal care.

### *Instruments*

Four instruments were used for the study and will be described in this section. Along with a brief demographic questionnaire, three instruments were used to measure study variables: (a) Rosenberg's Self-Esteem Scale (Rosenberg, 1965), (b) Flinders Adolescent Decision Making Questionnaire (Mann, Harmoni, Power, Beswick & Ormond, 1988), and (c) a Sexual History and Contraceptive Use questionnaire developed for this study.

*Data Demographic Questionnaire*

The data collected on the demographic questionnaire consisted of age, grade, ethnicity, ethnic identification, adolescent's living situation and maternal and paternal education (See Appendix A for the demographic questionnaire). Age, grade and parental education did not require recoding. The participant's ethnicity, ethnic identification and living situation were recoded to make these data more manageable.

*Ethnicity.*

The survey allowed participants to indicate more than one ethnicity. There were 53 different ethnicities identified by the participants. The ethnicities ranged from a single ethnic background to as many as a combination of seven ethnicities. After consultation with faculty, reviewing the ethnic categories from the U. S. Census Bureau (2000) and a discussion with Min Ja Choe, population specialist, from the East West Center, at the University of Hawaii (personal communication, January 10, 2006) the ethnicities were collapsed into 4 groups that best represented the ethnic diversity in Hawaii. The sample was recoded into the following 4 ethnic groups: a) Caucasian, b) Hispanic, c) Asian/part Asian and d) Hawaiian/part Hawaiian/ Pacific Islander. Participants that disclosed any Hawaiian were recoded into the Hawaiian/part Hawaiian/ Pacific Island category. There was only one Pacific Islander from Guam who was Chamorro, who was recoded into the Hawaiian/Part Hawaiian/ Pacific Island category. Participants that reported any Asian (no Hawaiian) were recoded into the Asian/part Asian category. The participants that disclosed Hispanic ethnicity with no Asian or Hawaiian were place in the Hispanic category. Caucasians that had no Hawaiian, Asian or Latino ethnicities were recoded into the Caucasian category.

### *Ethnicity Identification.*

The population in Hawaii is composed of varied ethnic groups and their different perceptions of health. Many have multiethnic backgrounds. Ethnic identification attempts to differentiate which ethnicity the respondent felt best represents their identity. The participants were asked to choose the one ethnicity they identified with the most. There were 19 different responses to the ethnic identification question. The participants were asked to choose 1 ethnic identification; however, there were 8 participants that chose more than one ethnic identity. All of the participants that chose more than one ethnicity reported Hawaiian as one of their ethnicities they identified with. They were recoded into the Part Hawaiian group. The ethnicities were recoded groups 4 groups consisting of: a) Hispanic, b) Caucasian, c) Asian (Japanese, Chinese, Filipino, and Korean) and d) Hawaiian/Part Hawaiian.

### *Living Situation.*

Living situation referred to who the participant currently lived with. They were allowed to choose more than one living situation. There were twenty-seven different responses to the question regarding the living situations noted in the survey. These were recoded into nine different living situations. They consisted of: a) both parents, b) mom only, c) dad only, d) mom/extended family, e) parent/step parent, f) sibling, g) extended family, h) boyfriend/friend, and i) hanai/foster family/exchange student.

### *Global Self Esteem*

The 10-item Rosenberg Self-Esteem Scale (RSE) (Rosenberg, 1965) was used to measure self-esteem. Global self-esteem is defined as the sense of pride in oneself. It is the individual's positive or negative attitude toward the self (Rosenberg, Schoenbach,

Schooler & Rosenberg, 1995). The Rosenberg Self Esteem Scale is a 10-item Guttman scale with one dimension designed to measure self-esteem in high school students. A Guttman scale is a scale where items are ordered in difficulty or value-loading so that to correctly answer or approve the last statement implies agreement with or success of the preceding ones. It is a 4-point likert scale with responses from strongly agrees, agrees, disagrees and strongly disagrees. Scoring was done by totaling the individual 4-point items after reverse scoring the negatively worded items. Scores range from 10-40 with low scores indicating low self-esteem and the higher scores indicating higher self-esteem. This scale has no clear demarcation as to the levels of self-esteem between these two ranges.

Fisher & Corcoran (1994) report the RSE has a Guttman scale coefficient of reproducibility of 0.92, indicating excellent internal consistency. In two studies of two-week test-retest, reliability correlations of 0.85 and 0.88 indicate excellent stability. Considerable prior research has demonstrated the concurrent, known groups, predictive, and construct validity of the RSE (Fisher & Corcoran, 1994). The RSE correlates significantly with other self-esteem measures such as the Coopersmith Self-Esteem Inventory demonstrating convergent validity (Fisher & Corcoran, 1994). The RSE also correlates positively in predicted directions with measures of self worth and self-acceptance and negatively with depression and anxiety, demonstrating good construct validity. Rosenberg's (1965) scale has been validated for use with both male and female adolescent, adult and elderly populations (See Appendix B for questionnaire).

*Decision Self Esteem and Decision Coping Patterns*

The Flinders Adolescent Decision Making Questionnaire (FADMQ) (Mann, Harmoni, Power, Beswick & Ormond, 1988) is a 30 item self-report instrument measuring competent and maladaptive decision-making style. The questionnaire is based on Janis and Mann's (1977) conflict theory of decision-making. It uses a 4-point response format in which subjects respond by answering each item with: almost always true, often true, sometimes true and not at all true for me. The questionnaire consists of five subscales each with six items. The scales consist of:

1. The decision self-esteem scale measures the respondent's confidence in making decisions (items 1-6). Decision self esteem considers decisions of any consequence that have the potential for threatening a decision maker's self-image, self-satisfaction or self-confidence specific to ones decision (Chambers & Rew, 2003).
2. The vigilance scale assesses the reported use of considering goals, generating options, gathering facts, evaluating the consequences, reviewing the decision process and implementing the decision and is considered adaptive decision making (items 8, 13, 16, 20, 23, 27).
3. The panic scale measures self reported tendencies to hasty and impulsive choice and is considered maladaptive (items 11, 15, 18, 19, 22, 25).
4. The cop out scale is a combination of three behaviors: (a) defensive avoidance which measures tendencies toward decision avoidance, (b) pass off which measures of tendencies of leaving decisions to others and, (c) putting off

which measures tendencies of delaying decision making. These are all considered maladaptive (items 7, 9, 14,17, 21, 28).

5. The complacency scale measures tendencies to apathy and non-involvement in decisions. These are considered maladaptive (items 10, 12, 24, 26, 29, 30).

Items were scored from 0-3 and summed to give a subscale score. Three subscales were used for data analysis. In the first subscale (6 items), a high score on the self-esteem scale reflects high decisional self-esteem (scoring for 2, 4, & 6 are reversed). The second subscale for the vigilant decision making scale has 6 items with a high score representing competent decision-making. Third, non-vigilant or maladaptive decision making is created by adding together panic, complacency and cop out items (18 items). The aggregation of these three scales was recommended for simpler and easier reporting of results (L. Mann, personal communication, December 7, 2005). A high score indicates poor decision-making. On the vigilant decision-making and self-esteem scales, high scores represent competent decision-making and confidence. A high score on the maladaptive scale indicates poor decision-making (Mann et al., 1988; Ormond, et al., 1991) (see Table 1).

Table 1.

Flinders Adolescent Decision Making Questionnaire Subscale Interpretation	
Subscale	High Response Meaning
Self esteem	High decisional self esteem
Vigilant decision making	Competent decision making and confidence
Maladaptive	Poor decision making

There are no normal or usual scores reported for this instrument. Reliability has been established in Mann et al.'s (1988) study of the effectiveness of the GOFER (Goals clarification, Options generation, Fact-finding, consideration of Effects, Review and Implementation) course on decision making with high school students. The reliability coefficients (Cronbach's alpha) were: Decision Self Esteem: 0.76; Vigilance 0.70; Panic 0.70; Cop Out 0.80; and Complacency 0.67 (Mann et al., 1988). Ormond's et al. (1991) study of a metacognitive analysis of decision making in adolescence reported good reliability with the three subscales. The reliabilities coefficients (Cronbach's alpha) were for self-esteem 0.72; Vigilance 0.74 and Maladaptive 0.84. Correlation coefficients between FADMQ scales and course and career scales in Burnett, Mann & Beswick's (1989) study of decision-making and course and career behaviors supported the hypothesis that vigilance correlated positively with decision behaviors such as course planning and career planning. Similarly, decision self-esteem, like vigilance, correlated positively with the decision behaviors of course planning, career planning and course satisfaction. Two non-vigilant behaviors, defensive avoidance and hypervigilance were negatively correlated with the decision behaviors of course satisfaction, course planning and career planning. Those who used vigilant decision-making searched a wider range of alternatives and evaluated the costs and benefits of each alternative before reaching a final and more competent decision. When students used vigilance to select a course they were able to consider the future consequences of their decision. Those who scored highly on the maladaptive scales tended to make poor decisions regarding course selection and career planning. They were less able to generate future career alternatives. These findings

support the validity of the FADMQ scales as predictors of course and career planning. (See Appendix C for questionnaire).

### *Sexual History and Contraceptive Use Questionnaire*

The sexual history questionnaire asked about current and past sexual activity. Based on a literature review of prior studies that measured sexual activity, a response format of yes or no was used. This was coded as 0 for no and 1 for yes.

The question regarding current contraceptive use also used a response format of no coded 0 indicating no contraceptive use and yes coded as 1 indicating current contraceptive use. The sexual activity and contraceptive use questions were then recoded to insure there were no duplicate numbers so these data could be further analyzed. Respondents that were not sexually active and not using contraception were coded as 0. Respondents using contraceptives were coded as 2 and respondents that were sexually active was coded as 3. These data were further recoded into 4 combination patterns (see Table 2 for combination coding patterns).

Table 2.

#### Coding Patterns of Sexual Activity and Contraceptive Use

Sexually not active (0) + Non use of contraception (0)	= 0
Sexually not active (0) + Using contraception (2)	= 2
Sexually active (3) + Non use of contraception (0)	= 3
Sexually active (3) + Using contraception (2)	= 5

The response format for the question how often contraception was used in the present and past ranged from: a) none of the time, b) a few times, c) half of the time, d)

most of the time and e) all of the time and were coded 0, 1, 2, 3, 4, respectively.

Descriptive statistics (frequency distribution and percentages) were used on these ordinal data. (See appendix D for questionnaire).

### *Human Subjects*

This study was submitted and approved by the University of Hawaii, Committee on Human Studies. Additionally two research sites, Planned Parenthood of Kona and Bay Clinic required internal institutional review board approval and also approved the study.

This study was approved for waived parental consent (See Appendix E for consent) which applies to Article 46.116 section D from the Code of Federal Regulations (Committee on Human Subjects Policies and Procedures Manual, University of Hawaii, 2004). This article states that an IRB may approve a consent procedure which does not include, or which alters, some or all of the elements of informed consent set forth in this section, or waive the requirements to obtain informed consent provided the IRB finds and documents that:

- 1) The research involves no more than minimal risk to the subjects.
- 2) The waiver or alteration will not adversely affect the rights and welfare of the subjects.
- 3) The research could not be carried out without the waiver or alteration.
- 4) Whenever appropriate, the subjects were provided with additional pertinent information after participation.

Confidentiality was maintained throughout the research process. The surveys were anonymous. The consent did not require a signature. Completion of the survey indicated consent so that anonymity was further maintained. To further insure

confidentiality and anonymity the survey, once completed, was placed by the participant in a slot of a closed box.

The risk to participants was minimal in this study. There was a loss of privacy as the respondent was being asked to participate in the study. However, this risk was greatly reduced, as the survey itself was anonymous. There was the possibility of mild psychological distress due to the sensitive nature of the topic (self-esteem, sexual activity and contraceptive use). All participants were given a Teen Help Card, which provides a list of resources, (See Appendix F for Teen Help Card) and a list of intermediate and high school counselors on the Big Island (See Appendix G). At the end of the survey, if the participant felt they needed to have more discussion in any area, the principal investigator was available via telephone to do debriefing. If necessary, the principal investigator would schedule a meeting with the participant at their convenience.

There was no direct benefit to participants; however, the information generated in this research would help to provide health care professionals more information and understanding about the relationship between female adolescent self-esteem, decision-making self-esteem, decision coping patterns and contraceptive behavior.

Participation in the study was voluntary. Non-participation did not affect the ability to access health care at the clinic sites and participants could withdraw at any time without penalty. While it is best to gain parental consent, there are some situations where it is not possible or desirable. This research did not adversely affect the participant's welfare if the research is confidential and anonymous.

Female adolescents between the ages of 14-17 can obtain services and make independent decisions about their health care without parental consent. The variables

involved in the adolescent decision making process examined in this study were crucial to understanding adolescent contraceptive behavior. Ideally, communication between parent and the adolescent about their health care needs is the most desirable, but it is not always possible. In my twelve years as a Women's Health Nurse Practitioner in Hawaii, approximately 98% of female adolescents seek services and do not have parental knowledge or consent. If parental consent was required, participation by the highest risk population would not have occurred. For these adolescent females, their greatest fear is that their parents would find out and they would have been faced with parental disapproval, punishment, loss of confidentiality and privacy. If parental consent was required, they would have declined to be part of this research study, thus this at risk segment of the population would not have been studied.

Due to the nature of the topic (self-esteem, sexual activity and contraception) the principal investigator was available to provide any debriefing if it was necessary. Debriefing was not required by any of the participants in this study.

### *Procedure*

Once the proposal was approved by the dissertation committee and the University of Hawaii's Committee of Human Subjects approved the proposal and waived parental consent, a meeting was set up with the nurse practitioners from the four clinics and a physician from the private physician's office to gain permission to recruit study participants from each clinic. The surveys were collected from September 2005-December 2005. The principal investigator preferred to be on site during the administration and collection of the survey; however, the clinics and physicians office preferred to administer the survey themselves and at their own convenience. The

principal investigator was available via cell phone at all times and made weekly visits to the sites. Had a participant needed debriefing, the principal investigator would have arranged to meet with them at their convenience. Once approval was obtained, the principal investigator met with the clinic staff to explain the study and further plan the logistics of the administration of the distribution and collection of the surveys.

Initially the female adolescents who came into the clinic were approached by the clinic staff to determine if they were interested in participating in the study. If they were, they were given packets, which contained an invitation and information about the study, the survey, a list of high school counselors, a teen resource card and consent to participate. To insure that the respondents' surveys remained anonymous they were all placed upon completion in a slot in a closed box. As an incentive, once the survey was completed, the participant was given two movie tickets to use at their leisure. The principal investigator made weekly visits to pick up surveys. These surveys were kept in a locked drawer by the principal investigator.

#### *Sample Size and Power Analysis*

A power analysis was performed based on correlation and logistic regression analysis with 2-5 predictor variables. A power of .80 was conducted to determine sample size. Power analysis at .80 determines that there is an 80% chance that the null hypotheses are true. A power analysis at the power of .80 for Pearson's Moment Correlation generated a sample for medium effect size of 0.3 (two tailed alpha = .05) as  $N=85$ . The power analysis at the power of .80 for logistic regression analysis varied from 65 (two predictors) to 92 (five predictors). The sample size goal for this study was 92

participants. Therefore, the actual sample size of 98 was considered adequate to establish meaningful power.

### *Data Analysis*

Data analysis was done via SPSS Version 13 (SPSS, 2004). This data analysis consisted of descriptive statistics, a correlation matrix and logistic regression.

Analysis of the demographic data descriptive statistics included means, standard deviations and range on the continuous demographic variables and frequencies and percentages on the categorical variables.

Reliability analysis using Cronbach's Alpha was done on all scales and subscales. The Cronbach's alpha reliability coefficient is the most common statistical test for internal consistent reliability. A cut-off of 0.60 is accepted in exploratory research (Garson, 2006); therefore any scale with Cronbach's alpha lower than 0.60 would have been eliminated from the analysis.

### *Research Question 1.*

In a sample of 14-17 year old females:

What is the level of global self-esteem, decisional self-esteem, decision coping patterns and contraceptive behavior? Descriptive statistics (frequency distribution, percentages, means standard deviation and range) were used to analyze these data collected (N=98).

### *Research Question 2.*

What is the relationship between age, global self-esteem, decision self-esteem, decision coping patterns and adolescent contraceptive behavior?

The Pearson's Product Moment Correlation point-biserial statistical test was used to analyze the relationships between the variables using a correlation matrix. As the dependent variable was dichotomous, the recommendation is to do point biserial correlations. In order to run this analysis adolescent contraceptive behavior includes only those who were sexually active at the time the survey was administered (N=70). The sexually active teens were recoded into 0 for sexually active and not using contraceptives and 1 for those who were sexually active and using contraception.

*Research Question 3.*

Is there a significant association between age, global self-esteem, decision self esteem, decision coping patterns and adolescent contraceptive behavior?

Logistic regression was used to analyze the association between the independent variables: age, global self esteem, decision self esteem, decision coping (vigilant and maladaptive) and the dependent variable contraceptive behavior. The logistic regression also used only those who were sexually active at the time the survey was administered (N=70). The sexually active teens were recoded into 0 for sexually active and not using contraceptives and 1 for those sexually active and using contraception.

## CHAPTER FIVE

### Results

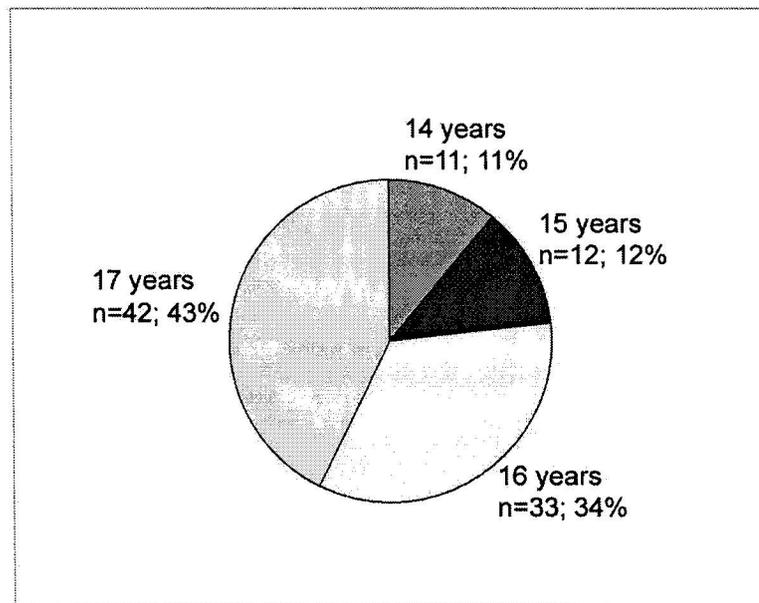
This chapter describes the results of the study. The first section includes a demographic description of the sample population. The next section describes the results of each research question. The dependent variable is whether or not the participant is using contraception when sexually active. The independent variables are age, global self-esteem, decisional self-esteem and decisional coping.

#### *The Sample*

A convenience sample of 98 female adolescents participated in the study. The sample itself is of interest as it included variability in these demographic features. The sample was not random and therefore did not represent all females who came into the clinics for health care.

*Age.*

The ages of the sample ranged from 14-17 years old, with a mean of 16.8, a median of 16.00 and a mode of 17. The standard deviation of the sample was 1.002, with skewness of -0.857 and kurtosis of -0.342. The largest age group was the 17 year olds (42.9%) and the youngest, 14 year olds (11.2%), had the fewest participants (see Figure 3).



*Figure 3.* Sample age distribution

*Grade.*

The grades ranged from 8th grade to college. The largest proportions of participant's were in the 11th grade (33.7%) while the lowest grade the participants were in was 8th grade (2%). Thirteen percent (13.3%) were no longer in high school. Four percent (4.1%) of those not in high schools were in college. For the participants that were no longer in school, 2 dropped out of school and the remaining participants (9.5%) reported the highest grade completed was 12<sup>th</sup> (see Figure 4).

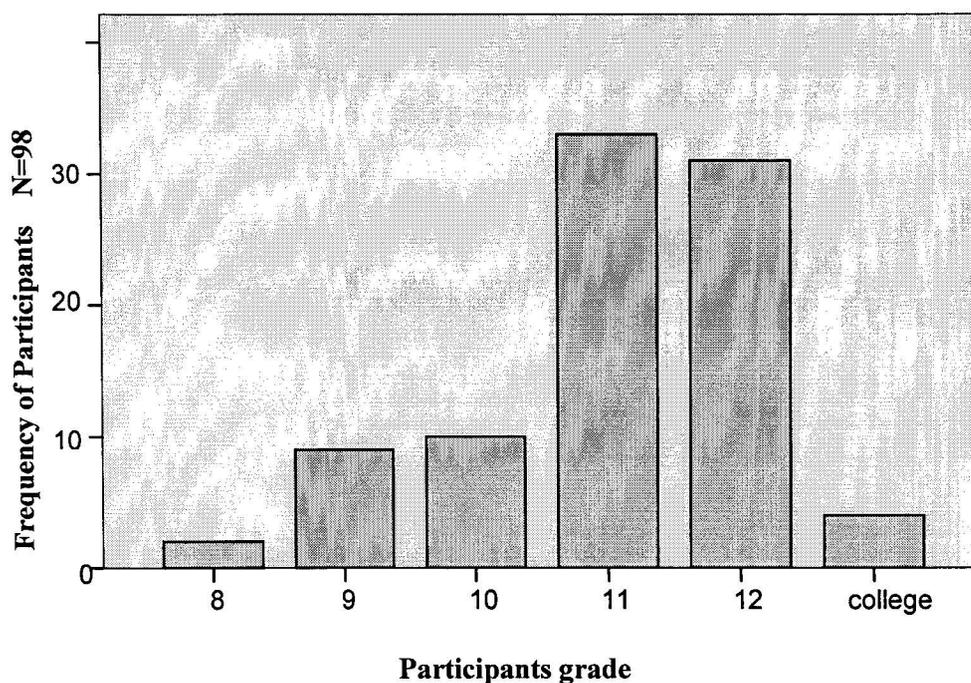
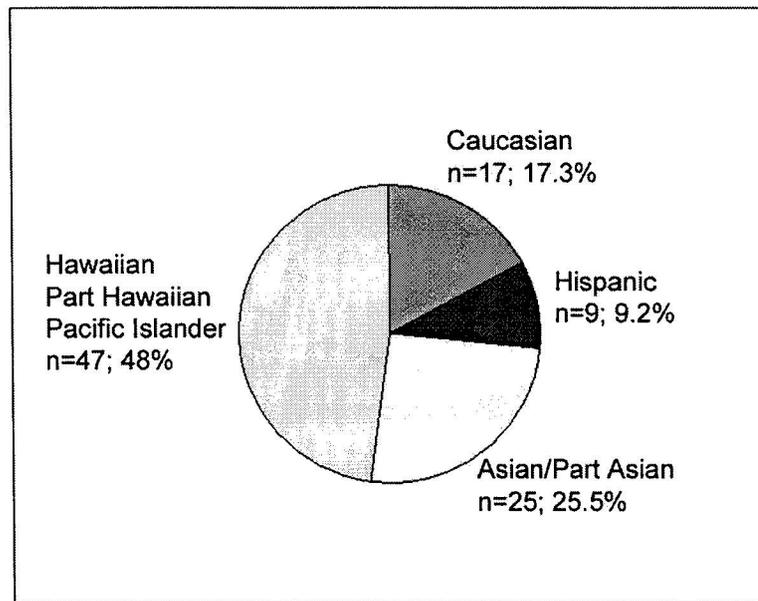


Figure 4. Sample grade distribution

*Ethnicity.*

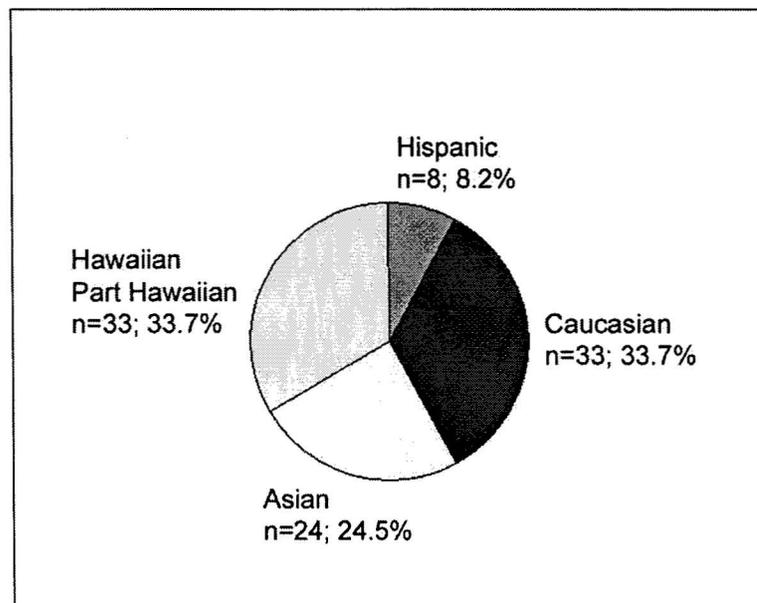
The 53 ethnicities identified by the participants were recoded into 4 groups. The largest group was the Hawaiian/part Hawaiian/Pacific Islander (48%) with the least occurring ethnicity, 9.2% as Hispanics (see Figure 5).



*Figure 5.* Ethnic distribution according to coding scheme

*Ethnic Identification.*

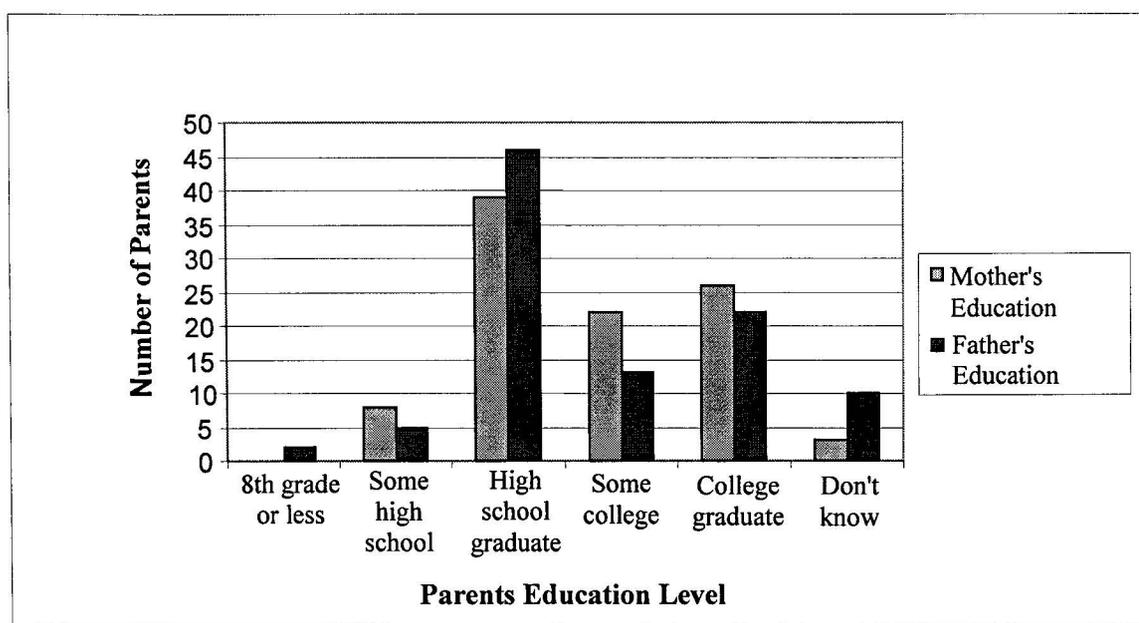
The 19 ethnic identifications that were identified by the participants were recoded into 4 groups. The largest individual ethnic identities represented were Caucasians (33.7%) and Hawaiian/Part Hawaiian (33.7%). The rest of the population demonstrated ethnic identification diversity with 24% as Asian (Japanese, Chinese, Filipino, Korean) and 8.2% identified as Hispanic (see Figure 6).



*Figure 6.* Participants identification of primary ethnicity

### *Parental Education.*

Parental education represents a measure of economic status. The education levels of mothers of respondents were: 26.5 % were college graduates, while 22.4% attended some college. Thirty-nine percent indicated that their mother had a high school education. In comparison, the education level of the participants fathers was: 22% were college graduates, 13.3 % had some college. Forty-six percent were high school graduates (see Figure 7).



*Figure 7.* Frequency of parents education level

*Living Situation.*

The participants identified 27 living situations, which were recoded into 9 groups.

The largest group of participants, 36.7% lived with both parents. The second largest group (20.4%), lived with the only the mother (see Table 3).

Table 3.

<u>Living Situations of the Survey Respondents</u>	
<u>Participant Living Situation</u>	<u>Percent</u>
Both parents	36.7
Mom only	20.4
Dad only	6.1
Mom/extended family	5.1
Parent/step parent	13.3
Sibling	6.1
Extended family	3.1
Boyfriend/friend	4.1
Hanai/foster family/exchange student	5.1
Total	100.0

## *Setting*

### *Clinic Sites.*

The survey was distributed to 5 clinics in different geographic locations on the Big Island of Hawaii. The largest percent of the population (43.9%) was from Kona Planned Parenthood while the smallest percent was from private physician's office (8.2%) (see Table 4).

Table 4.

Number and Percentage of Respondents By Clinic

Clinics	Frequency	Percent
Waimea	12	12.2
Hamakua	15	15.3
Bay Clinic	20	20.4
Kona Planned Parenthood	43	43.9
Dr. Watkin's Office	8	8.2
Total	98	100.0

### *Analysis of Categorical Data Demographics*

Cross tab analysis, utilizing Chi square statistics, was used to examine associations among the demographic variables: a) clinic sites, b) ethnicity recoded, c) ethnic identification recoded, d) living situation recoded, e) maternal and f) paternal education and sexual activity and contraceptive use. There were no significant associations among these demographic variables.

### *Statistical Analysis of Research Questions*

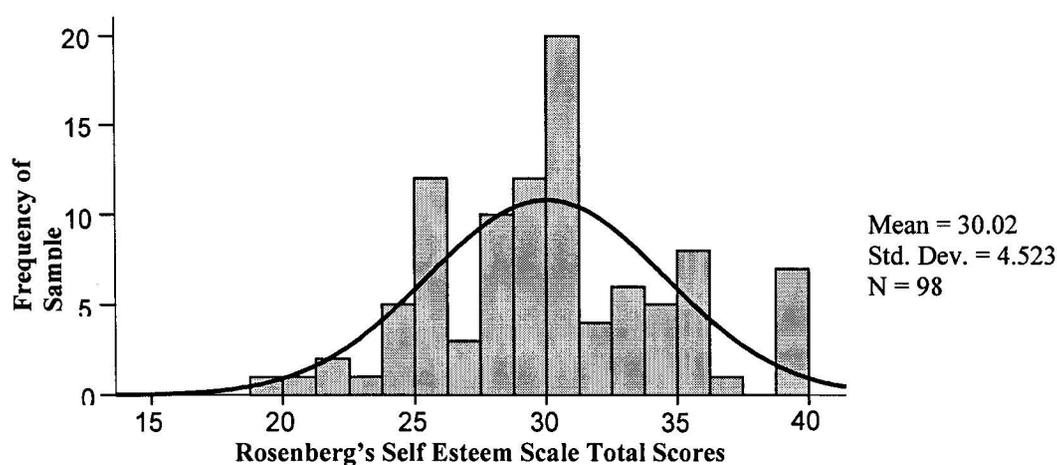
This section addresses the results of each of the research questions.

#### *Research Question 1*

In a sample of 14-17 year old females what is the level of global self-esteem, decisional self-esteem, decision coping patterns and contraceptive behavior?

##### *Global Self Esteem.*

As stated previously in the methods section the Rosenberg's Self Esteem Scale (RSE) included ten items that measured global self-esteem. The total scores possible for the RSE range from 10-40. The higher the score on the scale the higher the participant's self-esteem. Using Microsoft Word, the results of the Flesch-Kincaid Reading Grade Level Test determined a reading grade level of 4.3. The Cronbach's Alpha reliability statistic for the RSE was 0.85 indicating acceptable reliability. The scores of the participants ranged from 19-40 with a mean of 30.02, a variance of 20.453 and a standard deviation of 4.523. Five participants demonstrated maximum level of self-esteem gaining the highest score possible of 40. There were no unanswered items noted (see Figure 8).



*Figure 8.* Frequency distribution of the Rosenberg's Self-Esteem Scale scores, Scores Ranging from 10-40, High scores indicating high self esteem

*Decisional Self Esteem and Decisional Coping.*

The Flinders Adolescent Decision Making Questionnaire (FADMQ) measures decisional self-esteem as well as decisional coping. The FADMQ consists of five subscales measuring: a) decisional self-esteem; decisional coping; b) vigilance, c) panic, d) cop out, and e) complacency. The results of the Flesch-Kincaid Reading Grade Level Test performed by Microsoft Word determined a reading level of 4.5 for this questionnaire. Four missing responses were replaced with the mean item response.

*Decision Self Esteem*

As stated previously in the methods section the Decision Self Esteem scale consisted of six items. The items were scored from 0-3 and summed to give a subscale. The highest total possible score on this subscale was 18. Higher scores represent higher decisional self-esteem. The item total mean was 12.19 with a variance of 7.952 and a standard deviation of 2.820. The Cronbach's Alpha reliability statistic was 0.7 indicating reliable internal consistency with this scale (see Table 5 for item analysis).

Table 5.

Flinders Decision Self Esteem Item Analysis, Scores Ranging From 0-3, Higher Scores Indicating Higher Decisional Self Esteem (N=98)

Item	Range	Mean	Std. Deviation
I feel confident about my ability to make decisions.	0-3	2.16	.769
I am not as good as most people in making decisions.	0-3	2.04	.745
I think that I am a good decision maker.	0-3	1.91	.788
I feel so discouraged that I give up trying to make decisions.	0-3	2.38	.780
The decisions I make turn out well.	0-3	1.60	.700
It is easy for other people to convince me that their decision rather than mine is a correct one.	0-3	2.10	.780

### *Decisional Coping-Vigilance*

The Vigilance Scale, as noted in the methods section, consisted of six items. The items were scored from 0-3 and summed to give a subscale. The total possible score on this subscale was 18. Vigilance represents the reported use of using goals, generating options, gathering facts, evaluating the consequences is considered adaptive decision making. A higher score represents competent decision-making. The item total mean was 10.29 with a variance of 9.485 and a standard deviation of 3.080. The Cronbach's Alpha reliability statistic was 0.7 indicating reliable internal consistency for the scale (see Table 6 for item analysis).

Table 6.

Flinders Decision Coping: Vigilance Item Analysis, Scores Ranging From 0-3, Higher Scores Indicating Higher Vigilance in Decision Making (N=98)

Item	Range	Mean	Std. Deviation
I take a lot of care before I make my choice.	0-3	1.66	.837
Once I have made a decision then I don't change my mind.	0-3	1.31	.842
I like to think about a decision before I make it.	0-3	2.08	.904
When I make a decision, I feel that I've made the best one possible.	0-3	1.65	.788
I like to make decisions myself.	0-3	1.92	.881
When I decide to do something, I get right on with it.	0-3	1.66	.799

*Decision Coping-Panic*

The Panic Scale consisted of six items. The items were scored from 0-3 and summed to give a subscale. The highest possible score on this subscale was 18. Panic measures self reported tendencies to hasty and impulsive decision making which is considered maladaptive. A high score represents poor decision-making. The item total mean was 5.85 with a variance of 9.141 and a standard deviation of 3.023. The Cronbach's Alpha reliability statistic was 0.719 indicating reliable internal consistency for the scale (see Table 7 for item analysis).

Table 7.

Flinders Decision Coping: Panic Item Analysis, Scores Ranging From 0-3, High Scores Indicating Less Competent Decision Making (N=98)

Item	Range	Mean	Std. Deviation
I panic if I have to make decisions quickly.	0-3	1.02	.837
Whenever I get upset by having to make a decision, I choose on the spur of the moment.	0-3	.96	.785
I feel as if I'm under tremendous pressure when making decisions.	0-3	.87	.782
I can't think straight if I have to make a decision in a hurry.	0-3	1.13	.869
The possibility that some small thing might go wrong causes me to immediately change my mind about what I'm going to do.	0-3	1.09	.761
I choose on the basis of some small thing.	0-3	.78	.635

### *Decision Coping-Cop Out*

As previously noted in the methods section the Cop Out scale consisted of six items. The items were scored from 0-3 and summed to give a subscale. The total possible score for this subscale was 18. Cop Out measures the tendency of delaying decision making also considered maladaptive. A high score demonstrates maladaptive or poor decision-making. The item total mean was 4.41 with a variance of 6.512 and a standard deviation of 2.552. The Cronbach's Alpha was 0.6 indicating reliable internal consistency for the scale (see Table 8 for item analysis).

Table 8.

Flinders Decision Coping: Cop Out Item Analysis, Scores Ranging From 0-3, High Scores Indicating Less Competent Decision Making (N=98)

Item	Range	Mean	Std. Deviation
I avoid making decisions.	0-3	.56	.704
I put off making decisions.	0-3	.78	.711
I prefer to leave decisions to others.	0-2	.55	.628
When I have to make a decision, I wait a long time before starting to think about it.	0-3	.94	.810
I put little effort into making decisions.	0-3	.85	.901
I don't like to take responsibility for making decisions.	0-3	.73	.767

### *Decision Coping-Complacency*

There were six items in the Complacency scale. The items were scored from 0-3 and summed to give a subscale. The highest possible score for this subscale was 18.

Complacency measures tendencies to apathy and non-involvement in decisions and is considered maladaptive. A high score demonstrates maladaptive or poor decision-making. The total item mean was 4.46 with a variance of 8.655 and a standard deviation of 2.942. The Cronbach's Alpha was 0.642 indicating reliable internal consistency for the scale (see Table 9 for item analysis).

Table 9.

Flinders Decision Coping: Complacency Item Analysis, Scores Ranging From 0-3, Higher Scores Indicating Less Competent Decision Making (N=98)

Item	Range	Mean	Std. Deviation
When faced with a decision I go along with what others suggest.	0-3	.87	.683
I'd rather let someone else make a decision for me so it won't be my problem.	0-3	.60	.743
When I'm forced to make a decision, I couldn't care which way I choose.	0-3	.78	.891
I tend to drift into decisions without thinking about them.	0-3	.87	.713
When making decisions I tend to choose the first alternative that comes to mind.	0-3	.88	.763
I prefer to do what others choose because I don't like to be different.	0-3	.36	.630

*Decision Coping-Maladaptive*

As previously noted in the methods section the Maladaptive scale was formulated by combining Panic, Cop Out and Complacency. There were 18 items in this subscale. The items were scored from 0-3 and summed to give a subscale. The total possible score for this subscale was 54. The total item mean was 14.71 with a variance of 50.877 and a standard deviation of 7.133. High scores represented maladaptive decision-making. The Cronbach's alpha was 0.827 indicating reliable internal consistency for the scale (see Table 10 for item analysis).

Table 10.

Flinders Maladaptive Scale Item Analysis, Scores Ranged From 0-3, High Scores Indicating Maladaptive Decision Making (N=98)

Item	Range	Mean	Std. Deviation
<i>Coping Panic</i>			
I panic if I have to make decisions quickly.	0-3	1.02	.837
Whenever I get upset by having to make a decision, I choose on the spur of the moment.	0-3	.96	.785
I feel as if I'm under tremendous pressure when making decisions.	0-3	.87	.782
I can't think straight if I have to make a decision in a hurry.	0-3	1.13	.869
The possibility that some small thing might go wrong causes me to immediately change my mind about what I'm going to do.	0-3	1.09	.761
I choose on the basis of some small thing.	0-3	.78	.635
<i>Coping Cop Out</i>			
I avoid making decisions.	0-3	.56	.704
I put off making decisions.	0-3	.78	.711
I prefer to leave decisions to others.	0-2	.55	.628
When I have to make a decision, I wait a long time before starting to think about it.	0-3	.94	.810

Table 10. (Continued)

Flinders Maladaptive Scale Item Analysis, Scores Ranged From 0-3, Higher Scores Indicating Less Competent Decision Making (N=98)

Item	Range	Mean	Std. Deviation
I put little effort into making decisions.	0-3	.85	.901
I don't like to take responsibility for making decisions.	0-3	.73	.767
<i>Coping Complacency</i>			
When faced with a decision I go along with what others suggest.	0-3	.87	.683
I'd rather let someone else make a decision for me so it won't be my problem.	0-3	.60	.743
When I'm forced to make a decision, I couldn't care which way I choose.	0-3	.78	.891
I tend to drift into decisions without thinking about them	0-3	.87	.713
When making decisions I tend to choose the first alternative that comes to mind.	0-3	.88	.763
I prefer to do what others choose because I don't like to be different.	0-3	.36	.630

*Sexual History and Contraceptive Use Questionnaire*

There were five items in this section of the survey. Two questions had to do with sexual activity and three had to do with contraception. The questions regarding sexual activity determined the respondents past and current history. The questions regarding contraception addressed the respondents past and current contraceptive use. These items were all recoded respectively for analysis. The results of the Flesch-Kincaid Reading Grade Level determined for this questionnaire determined a reading grade level of 7.1.

*Sexual History.*

The two questions in the survey addressing sexual activity were whether the participant ever had sex and were they currently sexually active. Notably greater than 71% reported they were currently sexually active at the time the survey was administered and greater than 86% responded they were sexually experienced (see Table 11).

Table 11.

Reported Sexual Activity of Participants (N=98)

	Sexual Activity	Number of Participants	Percent
Sexually Experienced	Yes	85	86.7
	No	13	13.3
Currently Sexually Active	Yes	70	71.4
	No	28	28.6

*Contraceptive Use.*

The questions in the survey related to contraceptive use were if they were currently using contraception, how often they use contraception, and if not using currently how often they have used contraception in the past.

Sixty percent of the respondents reported that they were currently using contraception while 40% reported they were not using contraception. For those who were currently sexually active, 48% reported that they used contraception all the time and 3.1% reported they never use contraception (see Table 12).

Table 12.

Contraceptive Usage When Sexually Active (pills, patch, nuvaring, condoms, diaphragm, IUD, shots)

Current Contraceptive Use	Number of Participants (n=59)	Percent
None of the time	3	3.1
A few times	2	2.0
Half of the time	2	2.0
Most of the time	5	5.1
All the time	47	48.0
Total	59	60.2

The respondents (5.1%) reported using contraceptives all the time in the past.

There were 19.4% who reported they never used contraception (see Table 13).

Table 13.

Past Contraceptive Use (pills, patch, nuvaring, condoms, diaphragm, IUD, Shots)

Past Contraceptive Use	Number of Participants (n=45)	Percent
No, never used	19	19.4
A few times	9	9.2
Half of the time	5	5.1
Most of the time	7	7.1
All of the time	5	5.1
Total	45	45.9

The combination of current sexual activity and contraception use was analyzed. The responses ranged from 20.4% not sexually active and not using contraception to 52% sexually active and using contraception (see Table 14).

Table 14.

Combination of Current Sexual Activity and Contraceptive Use (N=98)

Current Sexual Activity and Contraceptive Use	Frequency	Percent	Valid Percent
Not sexually active and not using contraceptives	20	20.4	20.4
Not sexually active and using contraceptives	8	8.2	8.2
Sexually active and not using contraception	19	19.4	19.4
Sexually active and using contraception	51	52.0	52.0
Total	98	100.0	100.0

In order to answer the following two research questions, the sub-sample of those adolescents who were currently sexually active ( $n=70$ ) were used in the analysis. Contraceptive behavior was defined as adolescents who were sexually active and using contraception all of the time and those who were sexually active and not using contraception all of the time.

### *Research Question 2*

In a sample of 14-17 year old females what is the relationship between age, global self-esteem, decision self esteem, decision coping patterns and adolescent contraceptive behavior?

#### *The Pearson's Product Moment Correlation.*

The Pearson's Product Moment Correlation Point Biserial statistical test was used to perform correlations between age, global self esteem, decisional self esteem, decisional coping (vigilant and maladaptive) and sexual active participants and their contraceptive use. There were no significant correlations between age and any of the other variables. Significant correlations ( $p = 0.01$ ) were observed among the measures used to assess global self-esteem, decision self esteem and decision coping (vigilance and maladaptive). There were moderate positive correlations ( $p = 0.01$ ) between Rosenberg's Self Esteem scale (RSE) and the Flinders decisional self-esteem ( $r = 0.682$ ) and the RSE and Flinders decisional vigilance coping ( $r = 0.548$ ). There were negative correlations between the Flinders coping maladaptive scale and the RSE ( $r = -0.470$ ), the Flinders decision self esteem ( $r = -0.563$ ) and decisional vigilance coping ( $r = -0.315$ ). There was one significant negative correlation between the maladaptive scale and contraceptive behavior ( $r = -0.243$ ,  $p = 0.05$ ) (see Table 15 for correlation matrix).

Table 15. Correlation Matrix of Participants Age, Rosenberg's Self Esteem Scale, Flinders Decision Self Esteem and Decision Coping (Vigilant and Maladaptive), and Sexual Activity and Contraceptive Use (\*\* correlation is significant at the p =0.01 level, \* correlation is significant at the p = 0.05 level)

		Participants Age	Rosenberg's Self Esteem Scale	Flinders Decision Self Esteem Subscale	Flinders Coping Subscale, Vigilance	Maladaptive Subscale	Sexually Active Using and Not Using Contraceptives
Participants Age	Pearson Correlation	1	-.025	-.009	.049	.021	.038
	Sig. (2-tailed)		.804	.928	.631	.838	.756
	N	98	98	98	98	98	70
Rosenberg's Self Esteem Scale	Pearson Correlation	-.025	1	.682**	.548**	-.470**	.173
	Sig. (2-tailed)	.804		.000	.000	.000	.153
	N	98	98	98	98	98	70
Flinders Decision Self Esteem Subscale	Pearson Correlation	-.009	.682**	1	.509**	-.563**	.132
	Sig. (2-tailed)	.928	.000		.000	.000	.278
	N	98	98	98	98	98	70
Flinders Coping Vigilance Subscale	Pearson Correlation	.049	.548**	.509**	1	-.315**	.204
	Sig. (2-tailed)	.631	.000	.000		.002	.090
	N	98	98	98	98	98	70
Maladaptive Scale	Pearson Correlation	.021	-.470**	-.563**	-.315**	1	-.243*
	Sig. (2-tailed)	.838	.000	.000	.002		.043
	N	98	98	98	98	98	70
Sexually Active Using and Not Using Contraceptives	Pearson Correlation	.038	.173	.132	.204	-.243*	1
	Sig. (2-tailed)	.756	.153	.278	.090	.043	
	N	70	70	70	70	70	70

*Research Question 3*

Is there significant association between age, global self-esteem, decision self esteem, decision coping patterns and adolescent contraceptive behavior?

Logistic regression was used to analyze the association between the different independent variables age, global self esteem, decision self esteem, decision coping (vigilant and maladaptive) and the dependent variable sexually active participants contraceptive use. There were no significant associations between age and any of the independent or dependent variables. Due to multicollinearity between the variables global self-esteem, decisional self-esteem, decision coping vigilance and decision coping maladaptive these variables were analyzed with age but independently. There were no significant associations between age, global self-esteem, decision self esteem, decisional coping vigilance and sexually active participants and contraceptive use. There was, however, a significant association ( $p < .05$ ) between decision coping maladaptive and sexually active participants contraceptive behavior. For every one-unit increase on the maladaptive scale, the odds of using contraception were estimated to decrease by 7%, with 95% confidence that the odds ratio in the populations is between 0.86 to 1.00. (see Table 16).

Table 16.

Results of Logistic Regression and Independent Variables Age, Global Self Esteem, Decision Self Esteem, Decision Coping Vigilance, Decision Coping Maladaptive and Dependent Variable Sexually Active and Contraceptive Use (\*association significant at the P = 0.05 level)

Variable	B	S.E.	Wald	df	Sig.	Exp (B)	95% C.I for EXP(B)	
							Lower	Upper
Age	.092	.290	.100	1	.752	1.096	.621	1.937
Global Self Esteem	.095	.067	1.994	1	.158	.100	.964	1.255
Decision Self Esteem	.106	.100	1.141	1	.285	1.112	.915	1.352
Decision Coping Vigilance	.149	.090	2.735	1	.098	1.160	.973	1.384
Decision Coping Maladaptive	-.074	.038	3.861	1	.049*	.929	.863	1.000

## CHAPTER SIX

### Discussion

In this study age, global self-esteem, decisional self-esteem and decision coping (vigilant and maladaptive) were examined in relation to sexual activity and contraceptive behavior. This research, through correlations and logistic regression, demonstrated statistical significance between maladaptive decision-making and decreased contraceptive use in sexually active adolescent females.

In this study, there were some points of interest in the demographics of the participants. The ages of participants in this study were more in the range of older middle adolescence. This approximates a distribution that is skewed more towards older female adolescents, which might be expected as the adolescent ages, develops, enters sexual relationships and requires contraception. Steinberg (2005), a leading scholar in adolescence growth and development, has shown that during the middle adolescence period teens are more likely to engage in intimate relationships and become sexually active. As the adolescent ages, maturation and the likelihood of higher cognitive function occurs revealing a progressive sophistication in decision making leading to more competent decision making (Mann et al., 1989; Ormond et al., 1991) resulting in the use of contraception when sexually active (Holmbeck et al., 1994). The age of the adolescents in the study support this in that the older adolescents were the ones who came in for health care and family planning.

Differences were noted in parental education levels of the participants. The education of the participant's mothers was moderately low as there were less mothers (39%) than fathers (46%) who graduated from high school. However, more mothers

attended and graduated from college than fathers. These findings are similar to the literature review; where there were no significant findings in relation to parental education and female adolescent contraceptive behavior.

This sample of adolescents was multiethnic. Almost half of the participants were Hawaiian/Part Hawaiian. Some of the participants identified as many as 7 different ethnicities. Interestingly, in this sample, 48% were of Hawaiian/Part Hawaiian ethnicity, however, only 37.3% identified with Hawaiian. There were 17.3% of Caucasian ethnicity; however, there were 33.7% who identified more with being Caucasian. This warrants further study.

Adolescents in this study had diverse living situations. Only 36.7% lived in an intact family situation where they lived with their mother and father. Twenty-six percent lived with a single parent; the rest resided in a variety of different living situations. This is slightly lower than national statistics as The Center on the Family (2000) reports that in the United States 28% of children live in single parent families. Although there were many different living situations, there was no significant difference with this demographic and the study variables. These findings are similar to the literature review where no significance was demonstrated between living situation and contraceptive use.

There were 98 surveys collected from adolescents who came in for health care. Eighty-five percent were currently sexually active or sexually active sometime in the past. Seventy were sexually active at the time the survey was administered. The participants reported the current use of contraceptives, whether or not they were sexually active was 60%. This is somewhat lower when compared with the Hawaii School Health

Survey (2002) that reported that 75% of high school students used contraception at the last intercourse.

One of the questions on the survey was related to contraceptive use compliance. When asked how often the participant used contraception when sexually active, 48% reported they used contraception all the time. Nine reported irregular use of contraceptives. This erratic use of contraception suggests that there is an underlying factor affecting the competency in contraceptive decision-making. Researchers have outlined factors that lead to less competency in decision making such as: low academic skills, external locus of control, decrease in self esteem, decreased future time orientation and poverty (Holden & Nelson, 1993, Rogel et al., 1980; Sandler et al., 1992;). During the transitional period of adolescence, changes occur in the adolescent's life, which can directly impact their decision-making competency.

Three respondents reported that they were sexually active and used contraception but in the second question relating to how often they used contraception, they said they did not use contraception. This suggests that there may have been a problem with the clarity of the Sexual History and Contraceptive Use Questionnaire. The Flesch-Kincaid Reading Grade Level determined the Sexual History and Contraceptive Use Questionnaire at a reading level of 7.1. The reading level of this questionnaire was initially grade six, however, after the terminology relating to contraceptive methods (pills, patch, nuvaring, condoms, diaphragm, IUD and shots) were added the reading level increased to 7.1. While this questionnaire is at a higher reading level, adolescents using one of these common contraception methods would find familiarity in these words and be able to identify what method they were using, so these terms were left on the

questionnaire. The question regarding compliance only addressed pill, patch, nuvaring, condoms, diaphragm, IUD and shots as birth control methods. It is possible that some who reported they were not using contraception used the method of withdrawal, spermicide or herbal remedies as contraception. This may explain the discrepancies in these data. There was one virgin that reported contraceptive use. It is not uncommon for females who are not sexually active to be on contraception such as oral contraceptives to help regulate their menstrual cycle and improve dysmenorrhea or acne. Also noted was that there were some not sexually active and on contraception. All of those currently on contraception and not sexually active had been sexually active in the past. They may have remained on contraception for a variety of reasons such as anticipation of becoming sexually active again, regulation of menses or other health reasons.

#### *Research Question 1*

The first research question of the study was to determine the level of global self-esteem, decision self esteem, decision coping (vigilant and maladaptive) in sample of 14-17 year old female adolescents.

#### *Global Self Esteem*

The results of the RSE are described as low self-esteem or high self-esteem. There is no clear demarcation as to different levels of self-esteem between these two ranges. In Hawaii, the Adolescent Health Network's Teen Health Advisor Report (1991) states that with the use of a Likert scoring scale, creation of a graduated self-esteem rating from low to medium/low and from medium/high to high can be used. The results generated from this study reported that 60-70% of the survey respondents (N=1335) reported having medium self-esteem. With this analysis in mind, for this study a mean of 30.02

constitutes a moderate level of self-esteem. This is congruent with the medium self-esteem levels noted in the Hawaii study.

In looking at the individual items that received the lowest scores measuring global self-esteem, adolescents felt useless at times and wish they could have more respect for themselves. These particular items suggest a sense of decreased self worth or achievement. The literature review shows no real consensus regarding contraceptive use and self-esteem. Salazar et al. (2004) reported high self-esteem is correlated with more risky behavior while others (Spencer et al., 2002) report those with higher self esteem were more likely to be virgins. Perhaps due to the self-reporting response style of the survey, self-esteem changes when the adolescent's mood changes, explaining some of these discrepancies in the literature.

#### *Decision Self-Esteem and Decision Coping*

##### *Decisional Self Esteem.*

As there are no normal or unusual scores reported in the literature for the FDAMQ for these scores were interpreted as moderate levels of decisional self-esteem. In the decisional self-esteem scale, the items that scored lowest, reflecting poor decision making, were related to whether or not they felt they were good decision makers. This seems to follow a trend of not quite feeling competent in their decision-making. This is congruent with Mann et al. (1989) findings suggesting that as the adolescent ages across middle adolescence they become more competent decision makers. One method to assist adolescents in developing more competent decision making can be through role playing of different decision making scenarios. This can help adolescents practice decision making skills.

*Decision Coping Vigilance.*

The scores were slightly lower than the decision self esteem scales but still represent moderate level of competency. In the decision coping vigilance scale the item that received the lowest score concerned whether or not they would change their mind after making a decision; this also reflects a lack of confidence in their decisions. The scores were slightly lower than the decision self esteem scales but still represent a moderate level of competency.

*Decision Coping Panic.*

These scores were on the lower side demonstrating that the participants were less likely to make impulsive, hasty decisions. There was a wider range in scores in the panic scale. Noteworthy was that the highest scored item in the panic scale reflected that they panic and cannot think straight if they have to make a decision in a hurry. This is consistent with Piaget's development theory of formal operational reasoning. As the adolescent develops they are able to engage in perspective taking and reasoning about chance and probability and envision and evaluate alternatives (Inhelder & Piaget, 1958). Adolescents need time to go through the process of making a decision.

*Decision Coping Cop Out.*

These scores were the lowest with respect to all the maladaptive items. They represented that the participants were less likely to procrastinate in decision-making. The highest scored item was that the respondent choices were made based on the first alternative given. This is congruent with Piaget's theory of formal operational reasoning in adolescent development. As adolescents develop their decision-making, they are cognitively able to envision and evaluate alternatives (Inhelder & Piaget, 1958).

Unintended pregnancy as surmised by Gordon (1990) in the literature review is a result of the adolescents having difficulty in envisioning alternatives. These adolescents may have not yet reached the state of formal operational reasoning .

*Decision Coping Complacency.*

These scores in the complacency scale were consistently low representing that the participants were more likely to be involved in and put thought into decision-making. The highest item score reflected that they procrastinated in making a decision. These findings may support a trend in the direction that adolescents need some time and need alternatives in order to make competent decisions. This is also congruent with Piaget's theory of adolescent development. The formal operator is able to see alternative solutions to a problem and are able to hypothesize how personal actions result in various consequences (Inhelder & Piaget, 1958).

*Decision Coping Maladaptive.*

The maladaptive scale is composed of 3 scales (panic, cop out and complacency). Higher scores in these scales constitute less competent decision-making. These scores were similar to the 3 individual scales demonstrating lower scores on the maladaptive scale, which represented that the individuals were less likely to be maladaptive in their decision-making

The scores of the participants were in the moderate range for decisional self-esteem and vigilance and low for the maladaptive decision making following the trend for more competent decision makers. These results are congruent with Janis and Mann (1977) conflict theory of decision making. Those that have confidence and higher

decisional self-esteem are associated with more vigilant and less maladaptive decision making.

### *Research Question 2*

The second research question investigated if there was a relationship between female adolescents age, global self esteem, decision self esteem, decision coping (vigilant and maladaptive) and contraceptive behavior. The results of correlation analysis showed there was no significant correlation with age and the other variables. These findings are different from Ormond et al. (1991) who found that increased age was significantly correlated with higher levels of decision self esteem and decision coping vigilance and lower levels of maladaptive decision-making. The findings of this correlation analysis showed multicollinearity between global self-esteem, decision self esteem, decision coping vigilant and decision coping maladaptive scales. Correlations of these scales show that they were measuring similar constructs. Similar findings of multicollinearity were also noted by Friedman & Mann's (1993) study of the coping patterns in adolescent decision making in Israeli and Australians. The findings of the RSE and the Flinders decision self esteem were both in the moderate range for all these scales establishing convergent validity for these 2 scales. The adolescent's scores reflected moderate levels of global self-esteem, decisional self-esteem and decision vigilance meaning they were more competent and confident in their decision-making. Seemingly, as the scores of global self-esteem, decisional self-esteem and decision coping-vigilance went up, depicting more competent and confident decision-making, the scores of the maladaptive scale went down meaning they were less likely to be poor decision makers. This is also congruent with Janis and Mann's (1977) conflict theory and previous

research studies using this theory (Ormond et al., 1991; Friedman & Mann, 1993; Hollen, 1998; Johnson, 1994; and Okwumabua & Wong, 2003).

There were significant correlations between the maladaptive score and contraceptive use, where higher maladaptive scores were related to lower contraceptive use. This means that as maladaptive scores went up, there is the suggestion that with less competent or poor decision-making, the use of contraception decreased. These findings are consistent with the literature; that maladaptive or less competent decision makers make less competent decisions.

### *Research Question 3*

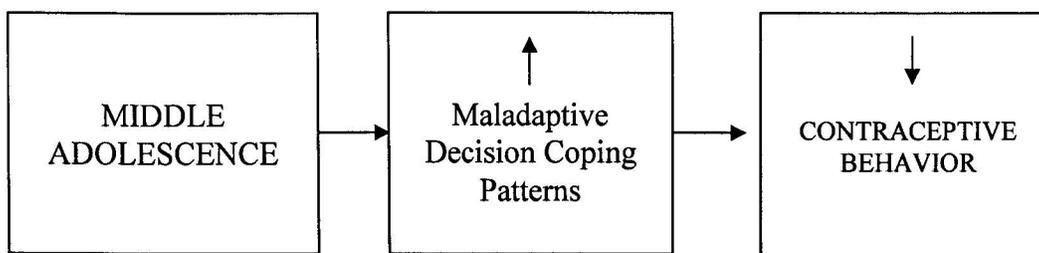
The third research question asked if there was a significant association between age, global self-esteem, decision self esteem, decision coping vigilance, decision coping maladaptive and contraceptive behavior. The study failed to show any association between age, global self-esteem, decision self esteem and decision coping vigilance. However, it did show that there is an association between maladaptive or less competent decision making and decreased contraceptive use. These findings support the maladaptive coping part of Janis and Mann's (1977) theory of vigilant (adaptive) and maladaptive decision-making. This is also consistent with previous research studies using Janis and Mann's model (Ormond et al., 1991; Friedman and Mann, 1993; Hollen, 1998; Johnson, 1994; and Okwumabua & Wong, 2003); that those who scored higher on the maladaptive scale were less competent or poorer decision makers, and in this study were less likely to use contraception when sexually active.

Several of the other independent variables, although not statistically significant, showed a trend toward the direction of significance (global self-esteem  $p=.158$ ; decision

self esteem  $p=.285$ ; decision coping vigilance  $p=.098$ ). This leads one to believe that if the sample size were larger the association between participants with higher levels of global self esteem, decision self esteem and decision coping vigilance, or more competent decision makers, would be more likely to use contraception when sexually active.

Of the sexually active population in this study, little more than half (52%) were using contraception. While the scores on the maladaptive scales were low depicting more competent decision-making, one would expect more of the participants to use contraceptives. Perhaps in future research, with a larger sample size, the expected outcome of increased contraception may emerge.

This study started with a model that depicted the relationship between middle adolescence, age, global self-esteem, decisional self-esteem, decision coping vigilance, decision coping (Vigilant and Maladaptive) and contraceptive behavior (see page 35). As there was only correlation and association between the independent variable maladaptive decision making and contraceptive behavior, a new model has been formed addressing those variables that were significant. As an individual's age was not significant it is more appropriate to depict middle adolescence in general in the model along with maladaptive decision-making and contraceptive behavior (see Figure 9).



*Figure 9.* Revised Decision Making Model

*Nursing Implications*

Adolescence is a time of life where decisions are made with little life experience. These decisions can have lifelong consequences. There have been inconsistencies in the literature regarding self-esteem, decision making and contraceptive behavior. This study failed to show any correlation or significant association between global or decisional self-esteem and contraceptive behavior. Perhaps a larger sample size would have produced significant results. However, it did show that there is an association between maladaptive or less competent decision-making and decreased contraceptive use. Through maturation, many adolescents cognitively have the ability to make decisions; however, this does not necessarily mean they will make the best decisions. Nurses need to take an active role in creating strategies to facilitate competent decision making.

Hawaii has higher teen pregnancy rates than the national average. Nurses need to focus on improving adolescent decision-making skills and exploring the area of adolescent decision making so that interventions can be planned to help adolescents make competent decisions. As the adolescent grows older, they access health care less often, so there are fewer opportunities to instill preventative health care measures. Many adolescents do not access health care for contraception. In a small community such as the Big Island of Hawaii, there is less privacy for the teen when seeking contraception from a health care facility. Nurses need to explore different strategies they can help adolescents in this type of community. One way is to develop multi-service centers that are school based providing an array of confidential services at one convenient location.

Other strategies to engage adolescents to learn and practice decision-making strategies need to be explored. One strategy is in teaching decision-making and role-

playing different situations that require decision making in the school system. Stimulating adolescents' own thinking around not only sexual issues but also relationship and communication issues may facilitate a vigilant and increased competence in decision making. This can assist adolescents in gaining different perspectives and help them to coordinate improved decision making with respect to contraceptive use as well in other areas.

There are many high-risk teens with problems of substance abuse and risky behavior. The decision making of these high risk adolescents can affect many aspects in their life. Nurses need to explore decision making in this at risk group.

There are limited studies with multiethnic population such as Native Hawaiians and Asians in the area of adolescent self-esteem, decision making and contraception. With the pregnancy rates in Hawaii higher than the national average, nurses need to get involved and further explore the multiethnic population in this study and the relationship between self-esteem, decision making and contraception.

Finally, nurses need to engage in more research in generating a developmental theory of adolescent sexual and contraceptive decision-making. The components of decision-making and competency need to be further investigated so that a better model can be used to plan interventions.

#### *Future Directions in Research*

More research is needed to understand this vulnerable population. In Hawaii, research is needed in the area of adolescent decision making involving different ethnic groups. Future research needs to include the development of culturally sensitive instruments to better explore areas of self-esteem and decision making with different

ethnicities such as Asians, Pacific Islanders and Native Hawaiians. Future research should also include studying ways to help the adolescents engage in consequence thinking and the relationship context in which sexual and contraceptive decision-making occurs. Studies need to include measures of cognitive development and decision-making. There is also a need to study family and partner relationships and their influences on adolescent decision-making and contraceptive behavior. Self-esteem has proved to be complex and further research investigating the relationship of self-esteem to adolescent decision-making and contraception. This study was small which did affect the statistical analysis. Most importantly future research needs to include larger, randomized samples so that generalizations can be made with this population. Research in these areas can assist healthcare professionals to have a clearer understanding about decision-making and contraception in the vulnerable adolescent population so that interventions can be planned. Goals of research should be focused to enhance decision-making skills and improve adolescents' knowledge on relationships and sexuality issues. By improving knowledge, increasing options, and encouraging insight, clinicians can plan relevant interventions for the prevention of adolescent pregnancy.

### *Strengths*

The study was designed to recruit a segment of the population that is at high risk for pregnancy. The study used the well-developed theoretical framework of Janis and Mann's (1977) conflict theory. It addressed the relationship between female adolescent self-esteem, decision making and contraceptive behavior, which has not been studied in this context. New knowledge was generated to help researchers understand more about female adolescent contraceptive behavior with the hope of decreasing health risks and

adolescent pregnancy. The study took place on the Big Island of Hawaii, which has the highest adolescent pregnancy rate in the state of Hawaii. The study sampled a diverse population in a rural area, which includes different ethnicities and adolescent living situations. This ethnic diversity provided more knowledge of the Asian/Pacific Island adolescent population, an understudied group. The respondents participated in an environment that was confidential and where anonymity was insured. The study used valid and reliable instruments to measure self-esteem, decision self-esteem and decision coping patterns.

### *Limitations*

Although the number of participants was adequate based on the power analysis, some of the participants were not sexually active at the time of the survey. This resulted in a smaller sample size, which may have affected the significance of the statistical analysis. The information obtained from this study was based on self-report. This could be linked to potential biases related to social needs and social desirability to under or over report their behavior. Surveys are vulnerable to over-rater or under-rater bias, which has the tendency for some respondents to give consistently high or low ratings (Isaac & Michael, 1990). Surveys are only able to include respondents who are accessible and cooperative. Because the sample was based on female adolescents seeking health care, the results may not be generalizable to all adolescents. As this is a convenience sample representing only one segment of the population, the level of reasoning may be different from a random sample of female adolescents. The sample is limited to a rural sample on the Big Island of Hawaii and may not be generalized to adolescents from other communities. The cross sectional design of this study provided only a snap shot of what

is happening only at the time the survey data was collected. Since the study was restricted to female participants, it cannot be generalized to adolescent males. The Flinders Adolescent Decision Making Questionnaire has only been used in Caucasian and African Americans. The Sexual History and Contraceptive Use Questionnaire designed for this study was not piloted in a representative sample of the study to determine its clarity.

### *Conclusion*

Although adolescent pregnancy rates have decreased, the problem of adolescent pregnancy still exists and is of national public health concern. While this study has limitations, results did highlight one aspect of Janis and Mann's (1977) conflict theory. There was an association between maladaptive or less competent decision making and decreased contraceptive use. Higher scores on the maladaptive scale represented less contraceptive use. The evaluation of self-esteem still proves to be complex with many inconsistencies in the literature. While this study did not determine any significant associations or correlations between female adolescents self esteem, decision making and contraceptive behavior, this area of research needs further investigation. In order to reduce the rate of early childbearing, adolescents need help in the area of making competent decisions so that they can make the right choices.

## Appendix A

## Demographic Data

What is your age? \_\_\_\_\_

What grade are you in \_\_\_\_\_

If you are not in school up to what grade have you completed? \_\_\_\_\_

What is your ethnicity? (Mark ALL that apply)

\_\_\_ African American

\_\_\_ Hispanic

\_\_\_ Caucasian (white)

\_\_\_ Japanese

\_\_\_ Chinese

\_\_\_ Filipino

\_\_\_ Korean

\_\_\_ Hawaiian

\_\_\_ Samoan

\_\_\_ Micronesian

\_\_\_ Marshallese

Other (Please specify what) \_\_\_\_\_

What ethnicity do you identify with most? (Mark the ONE you identify with most)

\_\_\_ African American

\_\_\_ Hispanic

\_\_\_ Caucasian (white)

\_\_\_ Japanese

\_\_\_ Chinese

\_\_\_ Filipino

\_\_\_ Korean

\_\_\_ Hawaiian

\_\_\_ Samoan

\_\_\_ Micronesian

\_\_\_ Marshallese

Other (Please specify what) \_\_\_\_\_

What is your parent's education?

MOM (Check the most education that your mom has)

8<sup>th</sup> grade or less

some high school

high school graduate

Some college

College graduate

don't know

DAD (Check the most education that your dad has)

8<sup>th</sup> grade or less

some high school

high school graduate

some college

college graduate

don't know

Family Structure

Who do you currently live with? (Mark all that apply)

Both Parents

Mom only

Dad only

Mom/Step Dad

Dad/Step Mom

Grandparents only

Aunt/Uncle

Friend

Hanai Family \_\_\_\_\_

Other (please specify whom) \_\_\_\_\_

## Appendix B

## Rosenberg Self-Esteem Scale

Please circle the appropriate answer for each item, depending on whether you strongly agree, agree, disagree, or strongly disagree with it.

1. On the whole, I am satisfied with myself.  
Strongly agree  
Agree  
Disagree  
Strongly disagree
2. At times I think I am no good at all.  
Strongly agree  
Agree  
Disagree  
Strongly disagree
1. I feel that I have a number of good qualities.  
Strongly agree  
Agree  
Disagree  
Strongly disagree
2. I am able to do things as well as most other people.  
Strongly agree  
Agree  
Disagree  
Strongly disagree
3. I feel I do not have much to be proud of.  
Strongly agree  
Agree  
Disagree  
Strongly disagree

6. I certainly feel useless at times.
  - Strongly agree
  - Agree
  - Disagree
  - Strongly disagree
7. I feel that I'm a person of worth.
  - Strongly agree
  - Agree
  - Disagree
  - Strongly disagree
8. I wish I could have more respect for myself.
  - Strongly agree
  - Agree
  - Disagree
  - Strongly disagree
9. All in all, I am inclined to think that I am a failure.
  - Strongly agree
  - Agree
  - Disagree
  - Strongly disagree
10. I take a positive attitude toward myself.
  - Strongly agree
  - Agree
  - Disagree
  - Strongly disagree

## Appendix C

## Flinders Adolescent Decision Making Questionnaire

People differ in the way they feel and go about making decisions. Please indicate how you normally make decisions by checking (X) in the box that best describes your way of doing things for each statement.

	<b>Not at all true for me</b>	<b>Some- times true for me</b>	<b>Often true for me</b>	<b>Almost always true for me</b>
1. I feel confident about my ability to make decisions.				
2. I am not as good as most people in making decisions.				
3. I think that I am a good decision maker.				
4. I feel so discouraged that I give up trying to make decisions.				
5. The decisions I make turn out well.				
6. It is easy for other people to convince me that their decision rather than mine is a correct one.				
7. I avoid making decisions.				
8. I take a lot of care before I make my choice				
9. I put off making decisions				
10. When faced with a decision I go along with what others suggest.				
11. I panic if I have to make decisions quickly.				
12. I'd rather let someone else make a decision for me so that it won't be my problem.				
13. Once I have made a decision then I don't change my mind.				
14. I prefer to leave decisions to others.				
15. Whenever I get upset by having to make a decision, I choose on the spur of the moment.				

	<b>Not at all true for me</b>	<b>Some- times true for me</b>	<b>Often true for me</b>	<b>Almost always true for me</b>
16. I like to think about a decision before I make it.				
17. When I have to make a decision, I wait a long time before starting to think about it.				
18. I feel as if I'm under tremendous pressure when making decisions.				
19. I can't think straight if I have to make a decision in a hurry.				
20. When I make a decision, I feel that I've made the best one possible.				
21. I put little effort into making decisions.				
22. The possibility that some small thing might go wrong causes me to immediately change my mind about what I'm going to do				
23. I like to make decisions myself.				
24. When I'm forced to make a decision, I couldn't care which way I choose.				
25. I choose on the basis of some small thing.				
26. I tend to drift into decisions without thinking about them				
27. When I decide to do something, I get right on with it.				
28. I don't like to take responsibility for making decisions.				
29. When making decisions I tend to choose the first alternative that comes to mind.				
30. I prefer to do what others choose because I don't like to be different.				

## Appendix D

## Sexual History and Contraceptive Use Questionnaire

Having sex means different things to different people. For this survey, having sex means sexual intercourse.

1. Have you ever had sex? Yes\_\_\_\_ No\_\_\_\_
2. Are you having sex now? Yes\_\_\_\_ No\_\_\_\_
3. Are you currently using birth control? Yes\_\_\_\_ No\_\_\_\_

If your answer to number 3 above was yes, please go to question four, if your answer to number three was no, please go to question five.

4. How often are you currently using birth control when having sex (pills, patch, nuvaring, condoms, diaphragm, IUD, shots)?

\_\_\_\_ None of the time

\_\_\_\_ A few times

\_\_\_\_ Half of the time

\_\_\_\_ Most of the time

\_\_\_\_ All of the time

5. If you are not using birth control now (pills, patch, nuvaring, condoms, diaphragm, IUD, shots) how many times have you used in the past?

\_\_\_\_ No, I have never used birth control

\_\_\_\_ A few times

\_\_\_\_ Half of the time

\_\_\_\_ Most of the time

\_\_\_\_ All of the time

## Appendix E

### Consent

Agreement to Participate In the Study of the Relationship Between Self-Esteem, Female Adolescent Decision Making and Contraceptive Behavior

Principal Investigator: Kathleen Commendador, MSN, WHNP

University of Hawai'i School of Nursing and Dental Hygiene

2528 The Mall – Webster Hall

Honolulu, HI 96822

808-887-2010

Email: coma002@hawaii.rr.com

### Study Description

#### Purpose

This study is being done as part of a college degree. The purpose of this study is to learn more about teenage girls self esteem, decision-making and the use of birth control. There will be 90-100, girls who will be part of this study.

#### Procedure

Being part of this study is voluntary. Girls between 14-17 years old who live on the Big Island of Hawaii will be asked to be part of this study. In this study you will be asked questions about how you feel, how you make decisions, and your health. There is a short form asking your age, grade, ethnicity, who you live with, and your parents' education. It will probably take 30 minutes to answer the questions. After answering the questions, you will be given two movie tickets for your time. The movie tickets are a way of thanking you for your help.

#### Confidentiality

The information you give us will be completely anonymous. Your name will not be on any of the forms or any questions you answered. You can stop participating at any time and this will not affect your health services. The information you share will become part of group results. It may be used for future reports. If you have any questions about the study at any time you can contact Kathleen Commendador (see information above). Please know that the information from you will not be shared with your parents, school, this clinic, or anyone else you know.

#### Risks

If you agree to be part of this study, some questions asked may make you feel uncomfortable. If anything regarding the study causes any unpleasant feelings that you want to talk about, speak with Kathleen Commendador after you finish the study. You

can also call Kathleen Commendador later at the phone number above. A Teen Help Card, which has list of resources and a list of intermediate and high school counselors, will be given to all who take part in the study.

**Benefits**

I understand that there is no benefit to me by being in this study. By being part of it, my answers may help doctors and nurses to give better care to teens like me who come into the clinic for help.

**Certification**

I understand that by completing the questionnaire that I give my consent to be part of this study. I can stop being part of the study at any time.

If I have any questions that are not answered or have comments or complaints about this study I can call:

Committee on Human Studies  
University of Hawaii  
Spalding Hall 253  
2540 Maile Way  
Honolulu, HI 96822  
(808)539-3955.

Appendix F

Teen Resource Card

**Teen HelpCard HAWAII**

**FREE or LOW COST Services**

**Help-Lines & Information**

ASK-Alpha United Way	211
Big Island Crisis & Help-Line	835-3383
Legal Aid Society	961-2651
West Hawaii	329-3910
Medical Information (MISA)	1-800-433-8533
Poison Center	1-800-362-3585
TEEN-Line	1-877-621-8336
Victim/Witness Kokua Services	1-800-631-5538

**BIRTH CONTROL & PREGNANCY**

Alice Adams, MD	988-6864
Sex Clinic, Biko, Kala & Palaoa	986-1427
Child & Family Services	
Family Planning, Education & Home Reach Program	935-2185
West Hawaii / Family Planning Education	323-2664
Maternal & Child Support Services	974-4381
West Hawaii/Kona/Kauai	322-1522/775-6878
Hāmākua Medical Center	775-7204
Kohala Family Health Center	889-6236
MothersCare Hotline	1-800-772-3020
Planned Parenthood Hawaii	329-8211
Robert Walkins, MD	889-8223
Russell Fleck, MD	329-0907
UH Mānoa Campus	974-7638

**PARENTING & FAMILY SERVICES**

Family Support Services	981-3877
West Hawaii	328-7778
*24-hour service	6283(over)

**ALCOHOL & DRUG ABUSE**

ALA-Teen/AA-Now	935-0071
Big Island Crisis & Help-Line	835-3383
BISAC	935-4927
West Hawaii	334-0266
DASH	329-0499

**CHILDSEX ABUSE & FAMILY VIOLENCE**

CFS Spouse Abuse Shelter (Hale Ohana)	959-8864
Crisis Prevention Services	974-8666
West Hawaii	327-4767
Crisis Hotline	868-8864
Sexual Assault Support Services	935-0677
West Hawaii	334-0308
Violence Intervention Program (V.I.P.)	965-3023

**SEXUALLY TRANSMITTED DISEASES**

Big Island AIDS Project	981-2488
West Hawaii	334-0266
GV Testing & Counseling	974-4247
West Hawaii	322-9705
STD/AIDS Hotline (Crisis)	1-800-321-1555
HIV/AIDS Hotline (National)	1-800-342-2437
STD Hotline (National)	1-800-227-8822
24-hour service	02/03
Project of the Family Planning Services Section Hawaii Department of Health	

Appendix G  
Counselor Resource List

Hawaii Preparatory Academy Dwayne Tait	885-7321
Hilo High School Freshman – Lisa Masuhara Sophomores – Albert Miller Juniors – Ray Golden Seniors – Agnes Yomauchi	974-4021 974-4021 974-4021 974-4021
Honokaa High School 8 <sup>th</sup> grade -Laura McCollough Freshman – David Futs Sophomores – Lisa Korenaga Juniors – Diana Terukina Seniors – Jona Alit	775-8800 ext. 277 775-8800 ext. 254 775-8800 ext. 255 775-8800 ext. 252 775-8800 ext. 253
Kamehameha Intermediate Kathy Moran	982-0400
Kamehameha High School Freshman – Malcolm Helm & Jan Ching Sophomores – Jan Ching Juniors – Malcolm Helm Seniors – Herb Wilson	982-0600 982-0600 982-0600 982-0600
Kau High School Robin Cartwright	928-2088
Keaau Middle School Suzette Shigimatusu	982-4200
Keaau High School Freshman – Tanya Montgomery Sophomores – Greg Nakamura Juniors - Anna Wong-Yuen Seniors – Cynthia Yamamoto	982-4220 ext. 242 982-4220 ext. 241 982-4220 ext. 234 982-4220 ext. 236
Kealakehe Intermediate Diane McCary	327-4214
Kohala High School Joseph Richards	889-7114

## Appendix G

## Counselor Resource List

Konawaena Middle School Karen Lucker-Rom	323-4566
Konawaena High School Freshman – Susan Sparling	323-4500
Sophomores – Debra Ramsey	323-4500
Juniors – Jean Grissom	323-4500
Seniors – Richard Wittington	323-4500
Laupahoehoe High School Michael Jervis	962-2200
Parker School Dean Partlow	885-7933
Pahoa Intermediate School 8 <sup>th</sup> grade – Richard Dinges	965-2150
Pahoa High School Freshman & Sophomores – Nancy Seifers	965-2150
Juniors & Seniors – Rob Banashek	965-2150
Waiakea Middle School 8 <sup>th</sup> grade – Whitney Hasegawa	981-7231
Waiakea High School Freshman – Heather Tagawa	974-4888
Sophomores – Jana Lyman-Mandoloniz	974-4888
Juniors – Penny Yanagizawa/Herb Zane	974-4888
Seniors – Marlin Akiona	974-4888
Waimea Middle School 8 <sup>th</sup> grade – Barb Forman	887-6090

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