THE EFFECTS OF PARTICIPATION IN A DEVELOPMENT GROUP
UPON THE PSYCHOLOGICAL ADJUSTMENT OF PREGNANT
ADOLESCENTS AND ADOLESCENT MOTHERS

by

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ABSTRACT

The Effects of Participation in a Development Group
Upon the Psychological Adjustment of Pregnant
Adolescents and Adolescent Mothers

by

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Pregnant adolescents and adolescent mothers are a population at-risk to a variety of negative social, economic, and psychological consequences. Numerous group interventions have been designed to improve the psychological adjustment of pregnant adolescents and adolescent mothers. However, there has been a paucity of research evaluating the efficacy of these interventions. This research was designed to evaluate the efficacy of the development group intervention. The primary objective of this research was to evaluate the effects of this intervention upon the psychological adjustment of the participants.

Thirty-two subjects (16 experimental and 16 comparison) enrolled in two alternative public high schools in Ogden, Utah, participated in the study. Demographic data were obtained for all subjects prior to the initiation of the study.

All subjects completed a battery of self-report questionnaires prior to the development group intervention. This battery was comprised of the following assessment instruments: Revised Kaplan Scale,
Adolescent Life Change Event Scale, State-Trait Anxiety Inventory (STAI), Rathus Assertiveness Schedule, Center for Epidemiological Studies Depression Scale, Rosenberg Self-Esteem Scale, and Wazlavek Support Scale. At the end of the 14-week intervention period, all participants again completed the self-report assessment battery.

No statistically significant differences were found between the experimental group and the comparison group. However, development group attendance was significantly positively correlated with posttest levels of perceived social support. There is indication that married adolescents may benefit more from the development group experience than single adolescents.
Introduction and Statement of the Problem

Adolescent pregnancy in the United States is a serious social problem (Vernon, Green, & Frothingham, 1983). There were 554,000 babies born to adolescents in 1978, and 56% of these births were not planned. With most teenagers opting to keep their babies, there are now 1.3 million children living with teenage mothers, approximately half being unmarried (Alan Guttmacher Institute, 1981). Adolescent pregnancy is associated with numerous social, psychological, economic, and medical risks (Simkins, 1984). Indeed, adolescent pregnancy often results in truncated education, decreased occupational earnings, a higher probability of divorce, indigence, and welfare dependency. Deviation from the normal sequence of critical life stages results in a decrease of opportunities and a concurrent decrease in the ability to make autonomous decisions (McLaughlin & Micklin, 1983). Clearly, adolescent parents significantly impair their vocational and educational opportunities (Card & Wise, 1978).

After a review of the literature, Elster, McAnarney, and Lamb (1983) tentatively concluded that adolescent mothers experience an inordinate amount of stress, lack sufficient social support, have an inadequate understanding of child development, lack appropriate parenting attitudes, and are themselves "developmentally immature." Therefore, it is not surprising that Barth, Schinke, and Maxwell (1983) assert that adolescent mothers may be particularly susceptible to psychological difficulties. This assertion is supported by Zongker
(1980). Using the Tennessee Self-Concept Scale with a group of predominately Black single adolescent mothers, he found that these individuals had extremely low self-concepts and serious emotional problems. They demonstrated strong feelings of guilt, rigidity, a poor sense of reality, a lack of appropriate coping behaviors, and dissatisfaction with their behavior, physical appearance, and social relationships. Their "deviantly low" total self-concept scores indicated doubt concerning self-worth and feelings of undesirableness. Individuals evidencing a low total score often experience depression and anxiety. On two of the clinical subscales, the scores of the single adolescent mothers resembled those of psychotic and generally maladjusted psychiatric patients. Other scales indicated the presence of conflict and inadequate personality integration.

Zongker maintains that many adolescent mothers may keep their infants as a reaction of their low feelings of self worth. Additionally, the adolescent's poor sense of reality and psychological impairment that may have resulted in pregnancy and then prompted the adolescent to keep her baby, are likely to lead to dysfunctional parenting. Indeed, Simkins (1984) asserts that the higher incidence of medical problems among infants of adolescents is a result of the mothers' immaturity, irresponsibility, neglect and inadequate knowledge. Clearly, women who experience a pregnancy as an adolescent are in need of special services (Trussell & Menken, 1978).

Fortunately, the increase in teenage pregnancy coupled with Title IX of the 1972 Education Amendment reaffirming the legal right of all individuals to a public education, has led to an increase of special school programs for pregnant adolescents (Zellman, 1982). A survey of
various types of special programs for pregnant adolescents by the Rand Corporation revealed that 11 of the 12 programs evaluated contained a counseling component (Zellman, 1982). However, the counseling approaches used, and their relative effectiveness was not addressed. Very few of the programs evaluated collected any type of short-term follow-up data to ascertain their efficacy, and none collected any long-term follow-up data. Therefore, the effects of these programs could not be evaluated.

The problem, then, is that there has been a paucity of empirical evaluation of the efficacy of the programs and various intervention strategies implemented to assist pregnant adolescents/adolescent mothers (Klerman, 1979). Therefore, it is not surprising that Simkins (1984) argues that research needs to be conducted to evaluate the effectiveness of intervention programs for pregnant adolescents.

**Purpose and Objectives**

The purpose of this study was to evaluate the effects of participation in a development group upon the psychological adjustment of pregnant adolescents and adolescent mothers. The development group focused upon improving the psychological adjustment of the participants by increasing self-reliance. This was attempted through the teaching of relevant life skills and by assisting participants in developing short- and long-term goals.

The development group focused upon helping the participants achieve developmental rather than therapeutic goals. However, it was hypothesized that the achievement of the developmental goals would improve the psychological functioning of the participants.
This study examined the effects of this intervention upon the participants' psychological adjustment. Psychological adjustment was assessed with self-report questionnaires measuring: self-esteem, assertiveness, anxiety, depression, and perceived social support.

Specifically, the following null hypotheses were put forth:

1. Following intervention, there will be no significant difference between the mean scores of the development group and the comparison group on the Rathus Assertiveness Schedule (Rathus, 1973).

2. Following intervention, there will be no significant difference between the development group and the comparison group on the Self-Esteem Scale (Rosenberg, 1965).

3. Following intervention, there will be no significant difference between the mean scores of the development group and the comparison group on the Center for Epidemiological Studies Depression Scale (Radloff, 1977).

4. Following intervention, there will be no significant difference between the mean scores of the development group and the comparison group on the State-Trait Anxiety Inventory (Spielberger, Gorsuch, & Lushene, 1970).

5. Following intervention, there will be no significant difference between the mean scores of the development group and the comparison group on the Support Scale (Wazlavek, 1986).

6. Following intervention, there will be no significant difference between the mean scores of the development group and the comparison group on the Revised Kaplan Scale (Turner, Frankel, & Levin, 1983).

7. Following intervention, there will be no significant difference between the mean scores of the development group and the comparison group on the Adolescent Life Change Event Scale (Menendez, Yeaworth, York, & Goodwin, 1980).
Causes of adolescent pregnancy cited in the literature include: attempting to avoid social isolation (Groat, Neal, & Mathews, 1976); inadequate development of the cognitive processes underlying decision making (Schinke, Gilchrist, & Small, 1979); an unconscious attempt to maintain a close relationship with the putative father (Scott, 1983); absence of the adolescent's father and/or fulfillment of the boyfriends' wish for them to become pregnant (Kane, Moan, & Bolling, 1974); and as an attempt to escape from occupation or educational tasks (Protinsky, Sporakowski, & Atkins, 1982). Other causes of adolescent pregnancy frequently mentioned include: psychiatric illness, rebelliousness, insecurity, and masochistic tendencies on the part of the adolescent and her mother (Von Der Ahe, 1969). Rates of adolescent pregnancy have been found to be highly correlated with low socioeconomic status (SES), race (McKenry, Walters, & Johnson, 1979), low educational goals and poor academic potential (Card & Wise, 1978).

Psychological correlates of adolescent pregnancy have most often been conceptualized from a psychoanalytic perspective. Ego development and interactions within the family have received considerable examination as factors that contribute to adolescent pregnancy (McKenry et al., 1979). More specifically, these factors include: superego deficits and poorly developed egos, strong oedipal conflicts with a seductive father, conflict related to individuation and dependency, and overlapping ego boundaries with the mother resulting in compliance with the mother's wish for a child or replication of the mother's illegitimate pregnancy (Babikan & Goldman, 1971), and attempting to
restore her relationship with her mother through a relationship with a child of her own (Landy, Schubert, Cleland, Clark, & Montgomery, 1983).

In a comprehensive review of literature dealing with adolescent pregnancy, Chilman (1980) found nonmarital intercourse among female adolescents to be associated with poor self-esteem, living in a single parent family, desire for affection, low academic achievement, low educational goals, dependency, alienation, deviant attitudes, poor communication with parents, and poor relationships with parents. Similarly, this review of the literature reveals the following variables to be correlated with non-use of contraceptive protection: powerlessness, alienation, incompetence, passiveness, dependency, anxiety, weak ego strength, inadequate knowledge concerning sexuality, and a failure to accept the reality of their sexual behavior. She concludes that adolescents who become pregnant often are already economically, socially, and psychologically at risk for a variety of problems.

Indeed, there is a great deal of literature citing psychological maladjustment as a significant characteristic of pregnant adolescents (Ralph, Lockman, & Thomas, 1984). Kane et al. (1974) examined Minnesota Multiphasic Personality Inventory (MMPI) profiles of 50 pregnant adolescents. Thirty-two of the participants revealed abnormal profiles with three being classified as neurotic and 29 representing character disorders. The MMPI profiles within the group classified as abnormal portrayed individuals who are likely to engage in deviant behavior. These profiles were similar to those of female delinquents. Moreover, they indicated rebelliousness, egocentricity, interpersonal insensitivity, irresponsibility, and a tendency toward inappropriate and
compulsive behavior. Individuals with these profiles are often dissatisfied with their family and social lives. A conscious desire to become pregnant typified many of these adolescents. Inadequate knowledge of contraception did not seem to be a cause of pregnancy within this sample.

Zongker (1977) used the Tennessee Self Concept Scale to assess the psychological adjustment of a group of predominantly Black pregnant adolescents and a comparison group of predominantly Black non-pregnant adolescents. The pregnant adolescents had extremely low self-concepts. Self-perceptions associated with self identity and family and social relationships were particularly low. Scores on the clinical scales were similar to those of psychologically maladjusted, psychotic, and individuals with personality disorders. Additionally, they possessed low self-esteem, inadequate coping behaviors, and poorly integrated personalities. He concluded they were unstable, defensive, and conflict ridden. On the other hand, no evidence of psychological impairment was found within the comparison group of non-pregnant adolescents.

Unfortunately, the psychological factors which prevented the adolescent from accepting responsibility for her sexual behavior may also prevent her from being a responsible parent (Roosa, 1984). Indeed, pregnant adolescents often adopt dysfunctional parenting behaviors (McKenry et al., 1979). Roosa and Vaughan (1984) found that adolescent mothers scored significantly lower than older mothers on the Causation, Acceptance, and Understanding Scales of the Parent Attitude Survey (PAS) (Hereford, 1963). This indicates that the adolescent mothers had significantly less positive attitudes toward parenting and children than the older mothers. Additionally, the adolescent mothers scored
significantly lower than older mothers on a test assessing child development knowledge. The adolescents' lower knowledge of child development could be partially responsible for their more negative attitudes toward parenting and children. The authors hypothesize that the adolescents' poorer attitudes related to parenthood and children, and their lower scores on the child development test could have a substantial negative impact upon their children's development.

Most research indicates that adolescent mothers generally have more unfavorable and punitive sentiments toward their children than older mothers. These attitudes could be due to the adolescents' egotisticalness, cognitive immaturity, and inadequate knowledge of child development (Elster et al., 1983). These authors conclude that findings associating adolescent childbearing with deleterious infant cognitive development are primarily due to psychosocial variables correlated with adolescent pregnancy. Fortunately, the knowledge an adolescent gains through participation in a comprehensive intervention program may improve her attitude toward the parental role (Roosa & Vaughan, 1984).

Based upon this review, it is not surprising that Zongker (1977) asserts that it is critical that alternative schools provide adolescent mothers with professional counseling and educational programs to improve their psychological adjustment. Peer group therapy is the most widely accepted psychodynamic treatment for pregnant adolescents and adolescent mothers (Bolton, 1980). Group therapy has been advocated as an intervention for this population because of the importance of peer influence upon adolescents (MacLennan & Felsenfeld, 1968). The peer group can be a powerful facilitator of positive change. Additionally,
the group format is particularly effective in helping individuals because most problems are interpersonal (Dinkmeyer & Muro, 1971).

Indeed, there is some evidence that pregnant adolescents may benefit from counseling. Kaufman and Deutsch (1967) provided eight pregnant adolescents with 18 months of group therapy and compared them to a comparison group of 12 girls who did not receive group therapy. A 12-month follow-up revealed that none of the girls in the experimental group had become pregnant again, while nine of the 12 girls in the comparison group had experienced a subsequent pregnancy. The authors recommended that due to the lack of socialization possessed by the adolescents, the therapist should also assume the role of educator within the group. They did not elaborate upon this point. However, they seemed to imply that with adolescents, a traditional peer support group experience may not be as valuable as a didactic group experience that focuses upon developing the life-skills of the participants.

Kilburn (1983) describes an "educational/supportive" group intervention for pregnant adolescents and adolescent mothers. This approach was designed to improve the participants' parenting skills, increase social support, and increase feelings of positive self identity. The group received a presentation on a relevant topic (i.e., prenatal care, labor, delivery, child development, family planning, coping skills) followed by an opportunity for discussion designed to facilitate peer support. Upon completion of this group experience, participants demonstrated a significant increase in their knowledge of community resources, social support, and feelings of competence related to child care. Unfortunately, the effect of this intervention upon the participants' psychological adjustment was not assessed.
Similarly, Badger, Burns, and Rhoads (1976) outline an educational peer group for adolescent mothers. Material presented during the sessions included information concerning child development, health, nutrition, and infant stimulation. The class atmosphere was informal with adolescents encouraged to participate in discussions. The authors point to participant interest and attendance as validation of the program's success. In addition, scores on a questionnaire measuring knowledge of health, nutrition, and child development, and behavioral observations of mother-infant interactions revealed statistically significant improvements from the first to the eighth session. Moreover, peer group discussion successfully promoted attitudinal changes related to such topics as birth control and methods of child rearing.

Bell, Casto, and Daniels (1983) report on a comprehensive program for disadvantaged mothers that primarily served an adolescent population. This program contained a group intervention component which was designed to increase the participants' autonomy, stimulate effective parenting behavior, and develop support networks. Additionally, the participants' children attended weekly group sessions designed to provide stimulation and combat developmental delays. A home-based component created individualized treatment plans for the mother to implement with her child. Participants who completed the program were significantly more likely to be employed, non-welfare dependent, and not to have been referred for child abuse when compared to the comparison group. However, due to the general evaluation of the program, it is impossible to delineate the contribution of the group component to the program's success.
Davis and Grace (1971) describe an unstructured group for pregnant adolescents. Participants were encouraged to discuss problems associated with motherhood, difficulties in their family relationships, and ways they cope with these problems. The authors feel it is beneficial for participants to engage in problem-solving within the group context. Unfortunately, data was not collected to allow an evaluation of this intervention.

Likewise, Braen (1970) recognized that pregnant adolescents in a comprehensive service program needed a group in which they could discuss their concerns. He asserts that the emotional and intellectual immaturity of pregnant adolescents necessitates a structured group approach. Therefore, the group received a brief presentation on a topic (generally chosen by the participants, i.e., reasons for intercourse and pregnancy, contraception, motherhood) followed by an opportunity for open discussion. The goals of the group were to assist the participants in developing communication skills and to foster the ability to recognize options and make effective decisions. Participant apprehension was relieved by presenting the intervention as an educational rather than therapy group. The author believes that attendance and interest attest to the efficacy of this group approach; additionally, he cites improvement of communication skills and the development of the ability to make rational decisions. However, he provides no data to empirically validate these claims.

Adams, Brownstein, Rennalls, and Schmitt (1976) outline a group intervention designed to develop the pregnant adolescents' independence and self identity. This group focused upon the developmental tasks of adolescence, pregnancy, and birth. Within the group context,
participants discussed problems they were encountering, and then the group engaged in problem-solving. The group leaders helped the participants use problem-solving techniques. However, the techniques used were not specified. Additionally, the group leaders sought to increase the feelings of participant self-worth by helping them recognize, convey, and accept their feelings. Through the exploration and expression of feelings, and presentation of relevant information the adolescents were cognitively and emotionally prepared for the birth process and initial motherhood. The authors stress the need for empirical validation of the efficacy of the group approach with pregnant adolescents; however, they provide no empirical validation of their program.

Schinke et al. (1979) note that adolescents are psychologically capable of engaging in reproductive behavior, but they often have not developed the communicative and interpersonal skills necessary to adequately regulate their reproductive behavior. They assert that adolescent pregnancy may be due to inadequate development of the cognitive processes underlying decision making. They hypothesize that teaching adolescents decision-making skills may result in more responsible reproductive behavior. Schinke, Blythe, and Gilchrist (1981) examined the efficacy of this approach upon the prevention of adolescent pregnancy. This cognitive-behavioral group learning experience focused upon helping the participants identify conflicts and develop problem-solving skills. Results revealed that this intervention significantly increased the participant's ability to identify problems and generate solutions. Also, the interpersonal and communication skills of the group members increased. Although assertiveness was not
directly assessed, the group experience seemed to increase self-confidence and assertive behavior. A six-month follow-up revealed maintenance of the significant differences between the experimental and comparison groups. Unfortunately, the authors did not assess the effects of their intervention upon the psychological functioning of the participants. However, it could be hypothesized that this increase in interpersonal communication and problem-solving skills could lead to higher self-esteem, decreased anxiety and depression, and increased assertiveness.

Roosa (1984) conducted an evaluation of alternative high school programs for this population. The curricula of these programs varied, but they typically included instruction in parenting and family living, along with academic subjects studies by all high school students. This evaluation revealed that these teenage parenting programs increased the participants' understanding of sexuality and child development. However, enrollment in this type of program did not alter attitudes toward parenting. Scores on the Maternal Attitudes Scales (Cohler, Weiss, & Gruneebaum, 1967) indicated that feelings of hostility could interfere with the adolescent mothers having healthy interactions with their children. This finding is distressing, considering that negative parental attitudes may have detrimental effects upon children (Sullivan & Selvggin, 1979). Therefore, Roosa (1984) insists that rather than simply teaching parenting skills, emphasis should be placed upon assisting the adolescent to develop decision-making and communication skills. Additionally, the adolescent should be helped to acknowledge and accept responsibility for her behavior.
Likewise, Schneider (1982) asserts that group interventions for pregnant adolescents should focus upon helping the participants grow emotionally, identify underlying problems, and increase social and communicative skills. Zellman (1982) maintains that service programs for adolescent mothers should enhance the participant's ability to identify needs and then access relevant community resources. Indeed, the level of functioning of the adolescent mother is often influenced by the amount of support she receives (McKenry et al., 1979). Adolescent mothers who do not receive support from their families and community agencies are likely to experience subsequent pregnancies, welfare dependency, and be inadequate parents (Badger et al., 1976). The amount of social support pregnant adolescents and adolescent mothers receive significantly correlates with their level of psychological adjustment (Barth et al., 1983).

The transition to motherhood is a crucial life event that necessitates the assumption of many complex and demanding roles (Bacon, 1974). This transition can be exceptionally distressing for pregnant adolescents because they tend to have feelings of inadequacy concerning themselves and their capabilities (Protinsky et al., 1982). Clearly, various social and psychological factors make the adolescent ill-prepared to assume the motherhood role (Phipps-Yonas, 1980). However, Zongker (1977) maintains that educational programs can improve the mental health of pregnant adolescents. Additionally, several authors assert that a goal achievement orientation decreases the likelihood of subsequent adolescent pregnancy (Furstenberg, 1976; Peabody, McKenry, & Cordero, 1981; Zelnik & Kantner, 1977). Abernethy (1974) recommends
Increasing assertiveness skills and fostering an internal locus of control.

Generally, evaluations of special programs for pregnant adolescents and adolescent mothers reveal somewhat positive results. However, there is evidence that these programs may not facilitate long-term positive outcomes (Phipps-Yonas, 1980). Polit and Kahn (1985) assert that current intervention programs for pregnant adolescents and adolescent mothers are not adequate. This author maintains that more effective interventions are needed for this population. The development group (Casto, 1985) has been designed to meet this need.

The primary goal of the development group is to help participants develop skills which will be useful to them in the future (i.e., assertiveness, giving and accepting constructive feedback, job interviewing), and to assist them in developing a time table for achieving personal goals. Participants are encouraged to develop plans for completing their education and vocational training. This group experience is structured with the group leader introducing each preselected unit. However, the units allow for experiential and didactic learning. Each unit deals with a different problem (i.e., identifying sources of support, stress, and parenting). The table of contents from the Adolescent Development Group Facilitator Manual (Casto, 1985) is presented in Appendix A. Emphasis is placed upon developing creative problem-solving skills. This is accomplished through practice in identifying and defining problems, generating possible solutions, selecting the most appropriate alternative, and then testing the solution and receiving constructive feedback. Group members are provided with a setting which allows them the opportunity to
experiment with alternative methods of interpersonal interaction without fear of rejection. Members give each other supportive feedback, allowing them to evaluate the effectiveness of their new behavior. Participants will become more sensitive to how they perceive others and to how others perceive them, thus increasing their social and communicative skills.

**Summary**

Pregnant adolescents and adolescent mothers are a population at-risk for a variety of social, economic, and psychological problems. Adolescent pregnancy is viewed as a deviation from the socially designated life cycle. This premature role transition can be extremely stressful because the pregnant adolescent is often cognitively and emotionally ill-prepared to successfully assume her new role. Clearly, pregnant adolescents and adolescent mothers are in need of special services.

Peer group therapy is the most widely accepted therapeutic intervention with this population. Typically, these groups also contain an educational component. These group interventions focus upon increasing the participant's autonomy, self-esteem, and problem-solving skills. Generally, at the beginning of each session, the group leader gives a brief presentation on some topic of concern to the participants (i.e., pregnancy, nutrition, labor, child development, parenting, coping with stress), followed by the opportunity for open discussion. During these discussions, the participants are encouraged to discuss problems they are experiencing. Then the group engages in problem-solving. It is hypothesized that in addition to developing communication and
problem-solving skills, these group discussions facilitate peer support and increase self-esteem.

Most of the articles reviewed stress the need for empirical validation of interventions for pregnant adolescents and adolescent mothers. However, the majority of these authors fail to provide empirical validation of their interventions. Despite the paucity of methodologically sound evaluations of interventions for this population, there is some evidence that group interventions may improve the psychological adjustment of pregnant adolescents and adolescent mothers.
CHAPTER III

PROCEDURES FOR COLLECTION OF DATA

This study was designed to test the efficacy of a development group upon the psychological adjustment of pregnant adolescents and adolescent mothers. A two-group pre-post experimental design was utilized. The effect of participation in the development group was compared with enrollment in a comparison group.

Setting and Population

Subjects for this study were recruited from two alternative public high schools in Ogden, Utah. All participants were enrolled in Project TEAM (Team Education for Adolescent Mothers), a regional comprehensive service program for pregnant adolescents and adolescent mothers. This program is funded by the Office of Adolescent Pregnancy Programs. Participants in both the experimental and control groups received all services offered through Project TEAM, except comparison group members did not participate in the development group. The services received by all participants included: instruction in parenting, child care, and nutrition, in addition to standard academic classes. The services for both groups were equivalent, which allowed for a direct comparison between participation and non-participation in the development group.

Sample

Previous experience with development groups for pregnant adolescents and adolescent mothers has revealed that this group intervention is most effective when enrollment is limited to approximately 12 parti-
Participants. Therefore, two development groups were utilized. The first development group began in the fall, and the second development group was initiated one week after the first development group was terminated. Likewise, there were two comparison groups during the same time periods. None of the participants had been previously enrolled in the development group. Both development groups were led by a female school counselor who was experienced in leading development groups with this population. The same school counselor led both development groups. The development group leader introduces each preselected unit and provides the participants with experiential learning exercises. Also, the counselor keeps the group on-task and facilitates discussion; the leader ensures that the group is not monopolized by a few members, and all members are given the opportunity to participate in group activities and discussions.

To be included in the data, participants in the development group had to attend at least 7 of the 14 sessions. An attendance cut-off was utilized because, obviously, it was necessary to attend the group sessions to derive any benefit from a group experience (Yalom, 1970). However, Bates, Johnson, and Blacker (1982) suggest that eight sessions may be sufficient for participants in a school-based group to demonstrate positive outcomes.

Fifteen subjects were enrolled in the first development group. Six of these subjects dropped out of school before the development group was terminated. Therefore, their data could not be included in the study. Two subjects attended fewer than seven sessions, and their data were dropped from the development group and included in the first comparison group. The data from these subjects was included in the comparison group data because their infrequent attendance would preclude them from
experiencing cohesiveness with the group (Dinkmeyer & Muro, 1971). Group membership, cohesiveness, and acceptance are critical preconditions that a group member must experience in order to benefit from the group experience (Yalom, 1970). One subject was dropped from the data analysis because she was not administered the pretest assessment battery. Complete data were gathered on six of the participants in the first development group. Eight subjects were enrolled in the first comparison group. Four of these subjects dropped out of school, and their data was not included in the study. The data of the remaining four comparison group members was included in the study. Also included in the first control group was the data of the two subjects who were originally enrolled in the first development group but attended fewer than seven sessions. Therefore, complete data was gathered on six comparison group members. Fourteen subjects were enrolled in the second development group, including the six subjects who comprised the first comparison group, and four subjects enrolled in the first development group who had dropped out of school before attending any sessions and had since returned to school. All four of the subjects who had dropped out of school before attending any of the first development group sessions dropped out of school again before the second development group was terminated. Completed data was gathered for the remaining 10 participants. Fifteen subjects were enrolled in the second comparison group. One subject was dropped from the study because she moved out of state. Two subjects were dropped from the study because they dropped out of school, and two other subjects were not included in the data analysis when it was discovered that they were attending a regular public school and were not enrolled in the Project TEAM program.
Complete data was gathered from the remaining 10 subjects. This resulted in a total of 16 subjects in the development group and 16 subjects in the comparison group.

**Data Collection**

Prospective subjects were informed of the purpose of the study. Participants were informed that the study was designed to assess the impact of adolescent pregnancy upon psychological adjustment. Participation in the study was voluntary. All Project TEAM participants were given the opportunity to enroll in the development group. Potential subjects were informed that they could elect not to participate in the study without prejudice. However, once subjects enrolled in the development group, attendance was mandatory to receive academic credit toward their high school diploma. Development group members received elective academic credit for participation in the group intervention. Informed consent was obtained from all subjects (see Appendices B and C). Additionally, a letter was sent to the parents of all subjects enrolled in the development group informing them of the purpose of the study (See Appendix D).

Subjects completed a demographic data questionnaire. Immediately prior to the group intervention, subjects in the development and control groups were requested to complete the following assessment battery:

- Revised Kaplan Scale
- Adolescent Life Change Event Scale
- State-Trait Anxiety Inventory (STAI)
- Rathus Assertiveness Schedule
- Center for Epidemiological Studies Depression Scale
- Rosenberg Self-Esteem Scale
- Wazlavek Support Scale
The development group met once per week for 65 minutes for 14 consecutive weeks. Fourteen weeks has proved to be a successful intervention period in previous research (Schinke et al., 1981). Attendance records were kept for all participants.

The development group intervention is similar to the cognitive-behavioral group learning approach successfully utilized by Schinke et al. (1981). The development group attempted to alter dysfunctional behavior through teaching group members to recognize areas of difficulty, improving problem-solving skills, and the development of action plans within the context of a structured emotionally support group (Casto, 1985). Also, interpersonal and communication skills are developed and improved. The goal of this intervention was to improve the participant's ability to function in an independent manner as possible. The comparison group members received services similar to those received by the development group members with the exception of the group intervention component of the program. Following the 14-week intervention period, members of both groups were again requested to complete the entire assessment battery specified earlier.

**Instrumentation**

**Center for Epidemiological Studies Depression Scale (CES-D Scale)**

The CES-D scale is a 20-item Likert-type scale. Subjects are asked to rate how often the given statements apply to the way they felt during the past week. This scale was specifically designed for the general population, not a psychiatric population. The scale has been found to be appropriate for English-speaking Whites and Blacks, males and females, and a wide range of age and SES groups. Three-month test-
retest reliability for this scale is .48. This test-retest reliability is adequate since this instrument assesses depressive symptoms experienced within the past week. There is a substantial construct validity; clinical and self-report data reveal excellent concurrent validity. Additionally, the CES-D scale demonstrates discriminant validity between the general population and a psychiatric inpatient population (Radloff, 1977).

State-Trait Anxiety Inventory (STAI)

This scale consists of a trait anxiety (A-Trait) subscale and a state anxiety (A-State) subscale. Each subscale contains 20 short, descriptive statements. On the state anxiety subscale, subjects are asked to rate how the statements apply to them at the moment (not at all, somewhat, moderately so, very much so). On the trait anxiety subscale, subjects are instructed to rate how the statements generally apply to them (not at all, somewhat, moderately so, very much so). Alpha coefficients for the STAI range from .83 to .92, indicating satisfactory internal consistency for both subscales. Test-retest reliability for the trait anxiety subscale ranges from .73 to .81. Test-retest reliabilities for the state anxiety subscale range from .11 to .54. This is not surprising since this subscale is designed to measure state or situational anxiety.

Construct validity for both subscales has been established through original item selection and item-retest correlations. Concurrent validity for the trait anxiety subscale has been documented through high correlations with other anxiety self-report instruments. Construct validity for the state anxiety subscale has been demonstrated by contriving experimental situations which would be expected to raise or
lower anxiety and then evaluating their effect upon scores on this subscale. Additionally, both subscales have demonstrated discriminant validity (Spielberger et al., 1970).

Rathus Assertiveness Schedule (RAS)

The Rathus Assertiveness Schedule (Rathus, 1973) is a 30-item Likert-type scale. Subjects are asked to rate how characteristic they feel 30 sentences are of themselves. The RAS has test-retest reliability of .73 and .77 split-half reliability. Concurrent validity has been demonstrated by correlating RAS scores with observer's independent ratings of assertiveness (Rathus, 1973). Additionally, RAS scores of psychiatric patients have been found to be highly correlated ($r = .80$) with therapists' ratings of assertiveness (Rathus & Nevid, 1977). Construct validity has been documented by Blanchard (1979). Working with a group of dental students on probation for sub-assertiveness, he found that RAS scores following assertiveness training successfully discriminated between students who did or did not increase their assertive behavior to the point at which they were not terminated from their studies.

Adolescent Life Change Event Scale

This instrument is very similar to the Social Readjustment Rating Questionnaire (Holmes & Rahe, 1967), except that it was specifically designed for adolescents. The Adolescent Life Change Event Scale (Menendez et al., 1980) consists of 38 life-change events. Subjects are asked to indicate which events they have experienced in the past year. Each event has been assigned a weighting (range 98 to 25), with more stressful events having a higher weighting. The weightings were
developed by Yeaworth, York, Hussey, Ingle, and Goodwin (1980), they asked adolescents to rate how stressful they would find the various events. Test-retest reliability for this scale is .83 (Carlson, Kaiser, Yeaworth, & Carlson, 1984).

Self-Esteem Scale

The Self-Esteem Scale (Rosenberg, 1965) consists of 10 self-descriptive sentences. Subjects are instructed to rate how strongly they feel each sentence applies to themselves (strongly agree, agree, disagree, strongly disagree). This scale proposes to measure the amount of self-worth and importance possessed by an individual. Test-retest reliability of .85 has been documented in a study by Silber and Tippett (1965). Concurrent validity for this scale has been demonstrated through significant correlations between scale scores and depression, depressive affect, psychosomatic symptoms, and an individual's perceived leadership ability (Rosenberg, 1965). Robinson and Shaver (1969) assert that this is a well-constructed scale appropriate for high school students.

Support Scale

The Support Scale (Wazlavek, 1986) is a seven-item Likert-type scale designed to assess the amount of social support an individual feels they are receiving. Subjects are asked to rate on a scale of 1 to 7 (none to very much) how much support they perceive they receive from seven different sources (see Appendix E). The Support Scale is an unpublished instrument. Prior to this study, reliability and validity data were unavailable. Data collected during the present study revealed 14-week test-retest reliability of .63 (p = .00). Concurrent validity
was demonstrated through significant negative correlations with the STAI and the CES-D scale. Significant positive correlations were obtained between the Wazlavek Support Scale posttest scores and revised Kaplan Scale Total Posttest scores, session attendance, and subject marital status.

Revised Kaplan Scale

The Revised Kaplan Scale (Turner et al., 1983) is a modification of an instrument devised by Kaplan (1977). This scale has a Network dimension and a Love dimension. The Revised Kaplan Scale consists of nine sets of vignettes. Each vignette describes the amount of social support received by three individuals. A five-point scale is used by the subject to identify the description that best describes the amount of social support she perceives she receives. High correlations with other social support scores demonstrates construct validity. Additionally, concurrent validity has been demonstrated through significant negative correlations with measures of psychological distress. Internal consistency of .81 has been found using Cronbach's (1951) alpha (Turner et al., 1983). The shortened Kaplan Scale has demonstrated discriminant validity by significantly discriminating between normal and maladaptive mothers (Turner & Avison, 1985).
CHAPTER IV
ANALYSIS OF DATA AND RESULTS

The purpose of this study was to examine the effects of the development group intervention upon the psychological adjustment and perceived level of social support of the participants. Psychological adjustment was assessed with the following assessment instruments:

--Revised Kaplan Scale
--Adolescent Life Change Event Scale
--State-Trait Anxiety Inventory (STAI)
--Rathus Assertiveness Schedule
--Center for Epidemiological Studies Depression Scale (CES-D)
--Rosenberg Self-Esteem Scale
--Wazlavek Support Scale

Participation in the development group was compared with enrollment in a comparison group.

Description of the Sample

Table 1 provides a summary of participant sociodemographic variables by group. Tests of proportions (Glass & Stanley, 1970) performed upon the sociodemographic data presented in Table 1 failed to reveal any significant differences between the development group and the control group. Table 2 presents the ANOVA F values and associated significance levels for participant demographic data by group. Comparison group members were significantly older than development group members \((p = .008)\). Likewise, the offspring of comparison group members were significantly older than the offspring of development group members \((p = .008)\).

To assess effects of participation in the development group compared to participation in the comparison group, analyses of covariance
Table 1

Incidence of Participant Sociodemographic Characteristics by Group

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Comparison group</th>
<th>Experimental group</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(n = 16)</td>
<td>(n = 16)</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>%</td>
</tr>
<tr>
<td>Race</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-- White</td>
<td>11</td>
<td>68.75</td>
</tr>
<tr>
<td>-- Black</td>
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<td>-- Hispanic</td>
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<td>-- Other</td>
<td>0</td>
<td>0</td>
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<tr>
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<td></td>
</tr>
<tr>
<td>-- Married</td>
<td>6</td>
<td>37.5</td>
</tr>
<tr>
<td>-- Single</td>
<td>10</td>
<td>62.5</td>
</tr>
<tr>
<td>Previous Pregnancies</td>
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<td></td>
</tr>
<tr>
<td>-- Yes</td>
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<td>0</td>
</tr>
<tr>
<td>Experienced by Subject</td>
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<td></td>
</tr>
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<td>100</td>
</tr>
<tr>
<td>Subject Status at Pretest</td>
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<td></td>
</tr>
<tr>
<td>-- Pregnant Mother</td>
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<td>50</td>
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<tr>
<td>Subject Receiving Welfare</td>
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</tr>
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<td>-- Yes</td>
<td>7</td>
<td>43.75</td>
</tr>
<tr>
<td>-- No</td>
<td>9</td>
<td>56.25</td>
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<tr>
<td>Subject's Parents Receiving Welfare</td>
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<td>14</td>
<td>87.5</td>
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<tr>
<td>Parents' Marital Status</td>
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<td></td>
</tr>
<tr>
<td>-- Married</td>
<td>10</td>
<td>62.5</td>
</tr>
<tr>
<td>-- Divorced/ Separated/ Deceased</td>
<td>6</td>
<td>37.5</td>
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</table>
Table 2
Analysis of Variance F Values and Associated Significance of Participant Demographic Variables by Group at Pretest

<table>
<thead>
<tr>
<th></th>
<th>Comparison group (n = 16)</th>
<th>Experimental group (n = 16)</th>
<th>ANOVA</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
</tr>
<tr>
<td>Participant Age</td>
<td>205.38</td>
<td>12.83</td>
<td>192.75</td>
</tr>
<tr>
<td>in Months</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Months Pregnant</td>
<td>5.38</td>
<td>2.26</td>
<td>5.78</td>
</tr>
<tr>
<td>Age in Months</td>
<td>12.50</td>
<td>8.62</td>
<td>2.29</td>
</tr>
<tr>
<td>of Offspring</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*P < .01

(ANCOVA) were performed upon the outcome measures with pretest data serving as covariates. Table 3 summarizes the F values and associated levels of significance for these analyses. There were no significant differences between the development group and the comparison group on any outcome measure.

Due to the significant difference between the age of development and comparison group members, analyses of covariance (ANCOVA) were performed to determine if there were any significant differences between the posttest scores of the development and comparison group, with pretest scores and age serving as covariates. The results revealed that the comparison group had significantly higher Wazlavek Support Scale posttest scores (p = .040) and significantly lower CES-D posttest scores (p = .031). There were no other significant differences between the posttest scores of the development and comparison groups.
Table 3
Analysis of Covariance F Values and Associated Significance Levels of Posttest Data with Pretest Data as Covariates

<table>
<thead>
<tr>
<th></th>
<th>Comparison group (n = 16)</th>
<th>Experimental group (n = 16)</th>
<th>ANCOVA</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pretest</td>
<td>Posttest</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
</tr>
<tr>
<td>Rathus</td>
<td>2.43</td>
<td>20.17</td>
<td>.21</td>
</tr>
<tr>
<td>Wazlavek Support Scale</td>
<td>31.31</td>
<td>6.48</td>
<td>32.94</td>
</tr>
<tr>
<td>STAI-1(State)</td>
<td>38.75</td>
<td>10.29</td>
<td>35.75</td>
</tr>
<tr>
<td>STAI-2(Trait)</td>
<td>44.73</td>
<td>9.66</td>
<td>39.67</td>
</tr>
<tr>
<td>Self-Esteem</td>
<td>40.06</td>
<td>7.72</td>
<td>41.75</td>
</tr>
<tr>
<td>CES-D</td>
<td>19.44</td>
<td>10.56</td>
<td>14.56</td>
</tr>
<tr>
<td>Life Change Event Scale</td>
<td>392.06</td>
<td>174.49</td>
<td>381.19</td>
</tr>
<tr>
<td>Revised Kaplan Total Score</td>
<td>31.85</td>
<td>5.47</td>
<td>34.15</td>
</tr>
<tr>
<td>Kaplan Network Dimension</td>
<td>9.77</td>
<td>2.45</td>
<td>10.92</td>
</tr>
<tr>
<td>Kaplan Love Dimension</td>
<td>22.08</td>
<td>3.43</td>
<td>23.23</td>
</tr>
</tbody>
</table>
T-tests were performed to determine if there were significant differences between the pretest data of the development group and comparison group. These same analyses were performed upon the posttest data of the development group and comparison group. These analyses did not reveal any significant differences between the development group and the comparison group.

Dependent t-tests were performed to determine if there were significant changes between the development group pretest and posttest data. No significant differences were found between the development group pretest and posttest data. Dependent t-tests performed upon the comparison group members demonstrated a significant increase on the Revised Kaplan Scale total score ($p = .05$) between the pretest and posttest. Additionally, the comparison group evidenced a significant decrease between the pretest and posttest on the CES-D scale ($p = .05$).

Analyses of variance (ANOVA) were conducted to determine if there were significant differences between the pretest data of the first and second development groups and between the posttest data of the first and second development groups. The same analyses were conducted between the first and second comparison groups. No significant differences were found between the posttest data of the first and second development groups. Analysis of the pretest data revealed that the first development group had higher Adolescent Life Change Event Scale scores ($p = .039$) than the second development group. There were no significant differences between the first and second comparison groups.

No significant differences were found between the data of the pregnant adolescents and adolescent mothers on any pretest or posttest assessment instrument. Table 4 summarizes the pretest data of all
## Table 4
Means and Standard Deviations for Pretest Data of Married and Single Subjects

<table>
<thead>
<tr>
<th>Pretest data</th>
<th>Married subjects (n = 10)</th>
<th>Single subjects (n = 22)</th>
<th>t-test probability</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
</tr>
<tr>
<td>Rathus</td>
<td>-2.88</td>
<td>16.29</td>
<td>5.57</td>
</tr>
<tr>
<td>Wazlavec Support Scale</td>
<td>34.30</td>
<td>6.68</td>
<td>29.64</td>
</tr>
<tr>
<td>STAI-1(State)</td>
<td>34.40</td>
<td>8.26</td>
<td>40.68</td>
</tr>
<tr>
<td>STAI-2(Trait)</td>
<td>38.30</td>
<td>6.27</td>
<td>45.05</td>
</tr>
<tr>
<td>Self-Esteem</td>
<td>42.60</td>
<td>6.19</td>
<td>38.68</td>
</tr>
<tr>
<td>CES-D</td>
<td>15.30</td>
<td>10.14</td>
<td>19.91</td>
</tr>
<tr>
<td>Life Change Event Scale</td>
<td>403.80</td>
<td>115.92</td>
<td>477.90</td>
</tr>
<tr>
<td>Revised Kaplan Total Score</td>
<td>32.11</td>
<td>5.67</td>
<td>31.79</td>
</tr>
<tr>
<td>Kaplan Network Dimension</td>
<td>9.78</td>
<td>2.95</td>
<td>10.26</td>
</tr>
<tr>
<td>Kaplan Love Dimension</td>
<td>22.33</td>
<td>3.67</td>
<td>21.53</td>
</tr>
</tbody>
</table>

*p < .05
married and single subjects and t-test probabilities. Single subjects evidenced significantly higher STAI-State scores ($p = .029$). There were no significant differences between the ages of married and single subjects or between the ages of the offspring of married and single subjects.

Table 5 summarizes the posttest data of married and single subjects and t-test probabilities. The married subjects demonstrated significantly higher Wazlavek Support Scale scores at posttest ($p = .001$). Single subjects revealed significantly higher STAI-State scores ($p = .040$) and significantly higher CES-D scores ($p = .012$).

To assess possible differences between the effects of participation in the development group based upon marital status, separate analyses of covariance (ANCOVA) were performed upon the posttest data of single and married subjects, with pretest assessment scores serving as covariates. Single subjects enrolled in the comparison group demonstrated significantly higher posttest scores on the Network dimension of the Revised Kaplan Scale ($p = .015$), compared to single subjects in the development group. Married subjects in the development group evidenced Rathus posttest scores significantly higher than those of married subjects in the comparison group ($p = .042$). A t-test was performed to determine if there was a significant difference between the age of single and married participants in the development group. Likewise, a t-test was performed to determine if there was a significant difference between the age of offspring of single and married development group members. There were no significant differences between the age or the age of the offspring of the single and married participants in the development group. These same analyses also failed to reveal any
### Table 5
Means and Standard Deviations for Posttest Data of Married and Single Subjects

<table>
<thead>
<tr>
<th>Posttest data</th>
<th>Married subjects (n = 10)</th>
<th>Single subjects (n = 22)</th>
<th>t-test probability</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean  SD</td>
<td>Mean  SD</td>
<td></td>
</tr>
<tr>
<td>Rathus</td>
<td>-1.0  18.32</td>
<td>5.74  25.94</td>
<td>.438</td>
</tr>
<tr>
<td>Wazlavek Support Scale</td>
<td>36.00  3.89</td>
<td>29.14  6.61</td>
<td>.001**</td>
</tr>
<tr>
<td>STAI-1(State)</td>
<td>33.00  10.31</td>
<td>39.14  10.63</td>
<td>.140</td>
</tr>
<tr>
<td>STAI-2(Trait)</td>
<td>35.20  9.11</td>
<td>43.05  9.73</td>
<td>.040*</td>
</tr>
<tr>
<td>Self-Esteem</td>
<td>43.50  4.67</td>
<td>41.82  6.72</td>
<td>.422</td>
</tr>
<tr>
<td>CES-D</td>
<td>11.20  5.71</td>
<td>18.55  9.66</td>
<td>.012**</td>
</tr>
<tr>
<td>Life Change Event Scale</td>
<td>311.70  204.35</td>
<td>475.91  325.94</td>
<td>.095</td>
</tr>
<tr>
<td>Revised Kaplan Total Score</td>
<td>34.30  5.83</td>
<td>32.73  6.76</td>
<td>.509</td>
</tr>
<tr>
<td>Kaplan Network Dimension</td>
<td>10.30  3.67</td>
<td>10.64  2.80</td>
<td>.787</td>
</tr>
<tr>
<td>Kaplan Love Dimension</td>
<td>24.00  3.68</td>
<td>22.09  4.40</td>
<td>.216</td>
</tr>
</tbody>
</table>

* p < .05

** p < .01
significant differences between the single and married comparison group members.

A t-test revealed that married subjects in the development group attended significantly more sessions than single subjects enrolled in the development group ($p = .026$).

T-tests were performed to determine if there were significant differences between the pre- and posttest data of development group members who attended nine or more sessions and members who attended less than nine sessions. There were no significant differences between the pretest data of these two groups. Development group members who attended nine or more sessions scored significantly lower on the Rosenberg Self-Esteem Scale than development group members who attended less than nine sessions ($p = .045$). There were no other significant differences found between these two groups.

One way analyses of variance (ANOVA) were performed to ascertain if there were significant differences between the assessment scores of subjects 196 months of age and older and subjects less than 196 months of age. Subjects less than 196 months of age revealed significantly higher Adolescent Life Change Event Scale pretest scores ($p = .048$).

A correlation matrix for all sociodemographic data, pretest scores, and posttest scores is represented by Table 6. Test retest correlations for all assessment instruments are significant at the .01 level.
### Table 6

**Correlation Matrix of Sociodemographic Variables, Pretest Data, Posttest Data and Associated Probability Levels**

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1= white, 2 = non-white</td>
<td>1.0</td>
<td>.48</td>
<td>.01**</td>
<td>.65</td>
<td>.86</td>
<td>.99</td>
<td>.25</td>
<td>.91</td>
<td>.62</td>
<td>-.15</td>
<td>-.54</td>
<td>.73</td>
<td>.97</td>
<td>.30</td>
<td>.16</td>
<td>.45</td>
<td>.64</td>
<td>-.59</td>
<td>-.31</td>
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<tr>
<td>1= white, 2 = non-white</td>
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<td>.94</td>
<td>-.22</td>
<td>.05*</td>
<td>-.76</td>
<td>.99</td>
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<td>Rashzu pre</td>
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<td>.42</td>
<td>.41</td>
<td>-.04*</td>
<td>-.97</td>
<td>.60</td>
<td>1.0</td>
<td>-.82</td>
<td>.00**</td>
<td>-.44</td>
<td>.71</td>
<td>.99</td>
<td>.29</td>
<td>.11</td>
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<td>-.20</td>
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CHAPTER V
DISCUSSION

This study was conducted to evaluate the efficacy of the development group intervention with pregnant adolescents and adolescent mothers. This chapter will summarize and discuss the findings of the study and present suggestions for future research.

Summary

This study was designed to evaluate the effect of the development group intervention upon the psychological adjustment of pregnant adolescents and adolescent mothers. Participation in the development group was compared with enrollment in a comparison group. Comparison group members received services similar to those received by the experimental group with the exception of participation in the development group. This allowed for a direct evaluation of the effects of participation in the development group.

The experimental group was comprised of 16 adolescents attending alternative high schools in Ogden, Utah. All participants were enrolled in Project TEAM (Team Education for Adolescent Mothers), a regional comprehensive service program for pregnant adolescents and adolescent mothers. In addition to receiving the standard services provided to all participants enrolled in Project TEAM, the experimental group members participated in the development group.

The comparison group consisted of 16 adolescents attending alternative high schools in Ogden, Utah. All comparison group subjects received services similar to those offered through Project TEAM, with the exception of participation in the development group.
Prior to the first development group session, demographic data was collected for all subjects, and all subjects completed a battery of self-report questionnaires assessing psychological adjustment and perceived level of social support. The experimental group members then began their participation in the development group. The development group met once a week for 14 consecutive weeks. During this period, the comparison group members continued receiving services similar to those received by the experimental group with the exception of participation in the development group. At the end of the development group intervention, participants in the experimental and comparison groups again completed the self-report assessment battery.

The following analyses were performed upon the demographic data and self-report questionnaire scores:

1. Tests of proportions were performed upon dichotomous sociodemographic data to determine if significant differences existed between the experimental and comparison groups.

2. ANOVAs were run on participant age, months pregnant, and age of offspring by group.

3. ANCOVAs were run on posttest assessment battery scores, with pretest scores serving as covariates by group.

4. ANCOVAs were run on posttest assessment battery scores with pretest scores and participant age serving as covariates.

5. T-tests were performed to determine if there were significant differences between the pretest data of the development group and the comparison group. These same analyses were performed upon the posttest data.

6. Dependent t-tests were performed to determine if there were significant differences between the pretest and posttest data of the development group. These same analyses were performed upon the comparison group pretest and posttest data.

7. T-tests were performed to determine if there were significant differences between the age of offspring of single and married participants in the development group. These same analyses were performed upon the data of the married and single comparison group members.
8. ANOVAs were run to determine if there were significant differences between the pretest data of the first and second development groups and between the posttest data of the first and second development groups. The same analyses were conducted between the first and second comparison groups.

9. T-tests were performed to determine if there were significant differences between the data of the pregnant adolescents and adolescent mothers.

10. T-tests were performed to determine if there were significant differences between the data of single and married subjects.

11. T-tests were performed to determine if there were significant differences between the age and age of offspring of single and married subjects.

12. ANCOVAs were performed using only the data of married subjects upon posttest data with pretest data serving as covariates by group. The same analyses were performed utilizing only the data of single subjects.

13. A t-test was performed to determine if there was a significant difference between the number of development group sessions attended by the married and single development group participants.

14. T-tests were performed to determine if there were significant differences between the pretest or posttest data of development group members who attended nine or more sessions and development group members who attended less than nine sessions.

15. ANOVAs were performed to determine if there were significant differences between the pretest or posttest assessment scores of subjects 196 months of age and older and subjects less than 196 months of age.

16. A correlation matrix was computed using all sociodemographic data, pretest scores, and posttest scores.

The major results of this data (ANCOVAs on posttest assessment scores with pretest scores as covariates) failed to reveal any statistically significant differences between participation in the development and participation in the comparison group. Therefore, the null hypotheses were accepted. Surprisingly, ANCOVAs performed upon the posttest assessment scores with pretest assessment scores and age as covariates by group revealed that the comparison group members evidenced
significantly higher Wazlavek Support Scale posttest scores and significantly lower CES-D posttest scores.

**Discussion of Findings**

The primary analyses of this study revealed that participation in the development group did not significantly increase the perceived level of social support or the psychological adjustment of the participants when compared to enrollment in a comparison group. The failure of the development group members to demonstrate any significant improvements in regard to their psychological adjustment compared to the comparison group members may be due to the limited number of sessions. The development group met for 14 sessions and the participants attended an average of 9.44 sessions. When the attendance data of the two participants who attended less than seven of the first development group sessions and were then enrolled in the second development group are included, the average number of sessions attended increases to 10.13. However, it is speculated that these two participants would not derive any significant benefit from their enrollment in the first development group because of their poor attendance. Group members must attend the group sessions in order to participate and develop a sense of group cohesion (Yalom, 1970). It is possible that significant effects may have been found had the length of the intervention been increased. Attendance was significantly positively correlated with posttest levels of perceived social support and the inverse correlation between attendance and Trait anxiety approached significance (p = .09). There were no significant correlations between attendance and any pretest measure of psychological adjustment. These findings indicate that
increasing the number of development group sessions may increase the efficacy of this intervention. Indeed, most group interventions for this population consist of at least 20 sessions (Babikan & Goldman, 1971; Badger et al., 1976; Kilburn, 1983). Other group interventions for the population last 12 months (Polit & Kahn, 1985) to 18 months (Kaufman & Deutsch, 1967). Polit and Kahn (1985) assert that short-term interventions result in short-term effects. The need for long-term intervention with this population may be due to psychological correlates of adolescent pregnancy.

Several studies that have investigated the psychological adjustment of pregnant adolescents indicate that pregnant adolescents may exhibit a much higher incidence of Personality Disorders than that found in the general population (Kane, Lachenbruch, Lipton, & Baram, 1973; Kane et al., 1974; Zongker, 1977, 1980). A critical Personality disorder diagnostic criteria is the presence of pervasive long-term maladaptive functioning (American Psychiatric Association, 1987). If participants in the present study suffer an incidence of Personality Disorders similar to that found in previous studies, the failure of the 14-week development group to demonstrate significant changes in the participants' psychological adjustment would not be surprising. The treatment of individuals diagnosed with Personality Disorders is extremely difficult (Health Sciences Consortium, 1982).

Another possible explanation for the failure of the experimental group to demonstrate any significant benefit from the development group experience is the age difference between comparison group members and development group members. The comparison group members were significantly older than the development group members. It would be
expected that as the age of the adolescent increases, there would be a concurrent increase in her psychological, emotional, and cognitive maturity. The lower maturity level of the younger adolescent may make the already stressful experience of adolescent pregnancy even more distressing. Indeed, the younger adolescents demonstrated significantly higher levels of stress as measured by the Adolescent Life Change Event Scale compared to the older adolescents. This increased stress coupled with lower levels of psychological and cognitive maturity may make treatment of the younger adolescent more difficult.

The absence of a significant difference between the development group and the comparison group may also be due to the similarity between the development group intervention and the Young Mothers Class attended by 10 of the comparison group members. In addition to their participation in the Project TEAM program, 10 members of the comparison group were enrolled in a Young Mothers Class offered by their high school. The Young Mothers Class did not follow a specific format. This class was unstructured and designed to meet the specific needs of the members. Material for the class was selected based upon the suggestions made by the class members. Topics covered included: labor, delivery, nutrition, parenting, child development, communication, relationships, and finances. Additionally, the participants discussed goals, values, and needs. The class leader reports that at least once a month the class meeting resembled a peer support counseling group. Clearly, there is some overlap between the development group and the Young Mothers Class. Moreover, this class met for 70 minutes every schoolday, whereas the development group met only once a week. It is speculated that a significant difference between the development group and the comparison
group may have been offset by the participation of 10 of the comparison group members in the Young Mothers Class.

Another factor that may have masked some of the positive effects of the development group intervention is the higher proportion of unmarried subjects in the development group. Thirty-eight percent of the comparison group members were married, compared to only 25% of the development group members. Previous research has indicated that single adolescent mothers may experience more emotional difficulties than married adolescent mothers. The lower level of psychological adjustment found among single adolescent mothers may be a result of not receiving the same degree of social support as married adolescent mothers (Zongker, 1980). Adequate social support from significant others increases the probability that the adolescent will successfully adapt to the maternal role (Phipps-Yonas, 1980). Barth et al. (1983) have found social support to be the best predictor of psychological adjustment among pregnant adolescents and adolescent mothers. Similarly, the results of the present research revealed significant negative correlations between perceived level of social support and anxiety, and depression.

Single subjects demonstrated significantly higher State anxiety pretest scores and significantly higher State anxiety and CES-D posttest scores when compared to married subjects. Married subjects revealed significantly higher levels of perceived social support at posttest. These findings are in harmony with previous research that has compared the psychological adjustment of married and single adolescent mothers. Zongker (1980) found that scores of single adolescent mothers on the Tennessee Self Concept Scale indicated that they experienced
significantly more anxiety and depression than married adolescent mothers. Additionally, the single subjects evidenced significantly lower scores on a subscale assessing social relationships. In general, the scoring profiles of the single adolescent mothers were similar to those of individuals experiencing serious emotional problems. Conversely, the married adolescent mothers revealed normal profiles. This data, and the results of the present study, indicate that married adolescent mothers and married pregnant adolescents have higher levels of psychological adjustment and social support than their unmarried counterparts.

ANCOVAs utilizing only the data of the married subjects revealed that the married development group members demonstrated significant increases in their level of assertiveness compared to married control group members. Conversely, single subjects in the comparison group demonstrated significantly higher levels of perceived social support on the Network dimension of the Revised Kaplan Scale when compared to the single subjects in the development group. The higher level of perceived social support among the unmarried comparison group members may be a result of their daily participation in the Young Mothers Class. Additionally, the married development group members attended significantly more sessions than the unmarried development group members. These findings indicate that married pregnant adolescents and married adolescent mothers may benefit more from participation in the development group than their unmarried counterparts. The higher levels of psychological maladjustment found among unmarried adolescent mothers and unmarried pregnant adolescents may in some way inhibit them from deriving any beneficial effects from the development group experience.
Finally, it is possible that participation in the development group may have had beneficial effects, but the assessment instruments utilized were not sensitive enough to demonstrate statistical significance. Kaufman and Deutsch (1967) failed to demonstrate statistical validity for their group intervention with pregnant adolescents. Nevertheless, the authors describe their results as positive. When examining the efficacy of group interventions, Corey and Corey (1987) recommend the use of subjective evaluation measures because objective assessment instruments are not sensitive enough to demonstrate empirical validity.

Methodological Limitations

The results of the present study must be interpreted with caution due to several methodological limitations. First, participation in the study and enrollment in the development group were voluntary. Therefore, group assignment was non-random. This self-selection for participation in the study could introduce bias (Klerman, Jekel, Currie, Gabrielson, & Sarrel, 1973). It is likely that adolescents who chose to participate in the development group may differ in some significant manner from the adolescents who elected to not participate in the development group. For instance, those who participated in the development group may have done so because they were experiencing more stress or feeling a greater need for social support as compared to the adolescents who did not enroll in the development group. In fact, compared to the comparison group, a greater number of development group members were receiving welfare, were from single parent homes, and were unmarried. All of these factors are associated with psychological distress (Radloff & Rae, 1979; Zongker, 1977, 1980). Also, self-
selection bias may be responsible for the development group members being significantly younger and having significantly younger offspring as compared to the comparison group. Unfortunately, non-random group assignment may be inevitable since participation in a group experience should be voluntary (Bates et al., 1982). Indeed, most outcome research examining the efficacy of interventions for pregnant adolescents is limited by non-random group assignment (Phipps-Yonas, 1980).

Another methodological limitation is the enrollment of 10 of the comparison group members in the Young Mothers Class. Unfortunately, there was a great deal of overlap between the Young Mothers Class and the development group. Therefore, the comparison group selected is not ideal. Finally, it is possible that the assessment instruments utilized in the present study were not sensitive enough to demonstrate statistical significance.

Recommendations for Future Research

Results from this research indicate that participation in the development group may differentially effect married and single adolescents. Therefore, future studies should compare a development group composed of only married participants with a development group containing only single participants. Additionally, future studies should ensure that there are no significant differences between the ages of the participants and the ages of the offspring of the participants in the development group and the comparison group.

Although no significant differences were found between the development group and the comparison group, there was a significant positive correlation between group attendance and perceived posttest
social support. This indicates that individual development group members may evidence greater positive outcomes if their absenteeism were decreased. Furthermore, the entire group would benefit from increased attendance since sporadic attendance inhibits the development of group cohesion (Corey & Corey, 1987). One strategy that has been successfully utilized to increase group attendance is the reinforcement of group attendance with a small stipend (Polit & Kahn, 1985). Also, future evaluations of the efficacy of the development group should increase the number of development group sessions. Several studies document positive outcomes after 20 sessions (Babikan & Goldman, 1971; Badger et al., 1976; Kilburn, 1983). Evaluating a group intervention that has not included a sufficient number of sessions is a serious methodological flaw in group outcome research (Mahler, 1969).

The use of objective measurement inventories to document the effectiveness of group interventions has generally met with disappointing results (Corey & Corey, 1987; Dinkmeyer & Muro, 1971). Therefore, future evaluations of the efficacy of the development group intervention should include subjective evaluation measures. Also, it would be beneficial to have the participants complete an evaluation at the end of each unit to determine which units are the most effective. Finally, future studies should include a comparison group that does not receive any type of group intervention similar to the development group experience (i.e., Young Mothers Class).
REFERENCES


APPENDICES
Appendix A

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* These units were selected for use in the present study.
Appendix B

Consent for Participation in the Project

Team Adolescent Development Group
CONSENT FOR PARTICIPATION IN THE PROJECT
TEAM ADOLESCENT DEVELOPMENT GROUP

This certifies that the purpose of the proposed research and the experimental procedures to be utilized have been explained to me, and I agree to participate in the Adolescent Development Group component of the Project TEAM program. I understand the group will meet one hour per week for 14 consecutive weeks. It is my understanding that the purpose of the Development Group is to assist me in setting goals and objectives, learn effective problem-solving skills, and to develop skills which may be beneficial in the future (i.e., developing effective job interviewing skills, improving parenting skills, etc.). I understand that the Development Group is not a therapy or counseling group; however, group members may learn more about themselves through their participation in the group. Prior to the onset of the Development Group experience, I understand that I will be asked to complete the following brief self-report questionnaires:

-- Revised Kaplan Scale
-- Adolescent Life change Event Scale
-- State-Trait Anxiety Scale
-- Rathus Assertiveness Schedule
-- Center for Epidemiological Studies-Depression Scale
-- Personal Feelings Scale
-- Support Scale

I have been informed that it will take approximately one hour to complete this entire battery of tests. At the end of the 14-week period, I understand that I will again be requested to complete the tests listed above (approximate time required, one hour). The results of these tests will be used for research purposes only. I understand that all results will remain confidential. I also understand I may withdraw without prejudice from the program at any time.

Date: ________________________________

Participant's Signature: ________________________________
Appendix C

Consent for Participation in the Project

Team Adolescent Research Project
CONSENT FOR PARTICIPATION IN THE PROJECT
TEAM ADOLESCENT RESEARCH PROJECT

This certifies that the purpose of the proposed research and the experimental procedures to be utilized have been explained to me, and I agree to participate in the Project TEAM Adolescent Research Project. The purpose of this research is to investigate emotional changes in adolescent mothers/pregnant adolescents across time. I understand that I will be asked to complete the following brief self-report questionnaires:

- Revised Kaplan Scale
- Adolescent Life change Event Scale
- State-Trait Anxiety Scale
- Rathus Assertiveness Schedule
- Center for Epidemiological Studies-Depression Scale
- Personal Feelings Scale
- Support Scale

I have been informed that it will take approximately one hour to complete this entire battery of tests. At the end of a 14-week period, I understand that I will again be requested to complete the tests listed above (approximate time required, one hour). The results of these tests will be used for research purposes only. I understand that all results will remain confidential. I also understand I may withdraw without prejudice from the program at any time.

Date: ______________________________________

Participant's Signature: ______________________________________
Appendix D

Parent Letter
Dear Parent:

This letter is to inform you of the research project in which we are seeking your daughter's participation. The purpose of the research is to study the effects of various counseling approaches. Your daughter is being asked to participate in the Development Group Component of the Project TEAM program. The group will meet one hour per week for 16 consecutive weeks. The purpose of the Development Group is to assist participants in setting goals and objectives, to learn effective problem-solving skills, and to develop skills which may be beneficial in the future (i.e., developing effective job interviewing skills, improving parenting skills, etc.). The Development Group is not a therapy or counseling group; however, group members may learn more about themselves through their participation in the group. Prior to the onset of the Development Group experience, the group members will be asked to complete the following brief self-report questionnaires:

- Revised Kaplan Scale
- Adolescent Life change Event Scale
- State-Trait Anxiety Scale
- Rathus Assertiveness Schedule
- Center for Epidemiological Studies-Depression Scale
- Personal Feelings Scale
- Support Scale

This entire battery of tests will take approximately one hour to complete. At the end of the 16-week period, the group members will again be requested to complete the tests listed above (approximate time required, one hour). The results of these tests will be used for research purposes only. The results will remain confidential. Your daughter may withdraw without prejudice from the program at any time. Should you have any questions, please feel free to call me.

Sincerely,

Helen Mitchell, Ph.D.
Team Project Director
(801) 393-7154
Appendix E

Support Scale
Support Scale

Circle the number that corresponds to the amount of support you feel you receive from the following sources:

1. How much support do you feel you receive from your Mother?
   1 2 3 4 5 6 7
   none moderate very much

2. How much support do you feel you receive from your Father?
   1 2 3 4 5 6 7
   none moderate very much

3. How much support do you feel you receive from your Brothers and/or Sisters?
   1 2 3 4 5 6 7
   none moderate very much

4. How much support do you feel you receive from relatives other than immediate family?
   1 2 3 4 5 6 7
   none moderate very much

5. How much support do you feel you receive from friends?
   1 2 3 4 5 6 7
   none moderate very much

6. How much support do you feel you receive from community organizations?
   1 2 3 4 5 6 7
   none moderate very much

7. How much support do you feel you receive from your church?
   1 2 3 4 5 6 7
   none moderate very much

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VITA

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DISSERTATION

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