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RECENT LIFE STRESS EVENTS AND ADOLESCENT PREGNANCY

BY

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B.A., Catholic University of America, 1964

THESIS
Submitted in partial fulfillment of the requirements for the Master of Science degree in Psychology in the Graduate Studies Program of the College of Arts and Sciences University of Central Florida Orlando, Florida

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ABSTRACT

Three groups of adolescent girls ages 15-18 were compared regarding recent life stresses. Group I consisted of 50 girls pregnant for the first time. Group II consisted of 50 girls who never had been pregnant but were sexually experienced (defined as having engaged in sexual intercourse). Group III consisted of 50 girls who never had engaged in sexual intercourse. All three groups were asked nine questions of demographic information and were administered the Recent Life Events Questionnaire. Subjects were asked to rate from 1-5 each event that had happened to them: for Group III the year before testing, for Group II the year before first engaging in sexual intercourse, and for Group I (who took the RLEQ twice) both the year before first intercourse and the year before first pregnancy. Results suggested that the rating of events did not discriminate between groups, but the number of actual events that had occurred in their lives did. Significant differences were noted between the pregnant group for the year before pregnancy, and Group III (the sexually inexperienced group). Significant differences also were noted among the three groups regarding adopted versus nonadopted status and the combined abuse index (index reflecting numbers of subjects who had been victims of either child abuse or sexual abuse at home). More girls in the pregnant group reported being adopted and being victims of abuse than would be
expected in the general population. The study suggests a profile of
girls at risk for adolescent pregnancy from stresses in their lives
and without regard to their sexual behavior.
ACKNOWLEDGMENTS

To my family,

my friends at BETA Center,

and the principal and students of Lake Brantley High School

for their invaluable assistance.
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INTRODUCTION

While adolescent pregnancy has been a long-standing problem in this country, its recent rise in numbers and percentages has become a source of increasing concern to Florida and the entire United States.

In the general population, the birth rate declined between 1960-1968, rose slightly during 1969-1970, declined again between 1971-1976, and rose slightly from 1977-1979. However, the birth rate for unmarried girls 19 years and younger has continued to rise from 1955-1979, the last year for which statistics are available (Bureau of the Census, 1982; U.S. Department of Health and Human Services, 1982). In Florida, the birth rate in the general population declined through 1976 and rose slightly from 1977-1980. But numbers of live births to unmarried teenagers have increased from 1970 to 1980 for all ages of young mothers between 10 and 19 years old (Department of Health and Rehabilitative Services, 1980). The Alan Guttmacher Institute (1976) estimated that approximately one million teenagers are becoming pregnant annually, with 600,000 resulting in live births. Indeed, one-fifth of all U.S. births are to teenagers. Births among unmarried teenagers 14-17 years old have increased by 75% in the last 20 years. But mere numbers fail to capture the magnitude of the problem which is approaching unmanageable proportions.
Foster and Miller (1980) examined the literature and noted multiple factors as related to the increase in adolescent pregnancy: there are more adolescents today; age of menarche has dropped; societal standards restrict access to contraceptive information; there is misinformation about contraception; peer pressure; younger age for beginning sexual activity; self-control not as well developed in younger versus older adolescents; pregnancy believed to secure commitment from partner; baby wanted to fill love void; sexual stimulation of media; and mobility.

Zelnik, Kim and Kantner (1979) noted increases in premarital sexual activity among teenagers. Approximately one-fifth of teenagers have had intercourse by age 16, two-thirds by 19. More than one-fourth of sexually active teenagers are premaritally pregnant by age 17, and one-third by 19. Despite an increase in the number of teens using contraceptives and using them more consistently (Zelnik & Kantner, 1980), pregnancy rates have continued to rise. In part, this may relate to some girls’ hesitation to use the pill, the most effective contraceptive to date (Zelnik & Kantner, 1980) and in part to the likelihood that half of all initial premarital teenage pregnancies will occur within six months of initiating intercourse, one-fifth within a month of initiating intercourse, times when they tend not to use contraception (Zabin, Kantner, & Zelnik, 1979). So even though more teens are using contraceptives effectively, many tend not to use them when initiating intercourse and thus are at risk for pregnancy for some time.
In various studies, Kantner and Zelnik and their associates noted trends that seem to contradict other authors—e.g., Foster and Miller (1980). However, Kantner and Zelnik present empirical studies whereas others simply examined the literature, most of which is without a data base and represents non-empirical speculation. In this paper, where studies contained a data base, specific results will be presented.

Foster and Miller (1980) cited two patterns of sexual behavior among adolescents: many short-term involvements with no meaningful relationship (more at risk for pregnancy since contraception tends not to be used), and one long-term relationship in which there is more frequent but protected sex. DeAmicis, Klorman, Hess, and McAnarney (1981) studied 44 pregnant and 11 non-pregnant adolescents and concurred that the majority of pregnant subjects had been involved in extended and serious relationships, rather than involved with many partners. They also found the boyfriend to have responded positively to confirmation of the pregnancy, suggesting that the pregnant adolescent may have felt pressure from him for the pregnancy. What is most indicated by these studies is the complexity of the problem with which we are faced.

Hertz (1977) and Cvetkovich, Grote, Bjorseth, and Sarkissian (1975) acknowledged the high incidence of adolescent pregnancy and the seriousness of the attendant medical and social complications. Toxemias, stillbirths, newborn anomalies and perinatal deaths are more common among the adolescent than her adult counterpart (Fielding, 1978). Adolescent pregnancy remains the most common cause of school drop-out (Johnson, 1974); mothers ages 13–15 have less than 50% chance
of ever finishing high school (Jorgensen, King, & Torrey, 1980). The emotional stresses associated with adolescent pregnancy are well documented; in a case study investigating child abuse among five women, Foster and Miller (1980) found that three had been teenage mothers. The profound adjustments dictated by the sudden responsibility of unmarried motherhood, during a time of normal maturational stress, frequently prove overwhelming to the adolescent and taxing, in terms of the financial toll and social service needs, to the entire community.

**Etiology of Problem**

The following review of the literature is important because it reveals various approaches to the etiology of the problem of adolescent pregnancy. Historically, the approach to etiology has determined the approach to therapy. Since our therapeutic approaches seem less and less effective in dealing with this increasing sociological problem, etiology assumes added significance. At one extreme, studies that suggest there is no difference between a pregnant and non-pregnant adolescent except the pregnancy (Gordon, 1972) appear simplistic and limiting when viewed from a clinical perspective. A single causality approach fails to address the complexity of the problem, while a multiple causality approach, although more inclusive and realistic, adds to the confusion of therapeutic choices. It may be that our frustration with the problem reflects our futile attempts to find simple answers to a complex phenomenon.
Ignorance of Contraception

One popular theory regarding the causes of adolescent pregnancy is that the involved adolescent was ignorant of contraceptives and their proper use. The current literature, however, fails to substantiate this theory. Kane and Lachenbruch (1972), who have conducted some of the few controlled studies in this area, compared 99 single, white, pregnant adolescents with 79 non-pregnant, single, white adolescents of comparable ages; no other demographic information was mentioned. They found that lack of contraceptive information prior to pregnancy was not a significant factor. In another of their studies (1973) of 33 pregnant and 99 abortion patients, averaging 18 years of age, they reported that 81% of the pregnant group and 95% of the abortion group were knowledgeable about contraceptives, with 70% of the pregnant group and 87% of the abortion group knowing where to obtain them. Only 2% of the abortion group and 6% of the pregnant group reported no knowledge.

Wood, Shanmugan, and Meredith (1969) in a survey of 142 mothers who had risked premarital pregnancy reported that only 11 had used birth control effectively, despite the fact that two-thirds had some knowledge of contraceptives and their use. Cobliner (1974) conducted interviews with 211 single adolescents, pregnant for the first time. He observed that 91% of the pregnant adolescents had general knowledge of birth control, but only 17% made any effort to obtain contraceptives.

Goldsmith, Gabrielson, Gabrielson, Matthews, and Potts (1972) compared three groups of women: 210 nulliparous, 100 seeking abortion and 67 living in a maternity home, all matched for ages, ethnic and
socioeconomic backgrounds. On sexual and contraceptive knowledge, they respectively scored 70%, 60% and 65%, not demonstrating any statistical differences in knowledge among the three groups. In discussing the problem of adolescent pregnancy and the available literature, Cvetkovich et al. (1975) extolled the benefits of contraceptive education but concluded that many of the best-educated in the area of contraception do not use birth control. On the basis of his clinical experience, Notman (1975) observed that many with birth control knowledge did not use it. Hall (1977) reported that 80-90% of adolescents who became pregnant were sufficiently aware of contraceptive methods, but that knowledge did not translate into use of contraceptives since only 40% used contraception.

Furstenberg (1971) disagreed with the concept that premarital pregnancy is psychologically motivated, and suggested that it is only the result of premarital sexual activity. He studied 337 unmarried pregnant adolescents under the age of 18; 96% of his sample were black women of lower socioeconomic status. He found only 6% were unfamiliar with any method of contraception. However, practical knowledge was vague and access limited. He noted that among girls who had practiced even occasional birth control, 30% had avoided pregnancy for two years, whereas only 11% of those who had never used birth control had avoided pregnancy for two years. He further observed that when mothers were aware of their daughters' sexual activity, whether or not birth control had been discussed, birth control was used in 69% of the cases. In homes where mothers strongly disapproved of premarital sex, girls were far less likely (22%) to have used birth control. He also noted that
contraception was most likely to be used in more enduring, stable relationships, and that the boyfriend is critical in the decision to use contraceptives.

**Socioeconomic Causes**

Another theory, popular in the 1930s and 1940s, views adolescent pregnancy as a phenomenon of the lower socioeconomic class. In their review of the literature, Shaffer, Pettigrew, Wolkind, and Zajicek (1978), referring to adolescent pregnancy in England and Wales, postulated that early pregnancy is the common end result of a life beginning with social or family deprivation, proceeding to boredom and/or depression, continuing to heterosexual activity and ultimately to childbirth. Sarrel and Davis (1966) did a follow-up study of 100 women who had one illegitimate child. Five years later, 60% of the women were on welfare. Mothers on welfare averaged four children, whereas mothers with other means of support had 2.6 children, suggesting a correlation between numbers of out-of-wedlock pregnancies and subsequent low socioeconomic status.

Cobliner's 1974 study of 411 16-18 year old urban girls, mostly of lower socioeconomic status, found that only 10% ever had used contraceptives, suggesting that present socioeconomic status may affect contraceptive usage and therefore pregnancy rates. Kantner and Zelnik (1972) agreed that low socioeconomic status correlates with low rates of regular contraceptive use, but disagreed that promiscuity and adolescent pregnancy are related to socioeconomic status. Adolescents from poverty homes are only somewhat more likely to be sexually
experienced than more affluent adolescents (Kantner and Zelnik, 1973). They noted (1972) that poorer blacks, especially under 18 years old, are somewhat more likely to have had sex than are less poor blacks, and similarly adolescents who live in inner cities are somewhat more likely to have had sex than those who live elsewhere. Regular church attendance, rural background and high levels of confiding in parents associated negatively with sexual experience (1973) and education of the parent correlated positively with contraceptive use (1973).

But beyond socioeconomic considerations, Kantner and Zelnik suggested that racial differences exist. In their 1971 study of 3,132 whites and 1,479 blacks 15-19 years old, they found (1972 and 1973) that at any age blacks were about twice as likely as whites to report ever having had intercourse. Blacks reported having initial intercourse at earlier ages than whites, but having had fewer partners and less frequent intercourse than whites (1972). In their 1976 National Survey of Young Women, Kantner and Zelnik studied 2,193 adolescents ages 15-19. They acknowledged that both of their 1971 and 1976 studies involved an oversampling of blacks. The latter study reported an increase in premarital sexual activity from 30% to 43% among 15-19 year olds since 1971, with an increase in the proportion of premarital pregnancies among whites, but a decrease among blacks. Between 1976 and 1979, Zelnik and Kantner (1980) noted another increase in premarital sexual activity from 43% to 50% for that age group; virtually all of the increase was among never-married whites, while age at first intercourse remained the same (about 16.4 years for whites and 15.5 years for blacks).
Chilman (1980), in her review of the literature from 1970 to 1980, criticized Kantner and Zelnik's conclusions about racial differences and suggested that if they had controlled properly for the socioeconomic variable they would have found "few between-group differences owing to race per se" (p. 799). Chilman's observation is interesting because Kantner and Zelnik's tables listed most responses simply according to race. Chilman pointed out that if socioeconomic variables, such as living area (e.g., inner city), educational levels of parents, and incomes had been correlated with the responses, and racial considerations adjusted for those variables, race in itself would not have emerged as a significant factor. However, Kantner and Zelnik did attempt to control for those variables, and concluded there were racial differences, as mentioned above. These conflicting observations serve to emphasize the importance of further investigation to assess changing mores and such variables as race and socioeconomic status.

Emotionally Disturbed

Since the 1950s, several studies have tested the hypothesis that adolescents who become pregnant are more emotionally disturbed than adolescents who do not become pregnant. Older, uncontrolled studies (such as Fleck, Devanne, Hagerty, and Rekate, 1956) spoke of pregnancy as a neurotic solution to maladjustment in adolescence. Lewis, Klerman, Jekel, and Currie (1973) cautioned against such diagnoses and against assuming that "because . . . psychodynamic factors are associated with pregnancy in young girls that they are causative" (p. 22). However,
the attempt to determine if the pregnancy is intentional or accidental is important because it relates to therapeutic intervention design. If the pregnancy, with so many attendant problems, is intentional, perhaps psychopathology or at least maladaptation is implied, and psychotherapy would be the treatment of choice. On the other hand, if the pregnancy is merely accidental and the result of normal sexual activity at that age, then other intervention strategies might be more appropriate.

Shaffer et al. (1978) examined the literature investigating adolescent pregnancy and psychopathology. They noted a trend, in the recent literature, suggesting that pregnant adolescents are no more emotionally disturbed than non-pregnant adolescents. They pointed to methodological problems in this area of research: for example, difficulty in direct measurement of psychodynamic and other psychological constructs, lack of controls in many studies, and sampling problems (most of the studies were done in public health clinics, thereby producing an oversampling of black women, as compared with the general population). Further, studies frequently include other factors such as demographic and socioeconomic issues, which weaken the validity of their conclusions. Thus, studies to date in this area should be considered with caution.

Gottschalk, Titchener, Piker, and Stewart (1964) studied 76 black and white pregnant adolescents and 55 black and white nulliparous controls, matched for age, from the same school. They concluded that while there were some family differences, they could find no differences between the pregnant and non-pregnant groups in terms of behavioral or psychiatric disorders prior to the pregnancy. Kinch,
Waring, Love, and McMahon (1969) conclude that most pregnant teenagers are neither very disturbed nor very promiscuous. Hertz (1977) studied psychodynamic and psychosocial variables of 12 pregnant Israeli adolescents, ages 15-17. He found no indication of any gross psychiatric pathology or mental retardation in the group. Generally, the diagnosis was transient situational disturbance or adolescent adjustment reaction associated with the pregnancy. He did, however, note disturbed family relations.

Kane and Lachenbruch (1973) found more disturbance in a pregnancy-completing group than in an aborting group. They used a Neuroticism Scale Questionnaire to compare 99 single, white girls seeking abortion and 33 single girls completing pregnancy on factors of submissiveness versus dominance, sensitivity versus insensitivity, depression versus happy-go-lucky cheerfulness, and anxiety. Acting-out behavior was present in 15% of the abortion group and more than a third of the term group. Generally, they found the term group's neurotic scores in the pathologic range to be double that of the abortion group. Ages were not stated nor whether the groups were otherwise matched.

Babikian and Goldman (1971) participated in a project providing special obstetric services to 15 patients under the age of 17, and using a control group of 15 other pregnant adolescent patients not receiving the special services. The two groups were comprised of 13 blacks and 17 Puerto Ricans. In a one-hour psychiatric interview involving a mental status examination, three patients were diagnosed as schizophrenic, four as hysterical neurotic, five as behavior disorders of the unsocialized aggressive-reaction type; one had been hospitalized
for attempted suicide; three had histories of conversion symptoms and one suffered from psychophysiological disorders. The remaining 14 were seen as having transient situational disorders or adjustment reaction of adolescence associated with the pregnancy. No psychiatric differences were seen between the two groups, but ego function assessment showed 22 with extreme dependency needs, 19 with poor capacity for work and school, 19 with very low frustration tolerance, 15 with extremely poor judgment, and 13 with primitive defenses and marginal adjustment. They concluded that patients lacked adequate ego and superego structures. A comparison of diagnoses with a non-pregnant control group would have been helpful. In addition, this study, when compared with other studies, reflects a high percentage of pathologic diagnoses, which may be related to a hospital requirement for specific pathologic diagnosis of patients seen.

Various psychometric instruments have been utilized to test the hypothesis that pregnant adolescents are more emotionally disturbed than their non-pregnant peers. Inman (1977) studied 119 black 15-16 year olds of lower socioeconomic status, all of whom were unmarried and either pregnant for the first time or never pregnant. She used the California Psychological Inventory, Baucom's Masculinity and Femininity Scales, and a standard interview to study differences between pregnant adolescents carrying to term, pregnant adolescents terminating pregnancy, and never pregnant adolescents. She found no significant personality differences among the three groups, nor any differences in family relationships, as noted in the standard interviews. However, she did find more abortion than term girls reporting a meaningful
relationship with a father person. In her intensive study of 13 of the subjects, using the Thematic Apperception Test and extended interviews, she found important family role, life-status and attitudinal characteristics not assessed in the large group measures. She advocated a case-study approach rather than large group measures for future study.

Hussain, Gulati, Singh, and Moni (1976) used Alexander's Pass-Along Test to assess intelligence and the Rorschach to assess personality function in 34 pregnant, unwed Indian women, ages 14-35. In this sample, 45% had IQ's below 80, with the remaining 55% in the low normal-average ranges. General personality features included emotional immaturity with a tendency toward immediate gratification, ineffective ego, and poor emotional control. Neither specific diagnoses, hypothesis, nor controls were employed in this study. Abernethy, Robbins, Abernethy, Grunebaum, and Weiss (1975) constructed a projective test of 12 picture stimuli, similar to the Thematic Apperception Test, to assist in identifying women at high risk for contraceptively unprotected coitus. The test was administered to 85 women in a state mental hospital, ages 15-45. Results were correlated with a behavioral measure regarding risk for unwanted pregnancy. The new instrument was found to be useful for predicting this risk without having to rely on sexual history. Further studies, on non-hospitalized women, need to be conducted.

Several studies have utilized Rotter's Internal-External Control Scale to find personality orientations among adolescents who risk pregnancy. Hagelis (1973) studied 21 pregnant adolescents and 21 never pregnant consistent contraceptors, ages 15-19, regarding
heterosexual and parental relationships and locus of control, using Rotter's Internal-External Control Scale. He found no significant differences in the quality of the heterosexual or parental relationships between the two groups and no difference in locus of control. A majority of both groups were internally oriented. He concluded that neither group is emotionally disturbed. Segal and DuCette (1973) studied junior and senior high school girls, 92 from an all-black, low socioeconomic status school and 73 from a predominantly white, middle class school. In the black school, 20 girls had been pregnant while 9 from the predominantly white school had experienced pregnancy. No significant differences were noted between the two schools but the pregnant middle class girls were found externally oriented, as contrasted with the pregnant lower class girls who were internally oriented. The small number of pregnant subjects makes it difficult to generalize to other pregnant middle and lower class adolescents. McDonald (1970) studied 508 college women and observed that some form of contraception was used by internals (62%) and only 37% by externals. Lundy (1972), in another college population study of 600 midwestern female undergraduates, found that those using contraceptives were predominantly more internalizing than those not using contraceptives but sexually active. He also observed that the sexually active contraceptive users considered their parents permissive, while non-users considered their parents to be strict. Cochrane, Hanley, Michielutte, and Vincent (1973) evaluated 1,500 Costa Rican women who attended family planning clinics. They utilized a restricted version of Rotter's I-E Scale and concluded that clinic attenders were far less external
than those failing to attend family planning clinics. Hall (1977) administered Rotter's I-E Scale to 131 women presenting for pregnancy tests, with a mean age of 22.5 years. A significant relationship was found, with women not using contraceptives scoring in the externally oriented range. Greenberg, Loesch, and Lakin (1959) went so far as to suggest that the pregnancy might serve in a defense capacity to reduce anxiety and thus might function as a substitute for other symptom formation.

Even in the absence of overt psychosis or neurosis, however, none of the studies implied that adolescent pregnancy is a normal response to the maturational process.

One psychological construct that has been studied and related to adolescent pregnancy is self-concept. Kimball (cited in Von der Ahe, 1969) discussed the literature and concluded that nearly all unwed mothers have low self-esteem and little faith in their ability to win respect or love and affection from others. Abernethy et al. (1975) noted that low self-esteem seemed to be a primary mechanism relevant to risking unwanted pregnancy. They suggested that low self-esteem puts the adolescent at risk in at least two areas: inability to take responsibility for her sexual behavior and make appropriate contraceptive decisions, and intense need for male approval and attention, since her mother's and other women's approval, including her own, is devalued in her eyes. Zongher's North Florida study (1977) of 88 predominantly black pregnant adolescents and 108 controls, compared their self-concepts using the Tennessee Self-Concept Scale. He found significant differences between the two groups on half the variables, some
of which (personal worth, dissatisfaction with family relationships and with physical self, value as a family member, and defensiveness) may or may not predate the pregnancy. Other significant differences, however, such as personality disorders, are thought to have predated conception. He found twice as many deviant signs in the pregnancy group. He suggested that "general maladjustment, poor personality integration and deviant self-concept responses form a picture that indicates a serious degree of emotional disturbance" (pp. 486-487). He concluded that while the pregnancy may have been accidental, there were sufficient emotional deficits in the pregnant group to have produced an envisioned need for a child. It would be interesting to see if his results could be replicated in an urban, racially mixed group. Methodologically, however, since pregnant subjects are studied after the fact, it is difficult to determine whether emotional deficits cause and/or result from the pregnancy.

Kantner and Zelnik (1973), in a national survey of 4,611 young women ages 15-19, observed a significant relationship between contraceptive use and self-perception. Fifty-six percent of those failing to use contraception were confident that they could not conceive, while the remaining 44% considered themselves extremely susceptible to pregnancy and therefore used contraceptives more frequently. Cvetkovich et al. (1975) analyzed the literature and addressed cognitive functioning of adolescents as related to pregnancy-risking behavior. They noted that two aspects of normal adolescent egocentrism militate against decision-making in this area: (a) belief in an imaginary audience preoccupied with judging her conformity to
peer standards, regardless of her comfort with her sexual behavior, and (b) belief in the personal fable that she is immune from what happens to other people. They suggest that birth control education must take these aspects into account, rather than relying simply on dissemination of medical information. Gobliner (1974) suggested a cognitive approach to understanding adolescent pregnancy. He interviewed approximately 200 pregnant adolescents presenting for abortion. He noted several who were utilizing cognitive mechanisms such as belief without knowledge (believed they could not get pregnant), knowledge without belief (dismissed birth control information they had received), and figurative thinking, which mobilizes after the fact (risk-taking followed by abortion). He noted that operative thinking, which relates cause and effect and is anticipatory, is a hallmark of late adolescence in most people. As such, there are developmental cognitive difficulties in helping the sexually active adolescent avoid unwanted pregnancy.

**Parent-Child Stress**

Another theory of the etiology of adolescent pregnancy is that it arises, not from psychopathology in the individual but rather from psychopathology in the family. Past psychoanalytic literature frequently has mentioned that pregnancy may be a response to oral needs (Heiman & Levitt, 1960). Their clinical impressions of an unstated number of unmarried pregnant New York women, ages 12-40, go beyond suggesting a threatened mother-daughter relationship to stating that a very severely disturbed mother-daughter relationship exists, in which
for all intents the daughter has lost the mother, either physically or emotionally. The baby then becomes the incorporated and re-created lost love object, with subsequent reversal of mother-child roles—i.e., baby is created to nurture adolescent mother. Even in less disturbed adolescents, pregnancy and baby are seen as building a better relationship with mother by giving mother a gift, the baby. Regressive oral needs are thus met by the pregnancy. Abernethy et al. (1975) observed that alienation from an unnurturing mother negates any prospect of a normal maternal relationship because the daughter's dependency needs were unresolved in that relationship; at the same time, an abnormally intimate father-daughter relationship frequently causes anxiety and low self-esteem. The associated anxiety seemed to be temporarily relieved by sexually acting out with a boyfriend, representing a safer man than father. Pregnancy, in this view, is related to an unresolved oedipal fixation.

Several recent studies consider the Freudian etiology and look to disturbed family relationships to explain unwanted pregnancy.

Perez-Reyes and Falk (1973) found that just under half of the 61 girls presenting for abortion, ages 16 and younger, reported poor relationships with their parents, particularly their mothers. Interestingly, on a six-month follow-up, these same girls expressed more remorse and regret regarding termination of the pregnancy than did the others. However, their study reported on a highly selective sample which did not include all girls of those ages presenting for abortion, nor controls. While their insights and those of the following authors seem relevant to the problem, the conclusions have to be viewed with
caution because of lack of controls. Greenberg et al. (1959) observed evidence of disturbed mother-child relationships in most of 31 unmarried, pregnant, mostly white subjects, ages 15-30, with a mean age of 20. Mothers were described as "disinterested, inaccessible and unavailable" for problems (p. 298). In her discussion of teenage pregnancy, Notman (1975) agreed that some pregnancies represent an attempt to re-create the early mother-child relationship, with role reversals between the teenage mother and baby; she suggested that other pregnancies may arise from unconscious competitive feelings with the mother. Abernethy (1974) concurred and suggested that some family profiles are helpful in predicting girls at high risk for pregnancy, even without considering their sexual or contraceptive history. Profiles include hostility and distance in the parents' marriage, alienation from her mother who is an inadequate role model, and an intimate relationship with her father, which excluded her mother.

Blos (1969) discussed three constellations of female sexual acting-out. One pattern evidences failure in the pre-adolescent task of emotional separation from the pre-oedipal mother. In order to defend against regression and to ward off homosexual surrender, she seeks transient heterosexual relationships and gratification of infantile needs. A second pattern suggests lack of oedipal resolution. Blos feels that rage against the oedipal mother, who degrades the oedipal father, propels her into transient heterosexual relationships. A third pattern is a result of unassimilated trauma in which sexual acting-out, to rectify a past event, serves the ego. Blos thus
implicated parental relationships with the daughter as central to the problem of adolescent pregnancy.

Friedman (1969) stated that family constellations of pregnant adolescents include dominating, rejecting mothers and either passive, weak or absent fathers, or seductive and yet restrictive fathers. Such emotional deprivation in her parental relationships places her at risk for early unmarried pregnancy. Haagen, Rosenberg, and Richmond (1976) concurred that unresolved parent-child stress, particularly the frustrated need to be loved by one's mother, can motivate adolescent pregnancy. They designed a group therapy experience for nine pregnant 15-17 year olds to begin to repair the mother-daughter bond, and suggested such an approach might be helpful with other pregnant adolescents.

Hertz (1977) noted in his study of 12 pregnant adolescents, ages 15-17, that 75% came from broken homes. The remainder described their homes as being tense, with parents frequently fighting. Underlying conflict with their mothers generally was expressed, and family relationships were assessed as disturbed. One-third of the girls reported that their first sexual experience was precipitated by a fight at home, after which the girls felt rejected. Babikian and Goldman's 1971 study with 30 subjects associated adolescent pregnancy with problematic mother-child relationships, centering on conflicts regarding dependency versus separation and individuation, as well as identification and competition with the mother. Unresolved oedipal conflicts regarding the father also can relate to pregnancy. They noted too a preponderance of broken homes. Lewis et al. (1973) studied
25 pregnant adolescents referred to a consulting psychiatrist, out of a clinic group of 180 who were under 18 years old. Younger referred girls tended to be more disturbed than older referred girls. Clinical impressions involved the repeated history of maternal deprivation, with the unfulfilled yearning for closeness with mother as causative of her seeking early physical relationships with boys, which result in pregnancy. Nadelson (1975) discussed adolescent pregnancy as a reaction to parents who fail to facilitate separation, and the wish for a baby as regressive. Through pregnancy, the adolescent may be announcing her adulthood. Notman (1975) discussed the etiology of adolescent pregnancy and noted that either the adolescent girl or boy may be acting out the wishes of a parent or of the family for another baby. James and Meyerding (1977) studied the early histories of 136 adolescent and adult prostitutes and, as might be expected, found disturbed family relationships, and a higher percentage of incest in that group than for any other known population. Again, this implies the relevance of family relationships in adolescent sexual acting-out and in pregnancy-risking behavior. While most of these studies contained insightful clinical impressions, the small sample sizes and virtual lack of controls make it impossible to draw definitive conclusions from their work.

Life Changes

Few studies have explored the relationship of recent life changes (such as major physical illness, separation from a loved one, moving to a new community, changing school, loss of job, etc.) to onset of
pregnancy. Greenberg et al. (1959) noted the frequent coincidence of psychological illness and significant life experiences, such as separation. In a study of 31 pregnant unmarried women, ages 15-30, they found a high incidence of life changes within the six-month period preceding the pregnancy: 13 incidents (in 10 subjects) of loss by death of a significant person, 22 losses by separation other than death, 8 cases of threatened loss of a significant person, and one instance of equivalent separation (such as loss of job). However, no controls were used in this study and the small sample, as well as methodology (interview), render the results interesting but inconclusive.

Gottschalk et al. (1969) found a greater frequency of death of a significant person in the two years preceding the pregnancy among black subjects but not among whites. Lehfeldt (1971) included illness and/or death stress as factors in Willful Exposure to Unwanted Pregnancy (WEUP) in his study of 24 couples. DeAmicis et al. (1981) studied 44 pregnant and 11 non-pregnant, contraceptive-seeking adolescents, with an average age of 15.7 years. They found no evidence of precipitating psychological crises a year before the pregnancy, nor significant losses for the pregnant as compared with the non-pregnant group. Hall (1977) related life changes to unwanted pregnancy in a very fine controlled study of 167 women, presenting for pregnancy tests, with a mean age of 22.5 years. He reported no relationship between recent life changes and changes in sexual behavior or contraceptive use. However, his conclusions may be challenged if applied to an adolescent population, because it seems he did not cite
the most relevant life change questions for that population. Chalmers (1981) constructed a life event scale, similar to Holmes and Rahe (1967), for pregnant white South African women. It was administered to two groups of pregnant women: 92 without children and 75 with children, but ages of the women were not given. The author asked each woman to rate each of the 88 items from 1-10 to indicate seriousness of the item to her. The scale was constructed to try to correct many of the methodological and measurement difficulties of life event scales. Content validity and reliability measures were good on this scale. Her idea of having the subject rate the items, instead of ranking them as Holmes and Rahe did, was adapted to the present study in this paper.

Specific life events are considered by many authors, from clinical observation, to be precipitating factors in adolescent contraceptive risk (Castelnuovo-Tedesco & Long, 1971; Friedrich, 1970; Grover & Tinkham, 1975). But, as Hall (1977) pointed out, "This area is poorly researched, at present, and virtually no conclusions, based on empirical data, can as yet be found in the literature" (p. 2).

Loss and Depression

Related to the concept of recent life changes is the theory that loss and depression can precipitate exposure to unwanted pregnancy. Madison and Viola (1968) and Parkes (1972) documented that object loss causes varying degrees of depression in most individuals. Some depressions may reach the stage of psychopathology and require major intervention and therapy. Others, so depressed, may institute their own therapy by designing a replacement for their loss, which could
include an attempt to replace the loss of one person with another, even a baby.

As noted earlier, Greenberg et al. (1959) found a high incidence of love object loss by death, loss by separation, threatened loss or equivalent loss in the 31 pregnant subjects they studied, though without controls. Fifty percent of the losses occurred within three months prior to conception and 80% occurred within six months of conception. They further suggested that this group was especially sensitive to temporary separation (school, job, serious illness, boyfriend) and to permanent separation as in the death of a loved one. They theorized that pregnancy might partially represent re-internalization of the lost object or substitute object. They also suggested that the depression which follows an object loss may precipitate a state of hyperfertility. This psychophysiological basis may be implicated since conception frequently took place at unusual times of the menstrual cycle or in women who previously had been unable to conceive.

Kane and Lachenbruch (1973) reported that of the 132 pregnant adolescents studied, 25% of the term group and 14% of the abortion group had experienced parental loss as young adolescents. They implied that the pregnancy may be a way to deal with the narcissistic injury of the psychological loss. Nadelson (1975) discussed pregnancy as a frequent response to loss, especially of a parent, and as a way of avoiding loneliness. Heiman and Levitt (1960) studied an unspecified number of mostly white pregnant women, 12–40 years of age, and concluded that pregnancy following loss of a love object may be
dynamically linked to depression. They cautioned, however, that loss in itself is not sufficient to motivate the pregnancy, unless a severely disturbed mother-daughter relationship also exists. Like other descriptive studies, their work yielded fine in-depth material, but lacked a specified number of subjects, controls and empirical data, thus creating problems in generalizability.

Swiger, Bowers, and Fleck (1976) noted that stress may interfere with contraception and studied pregnancy as related to grieving. Of the 402 women applying for abortion, 7 indicated their preoccupation with death of a significant person and conceived within two months of the death or terminal diagnosis of the significant person. Of the seven, four had lost a father figure and three a mother figure. Interestingly, they found that response to father loss precipitated intercourse-seeking behavior and response to mother loss precipitated pregnancy-seeking behavior. All of these women terminated their pregnancies. The authors inferred that none of them consciously wanted a baby and thus the pregnancy may have been a psychophysiological mode of coping with the loss. In terms of prevention, they suggested that assisting women during grieving periods may help them avoid the additional stress of abortion or of another unwanted child.

Biele (1971) used dynamic clinical investigation, in two to five sessions, to evaluate 40 women seeking abortion. He noted that most had long-standing depressive patterns. These included aversion to influence, unwillingness to give gratification, sexual involvement for non-sexual goals, vindictiveness, and anxiety or hostility. Exposure to pregnancy was but one symptom of a self-jeopardizing pattern in
interpersonal relationships. Thus, Biele did not implicate recent losses and situational depressions, but rather long-standing personality functioning as related to unwanted pregnancy. His small sample, lack of controls and methodology create difficulties, but his insights are helpful. The study presented in this paper attempted to distinguish, as Biele suggested, between whether the need being filled by unwanted pregnancy was for closeness (through intercourse) or for a baby (through pregnancy).

Since the ideal approach to unwanted pregnancy is prevention, it is essential that we observe and recognize the life situations that may predispose to unwanted pregnancy, and then direct our therapy to replacement in another form, hopefully with fewer permanent complications and less trauma for the involved individuals.

A virtual absence of controlled studies relating loss and adolescent pregnancy exists and the few controlled studies relating recent life changes to unwanted pregnancy have found no differences between the pregnant and non-pregnant groups. Therefore, it was the purpose of this study to assess the incidence of recent life events among pregnant adolescents as compared with nulliparous but sexually experienced adolescents, and with sexually inexperienced adolescents. A further purpose was to determine, through a self-rating scale, whether these events are perceived by pregnant adolescents as more serious losses, thereby suggesting that the pregnancy may be linked to depression surrounding loss, and that the baby may be seen as a replacement for that loss.
Hypotheses

General Hypothesis

The general hypothesis for this study was that there would be significant differences in the Recent Life Events Questionnaire (RLEQ) scores among the three groups:

I—pregnant adolescents

II—never pregnant but sexually experienced adolescent girls

III—never pregnant and sexually inexperienced adolescent girls

Specific Hypotheses

The specific hypotheses tested in this study were as follows:

1. that girls in Group I would have significantly higher scores on the RLEQ than girls in Groups II and III

2. that girls in Groups I and II would have significantly higher scores on the RLEQ than girls in Group III

3. that girls in Group II would have significantly higher scores on the RLEQ than girls in Group III

4. that mean RLEQ scores for items in the 0-3 month category would be higher than mean scores for items in the 4-12 month category for Groups I and II than for Group III

5. that mean RLEQ scores for items in the 0-3 month category would be highest for girls in Group I, as compared with mean scores for that time period for the girls in Groups II and III.
METHOD

Subjects

One hundred fifty girls, ages 15-18 at time of pregnancy or at time of testing, participated in this study. Subjects were divided into three groups. Group I consisted of 50 primigravid adolescents (defined as having received a positive pregnancy test, for first pregnancy, at BETA Center in downtown Orlando, Florida) and those primigravid adolescents residing at BETA, with a mean age of 16.7 years. Group II consisted of 50 nulligravid but sexually experienced adolescents (defined as ever having engaged in sexual intercourse), with a mean age of 16.62 years. Group III consisted of 50 sexually inexperienced adolescents (defined as never having engaged in sexual intercourse), with a mean age of 16.56 years (see Table 1). Control Groups II and III were obtained from classes at Lake Brantley High School in Longwood, Florida, with ages and racial mix matched to Group I. Differences in mean ages were less than one month between Groups I and II, and less than one month between Groups II and III.

The three groups were well matched racially (see Table 2). Groups I and II were identical, with Group III in the same range. This study should be of some significance since it investigated a large percentage of pregnant white adolescents, as opposed to the usual health department study of pregnant black adolescents.
Table 1

Age of Subjects

<table>
<thead>
<tr>
<th>Age</th>
<th>I</th>
<th>II</th>
<th>III</th>
</tr>
</thead>
<tbody>
<tr>
<td>18</td>
<td>14</td>
<td>7</td>
<td>8</td>
</tr>
<tr>
<td>17</td>
<td>17</td>
<td>22</td>
<td>17</td>
</tr>
<tr>
<td>16</td>
<td>9</td>
<td>16</td>
<td>20</td>
</tr>
<tr>
<td>15</td>
<td>10</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Total</td>
<td>50</td>
<td>50</td>
<td>50</td>
</tr>
<tr>
<td>M</td>
<td>16.7 years</td>
<td>16.62 years</td>
<td>16.56 years</td>
</tr>
</tbody>
</table>

Table 2

Race of Subjects

<table>
<thead>
<tr>
<th>Race</th>
<th>I</th>
<th>II</th>
<th>III</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>45 (90%)</td>
<td>45 (90%)</td>
<td>48 (96%)</td>
</tr>
<tr>
<td>Black</td>
<td>5 (10%)</td>
<td>5 (10%)</td>
<td>2 (4%)</td>
</tr>
<tr>
<td>Total</td>
<td>50 (100%)</td>
<td>50 (100%)</td>
<td>50 (100%)</td>
</tr>
</tbody>
</table>
Educational levels, for the three groups, differed considerably, particularly for Group I (see Table 3). Since 9 had graduated in this group, one would have expected the remaining 41 to have been in school. However, 24 of them had dropped out of school. Control Groups II and III were studied in a school setting in which everyone was enrolled, making comparisons with Group I difficult, except by way of trends.

Table 3

Educational Level of Subjects

<table>
<thead>
<tr>
<th>Grade</th>
<th>Group I</th>
<th>Group II</th>
<th>Group III</th>
</tr>
</thead>
<tbody>
<tr>
<td>Graduate</td>
<td>9 (18%)</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Drop out</td>
<td>24 (48%)</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>12th</td>
<td>7 (14%)</td>
<td>25 (50%)</td>
<td>20 (40%)</td>
</tr>
<tr>
<td>11th</td>
<td>6 (12%)</td>
<td>18 (36%)</td>
<td>19 (38%)</td>
</tr>
<tr>
<td>10th</td>
<td>4 (8%)</td>
<td>7 (14%)</td>
<td>11 (22%)</td>
</tr>
<tr>
<td>Total</td>
<td>50 (100%)</td>
<td>50 (100%)</td>
<td>50 (100%)</td>
</tr>
</tbody>
</table>

Living situations also differed considerably among the groups (see Table 4). Far fewer girls in Group I than in Group II were living with both parents. Only 32 girls in Group I were living with either or both parents at the time of the study.

Group I included all positive pregnancy test recipients ages 15-18 with first pregnancies and all age-appropriate residents of BETA with first pregnancies who agreed to participate in the study, beginning June 2, 1982, until the sample was complete.
<table>
<thead>
<tr>
<th></th>
<th>Group I</th>
<th>Group II</th>
<th>Group III</th>
</tr>
</thead>
<tbody>
<tr>
<td>Both Parents</td>
<td>15 (30%)</td>
<td>33 (66%)</td>
<td>44 (88%)</td>
</tr>
<tr>
<td>Mother</td>
<td>15 (30%)</td>
<td>13 (26%)</td>
<td>5 (10%)</td>
</tr>
<tr>
<td>Father</td>
<td>2 (4%)</td>
<td>4 (8%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>Boyfriend</td>
<td>11 (22%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>Other Friend</td>
<td>6 (12%)</td>
<td>0 (0%)</td>
<td>1 (2%)</td>
</tr>
<tr>
<td>Alone</td>
<td>1 (2%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
</tr>
</tbody>
</table>

Table 4

Subjects' Living Arrangements with Family or Others
The control groups were chosen from Lake Brantley High School because it is a public school. All girls in Family Living and Psychology classes who agreed to participate and who had parental permission were included. To insure that no student was used twice, teachers screened names of participants.

Materials

Materials consisted of a 19-item Recent Life Events Questionnaire (RLEQ) and rating scale, as well as nine questions of demographic information, which all subjects were asked to complete (see Appendix). The questionnaire was drawn from and similar to Holmes and Rahe (1967), but with items adjusted to adolescent crisis situations.

Procedures

All girls between the ages of 15 and 18 who received a positive pregnancy test at BETA Center, as well as age-appropriate pregnant residents of this facility, were asked to participate in the study. All pregnant subjects agreed and signed a form agreeing to participate and indicating that they understood the purpose of the study, what was required of them, and guaranteeing their anonymity (see Appendix).

For this study, it was requested of the Human Subjects Committee that minor girls obtaining pregnancy tests not be required to obtain parental permission to participate in the study, as such a requirement would bias the sample and invalidate any conclusions. At the time of this study, minors were allowed by law to obtain pregnancy tests and prenatal care without parental consent, with the guarantee of confidentiality of such test results and treatment. Therefore, this
population was studied under the conditions allowed by law. Subjects for the control groups from Lake Brantley High School, on the other hand, had parental consent to participate in the study if they were under 18, as school board policy in Seminole County, Florida, required. Control groups also were guaranteed anonymity in the study by use of no names or social security numbers, just ages. Teachers collected parental and subject permission-to-participate slips before the questionnaire was distributed in order that there would be no way for the examiner to identify any subject's questionnaire.

Subjects who requested information about results of the study were notified and the results discussed with them.

All subjects, both control and experimental, were asked to complete nine questions of demographic information (see Appendix) and then were given the Recent Life Events Questionnaire and asked to rate each event which had occurred in their lives, according to the given directions (see Appendix). Girls who had experienced sexual intercourse, whether pregnant (Group I) or not (Group II), were asked to remember the month and year they first had sex, and then to use the time frame of the year prior to that month to answer the questionnaire and to rate items according to their significance in their lives (from "1" low to "5" high) during that time period. This gave a possible sum of 95 (5 x 19 items) for each time period. Girls who had not experienced intercourse (Group III) were asked to consider the life events within the year before answering the questionnaire, and to rate items according to their significance in their lives during that time period. Group I, in addition, answered the RLEQ a second time, listing the
month in which they became pregnant, and then answered the question-
naire within the time frame of the year before they became pregnant,
rating the items as before according to their significance in their
lives during that time period. For computational purposes, total point
scores were multiplied by 10.

The time periods selected were those used by Hall (1977) in his
study correlating unwanted pregnancy and recent life changes, though
Hall did not focus on an adolescent population, nor ask questions
relevant to that population. Using a format similar to his allowed
certain comparisons with his results.

Nine questionnaires for Groups II and III had to be discarded.
Since control groups were tested in a school setting, and in an effort
to avoid embarrassment to any participant who had been pregnant, all
girls who volunteered and had parental permission were administered the
questionnaire. Those questionnaires (7) which indicated a previous
pregnancy were discarded since the subject would not fit the criteria
for Groups II and III. Two other questionnaires had to be discarded
because responses were contradictory and unclear.
RESULTS

Rating scores on the 19-item Recent Life Events Questionnaire were compared for total points of each group. Group I took the questionnaire twice and the total rating scores were compared for the year before first sex (IA) and the year before first pregnancy (IB) (see Table 5). The mean score for the year before first sex (Group IA) was 161.8. The mean score for the year before first pregnancy (IB) was 180.4 points. A matched t-test score was calculated and revealed no differences between these two sets of scores \( t(49) = -1.65, \quad .05 < p < .10 \). A one-way ANOVA was computed on total mean questionnaire scores for Groups IB (pregnant), II (sexually active-not pregnant) and III (not sexually active). Results revealed no significant differences between groups, \( F(2,147) = 2.59, \quad p > .05 \). Table 5 contains means for total questionnaire scores across groups as well as separate scores for the 0-3 month and 4-12 month time periods.

A two-way ANOVA (one independent and one repeated factor) was computed for questionnaire scores for Groups IA, II and III (Factor A) and time periods of 0-3 months and 4-12 months (Factor B). Results revealed no significant main effects or interaction effects [Factor A: \( F(2,147) = 1.39, \quad p > .05 \); Factor B: \( F(1,147) = .046, \quad p > .05 \); AXB: \( F(2,147) = 1.43, \quad p > .05 \)]. Again see Table 5 for mean questionnaire scores.
Table 5

Total Point Scores
0-3 Months and 4-12 Months

<table>
<thead>
<tr>
<th>Time Period</th>
<th>Group IA</th>
<th>Group IB</th>
<th>Group II</th>
<th>Group III</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-3 Months</td>
<td>4290</td>
<td>4720</td>
<td>4120</td>
<td>2630</td>
</tr>
<tr>
<td></td>
<td>M = 85.8</td>
<td>M = 94.4</td>
<td>M = 82.4</td>
<td>M = 52.6</td>
</tr>
<tr>
<td>4-12 Months</td>
<td>3800</td>
<td>4300</td>
<td>3690</td>
<td>3340</td>
</tr>
<tr>
<td></td>
<td>M = 76</td>
<td>M = 86</td>
<td>M = 73.8</td>
<td>M = 66.8</td>
</tr>
<tr>
<td>Total</td>
<td>8090</td>
<td>9020</td>
<td>7810</td>
<td>5970</td>
</tr>
<tr>
<td></td>
<td>M = 161.8</td>
<td>M = 180.4</td>
<td>M = 156.2</td>
<td>M = 119.4</td>
</tr>
</tbody>
</table>

A two-way ANOVA (one independent and one repeated measure) was computed based on a total number-of-items-checked score for Groups IB, II and III (Factor A) and for time periods of 0-3 months and 4-12 months (Factor B). Results revealed a statistically significant difference between groups on Factor A, $F(2,147) = 3.71, p < .03$. Fisher's Post-hoc LSD procedure was used to test for differences between each pair of group means. This analysis revealed that Group IB had a significantly higher number of questionnaire items-checked-score than did Group III ($p < .05$). No other paired comparison differences were significant. There were no differences between groups on Factor B, $F(2,147) = .02, p > .05$, nor any interaction effects $F(2,147) = .81, p > .05$. Table 6 contains the mean number of questionnaire items-checked-score for subjects in each condition.

Tables 7 through 15 contain demographic breakdowns of the subject samples according to the following categories: (a) adoptive status
(Table 7); (b) history of child abuse (Table 8); (c) history of sexual abuse (Table 9); (d) combined abuse index (Table 10); (e) age of first sexual intercourse (Table 11); (f) age of first pregnancy (Table 12); (g) planned versus unplanned pregnancy (Table 13); (h) wanted versus unwanted pregnancy (Table 14); (i) planned and wanted first pregnancy (Table 15). Where appropriate, chi square statistics are reported with each table. Significant differences were found in the proportion of adopted versus nonadopted subjects (Table 7) among the three groups, with Group I having an over-representation of adopted subjects $\chi^2(2) = 9.3, p < .01$. Significant differences also were found in the proportion of abused versus nonabused subjects, using the combined abuse index (Table 10) for the three groups, with Group I having an over-representation of abused subjects $\chi^2(2) = 7.68, p < .025$. A trend was noted in the proportion of general child abuse victims versus non-victims $\chi^2(2) = 3.73, p < .10$, Table 8, and in the proportion of victims of sexual abuse versus non-victims $\chi^2(2) = 4.08, p < .10$, Table 9. In both of these, Group I had a greater number of victims than would have been expected.
Table 6

Total Number of Events Scores
0-3 Months and 4-12 Months

<table>
<thead>
<tr>
<th>Time Period</th>
<th>Group IA</th>
<th>Group IB</th>
<th>Group II</th>
<th>Group III</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-3 Months</td>
<td>107</td>
<td>116</td>
<td>102</td>
<td>64</td>
</tr>
<tr>
<td>M = 2.14</td>
<td>M = 2.32</td>
<td>M = 2.04</td>
<td>M = 1.28</td>
<td></td>
</tr>
<tr>
<td>4-12 Months</td>
<td>101</td>
<td>112</td>
<td>95</td>
<td>78</td>
</tr>
<tr>
<td>M = 2.02</td>
<td>M = 2.24</td>
<td>M = 1.9</td>
<td>M = 1.56</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>208</td>
<td>228</td>
<td>197</td>
<td>142</td>
</tr>
<tr>
<td>M</td>
<td>4.16</td>
<td>4.56</td>
<td>3.94</td>
<td>2.84</td>
</tr>
</tbody>
</table>

Table 7

Adopted Vs. Nonadopted Subjects

<table>
<thead>
<tr>
<th>Group</th>
<th>I (12%)</th>
<th>II (2%)</th>
<th>III</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adopted</td>
<td>6</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Nonadopted</td>
<td>44 (88%)</td>
<td>49 (98%)</td>
<td>50 (100%)</td>
</tr>
<tr>
<td>Total</td>
<td>50 (100%)</td>
<td>50 (100%)</td>
<td>50 (100%)</td>
</tr>
</tbody>
</table>

\[ \chi^2(2) = 9.3, \ p < .01 \]
### Table 8
Child Abuse Victims

<table>
<thead>
<tr>
<th></th>
<th>I</th>
<th>II</th>
<th>III</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abused</td>
<td>6 (12%)</td>
<td>4 (8%)</td>
<td>1 (2%)</td>
</tr>
<tr>
<td>Nonabused</td>
<td>44 (88%)</td>
<td>46 (92%)</td>
<td>49 (98%)</td>
</tr>
<tr>
<td>Total</td>
<td>50 (100%)</td>
<td>50 (100%)</td>
<td>50 (100%)</td>
</tr>
</tbody>
</table>

$\chi^2(2) = 3.73, p < .10$

### Table 9
Sexual Abuse Victims at Home

<table>
<thead>
<tr>
<th></th>
<th>I</th>
<th>II</th>
<th>III</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abused</td>
<td>6 (12%)</td>
<td>3 (6%)</td>
<td>1 (2%)</td>
</tr>
<tr>
<td>Nonabused</td>
<td>44 (88%)</td>
<td>47 (94%)</td>
<td>49 (98%)</td>
</tr>
<tr>
<td>Total</td>
<td>50 (100%)</td>
<td>50 (100%)</td>
<td>50 (100%)</td>
</tr>
</tbody>
</table>

$\chi^2(2) = 4.08, p < .10$

### Table 10
Combined Abuse Index (Sexual and Child Abuse Victims)

<table>
<thead>
<tr>
<th></th>
<th>I</th>
<th>II</th>
<th>III</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abused</td>
<td>12 (12%)</td>
<td>7 (7%)</td>
<td>2 (2%)</td>
</tr>
<tr>
<td>Nonabused</td>
<td>88 (88%)</td>
<td>93 (93%)</td>
<td>98 (98%)</td>
</tr>
<tr>
<td>Total</td>
<td>100 (100%)</td>
<td>100 (100%)</td>
<td>100 (100%)</td>
</tr>
</tbody>
</table>

$\chi^2(2) = 7.68, p < .025$
### Table 11

**Age at First Sexual Intercourse**

<table>
<thead>
<tr>
<th>Age</th>
<th>Group I</th>
<th>Group II</th>
</tr>
</thead>
<tbody>
<tr>
<td>18</td>
<td>1 (2%)</td>
<td>1 (2%)</td>
</tr>
<tr>
<td>17</td>
<td>6 (12%)</td>
<td>8 (16%)</td>
</tr>
<tr>
<td>16</td>
<td>15 (30%)</td>
<td>14 (28%)</td>
</tr>
<tr>
<td>15</td>
<td>16 (32%)</td>
<td>20 (40%)</td>
</tr>
<tr>
<td>14</td>
<td>9 (18%)</td>
<td>4 (8%)</td>
</tr>
<tr>
<td>13</td>
<td>2 (4%)</td>
<td>2 (4%)</td>
</tr>
<tr>
<td>12</td>
<td>1 (2%)</td>
<td>1 (2%)</td>
</tr>
<tr>
<td>Total</td>
<td>50 (100%)</td>
<td>50 (100%)</td>
</tr>
</tbody>
</table>

M 15.28 Years 15.44 Years

### Table 12

**Age at First Pregnancy**

<table>
<thead>
<tr>
<th>Age</th>
<th>Group I</th>
</tr>
</thead>
<tbody>
<tr>
<td>18</td>
<td>14 (28%)</td>
</tr>
<tr>
<td>17</td>
<td>17 (34%)</td>
</tr>
<tr>
<td>16</td>
<td>9 (18%)</td>
</tr>
<tr>
<td>15</td>
<td>10 (20%)</td>
</tr>
<tr>
<td>Total</td>
<td>50 (100%)</td>
</tr>
</tbody>
</table>

M 16.7 Years
### Table 13
**Planned Versus Unplanned First Pregnancy**

<table>
<thead>
<tr>
<th>Age</th>
<th>Planned</th>
<th>Unplanned</th>
</tr>
</thead>
<tbody>
<tr>
<td>18</td>
<td>4 (8%)</td>
<td>10 (20%)</td>
</tr>
<tr>
<td>17</td>
<td>1 (2%)</td>
<td>16 (32%)</td>
</tr>
<tr>
<td>16</td>
<td>0 (0%)</td>
<td>9 (18%)</td>
</tr>
<tr>
<td>15</td>
<td>2 (4%)</td>
<td>8 (16%)</td>
</tr>
</tbody>
</table>

Subtotal: 7 (14%) 43 (86%)

Total Group I: 50

### Table 14
**Wanted Versus Unwanted First Pregnancy**

<table>
<thead>
<tr>
<th>Age</th>
<th>Wanted</th>
<th>Unwanted</th>
</tr>
</thead>
<tbody>
<tr>
<td>18</td>
<td>12 (24%)</td>
<td>2 (4%)</td>
</tr>
<tr>
<td>17</td>
<td>10 (20%)</td>
<td>7 (14%)</td>
</tr>
<tr>
<td>16</td>
<td>6 (12%)</td>
<td>3 (6%)</td>
</tr>
<tr>
<td>15</td>
<td>6 (12%)</td>
<td>4 (8%)</td>
</tr>
</tbody>
</table>

Subtotal: 34 (68%) 16 (32%)

Total Group I: 50
Table 15

Planned and Wanted First Pregnancy

<table>
<thead>
<tr>
<th>Age</th>
<th>Planned</th>
<th>Wanted</th>
</tr>
</thead>
<tbody>
<tr>
<td>18</td>
<td>4 (8%)</td>
<td>12 (24%)</td>
</tr>
<tr>
<td>17</td>
<td>1 (2%)</td>
<td>10 (20%)</td>
</tr>
<tr>
<td>16</td>
<td>--</td>
<td>6 (12%)</td>
</tr>
<tr>
<td>15</td>
<td>2 (4%)</td>
<td>6 (12%)</td>
</tr>
<tr>
<td>Total</td>
<td>7 (14% of 50 subjects)</td>
<td>23 (68% of 50 subjects)</td>
</tr>
</tbody>
</table>
DISCUSSION

Hypothesis 1 stated that pregnant adolescent girls (Group I) would have significantly higher scores on the Recent Life Events Questionnaire (RLEQ)—i.e., would have experienced more recent life events and would have perceived them as more traumatic—than girls who were sexually active but had never been pregnant (Group II) and non-sexually active girls (Group III). Hypothesis 2 stated that the pregnant and sexually active groups would both have significantly higher scores on the RLEQ than the non-sexually active group. Total point scores, in Group I, were highest both for the year before first sex (8090) and even higher for the year before first pregnancy (9020). Group II had the next highest score (7810) and Group III the lowest score (5970), see Table 5. However, an ANOVA found that total point scores were not significantly different among the three groups. Scores within each group contained great variability—e.g., each group contained individual scores from 0 to over 600. So while all the groups had total scores in the expected direction, such within group variability resulted in no between group differences on this measure.

Significant differences did emerge when the number of events, rather than total point scores, were compared. "Total point scores" represented the rating value each subject assigned to the events that
had occurred to her: rating values went from 1 (not very important) to 5 (very important), and then were multiplied by 10. "Number of items" represented the number of events that each subject indicated had happened to her within the year in question. When number of events were compared across groups, statistically significant differences were noted. Post-hoc analysis revealed that total event scores were significantly higher for Group IB, the pregnant group responding for the year before pregnancy, than scores for Group III, the non-sexually active control group. This implies that it is not the specific stressor that is important but rather the overall number of stressors impacting on the adolescent. As will be noted later, many of the tested stressors are shared by all groups and indeed by most adults and adolescents, so one cannot conclude that any particular stressor precipitates early pregnancy. However, compounding of the stressors certainly could overwhelm the average adolescent, and this seems to be implied by the significant differences in number of items between Groups IB and III. The number of stressors may intensify the impact of each successive stressor, and reduce the overall resilience, as Selye (1974) suggests, of the organism to adjust to stress. In addition, the sexual activity of Groups I and II may represent additional stress in itself, or in pregnancy risk. This suggests that subjects in Group I, during the year before first pregnancy, were subjected to a greater number of potentially traumatic events than their never pregnant and non-sexually active peers.

Hypothesis 3 stated that girls in Group II, the sexually active but never pregnant group, would have significantly higher scores on the
RLEQ than girls in Group III, the non-sexually active group. As noted earlier, obtained mean differences were consistent with this hypothesis but were not statistically significant. On number of events scores, differences between Groups II and III were in the expected direction (Group II, $M = 3.94$; Group III, $M = 2.84$) but again were not statistically significant. These results suggest that differences in the number of stressors experienced by girls the year before they first engaged in sexual intercourse may be higher than for their sexually inactive peers, but the present research is not conclusive on this point. However, this may point to some helpful areas for intervention regarding factors that may motivate adolescents to become sexually active before they are emotionally ready for sexual experience.

Hypothesis 4 stated that mean RLEQ scores for items in the 0-3 month category would be higher than mean scores for events in the 4-12 month category, for Groups I and II, than for Group III. Hypothesis 5 stated that mean RLEQ scores for items in the 0-3 month category would be highest for girls in Group I as compared with Groups II and III.

While two-way analysis of variance did not reveal statistically significant differences between the time periods, the mean scores for events in Groups I and II were higher for 0-3 months than for 4-12 months (see Table 5). Groups I and II showed higher means, for the 0-3 month period, than Group III. Group I had the highest mean for the year before first pregnancy and was next highest for the year before first sex, Group II was next, with Group III the lowest. Interestingly, only Group III had a higher score for the 4-12 month period than for the 0-3 month period. It may be that subjects were able to remember
events closer in time and had more difficulty remembering items further removed, thus accounting for the higher numbers in Groups I and II for the 0-3 month period. However, Group III showed the higher number for the later time period (4-12 months) than for the more recent time period. These differences provide at least preliminary data to suggest that the higher number of more recent stressors in Groups I and II was related to intimacy-seeking or pregnancy-seeking behaviors. It must be noted, however, that the differences in means between the groups, for the two time periods, were slight.

In studying pregnant adolescents and their never-pregnant counterparts, it was important to keep the groups matched for age. The three groups in this study were quite similar, which allowed for comparisons between them. Mean ages suggested one month or less difference between Groups I and II, and between Groups II and III (Table 1).

The three groups were also quite well matched racially (Table 2), with all three groups composed of >90% Caucasian adolescent girls. An advantage of this study was that it investigated a large percentage of pregnant white adolescents as contrasted with most previous research which involved predominantly black subject samples. A limitation of this study, however, is the small number of black subjects in each group, precluding racial comparisons. Because control Groups II and III were tested first, with Group I (pregnant) matched racially to Groups II and III, it cannot be concluded that the same rate of pregnancy was noted among the black population as compared with the white population. Other studies have investigated racial pregnancy rates, but it was not the purpose of this study to do so. Nor could it be
concluded from this study that stressful life events and subsequent pregnancy were influenced by racial considerations.

The incidence of school drop-out in Group I suggests a relationship between it and the first pregnancy (see Table 3). Raymond Robison (Note 1), of Orange County, Florida, Schools (the county where Beta Center is located and where subjects in Group I were tested) noted that during 1982, 9% of all high school students in Orange County schools dropped out, with that percentage divided evenly between male and female students. Thus, a 48% drop-out rate in Group I represents a much higher than expected rate for those ages. Only 17 of the 41 girls in Group I (who had not graduated and would have been expected to be in school) were enrolled at time of testing. One might assume that the pregnancy was the reason these girls dropped out of school since it is the major reason girls terminate their education (Johnson, 1974). However, since a majority of subjects in Group I were tested upon receiving a positive pregnancy test and so were very early in their pregnancies, their lack of affiliation with school probably pre-dated the pregnancy. The high rate of drop-out in Group I represents the profile frequently seen by this examiner of the adolescent girl who does not feel successful in school, drops out, has little going in her life, and becomes pregnant as a way to fill her needs.

Of the 41 girls in Group I who had not already graduated, far fewer were in the 12th, 11th and 10th grades than in Groups II and III. Seven were seniors in Group I as compared with 25 in Group II and 20 in Group III. Again, it must be mentioned that Groups II and III were not random samples of 15-18 year old girls, but were gathered in a school
setting. In Group I, the lack of educational grade attainment equal to her peers might imply that this is a part of the profile of the girl at risk for adolescent pregnancy.

Living situations differed considerably among the groups (see Table 4). Far fewer girls in Group I than in Group II were living with both parents. Again, there were fewer girls in Group II than in Group III living with both parents. Every girl in Group II and all but one in Group III were living either with both parents or with one parent, whereas only 64% ($n = 32$) of the girls in Group I at time of study were living with one or both parents. The living situations of Group I were thus markedly different from Groups II and III, with 36% ($n = 18$) of the pregnant group residing outside the home, as compared with only one person of the 100 subjects in control Groups II and III residing outside the home. While the quality of interaction between the parents and within the family cannot be deduced from these numbers, the numbers themselves suggest that disruption of the nuclear family is part of the life stress profile of the sexually-at-risk adolescent girl. It should be noted that pregnant subjects residing at BETA House were asked with whom they lived before coming to BETA, so BETA residents would not artificially skew Group I.

Absolute comparisons could not be made because, unfortunately, the examiner asked only with whom the person was living at the time of interview (and not, for Group I, with whom she was living at time of becoming pregnant). However, a majority of the girls in Group I were receiving positive pregnancy test results and therefore would be quite early in their pregnancy, so it seems safe to say that the trend in
percentages regarding living situations is accurate. For example, among 18-year-olds, whom we might expect to have more independence in living situations than younger girls: 7 of 8 in Group III were living with both parents and the eighth with her mother; in Group II, 5 of 7 were living with both parents and the remaining 2 with their mothers; whereas in Group I (pregnant group), only one of 14 was living with both parents, 4 with their mothers, and 9 living in other situations. This may have some implication regarding the protection the family offers, even in terms of living situations, or it may suggest that serious family problems motivate children to move out of the family situation, leaving the child vulnerable to a myriad of problems including pregnancy.

Whether moving out of the family leaves one vulnerable cannot be definitely concluded, but it does seem clear that where the family is fairly intact the incidence of unwanted and/or unplanned pregnancy is far less than that for an adolescent in a different living situation.

The incidence of adoption, in Group I, was significantly higher than would be expected and higher than in Groups II and III (see Table 7). The data suggest an over-representation of adopted girls in Group I, with a corresponding under-representation of adoptive status among subjects in Groups II and III. It must be noted that the study only compared subjects knowingly adopted so it is possible that the number of actual adoptions was higher than indicated in all groups. However, as related to pregnancy, the results were consistent with expectation. The examiner has observed a fairly large number of adopted girls becoming pregnant as adolescents. This may relate to the
important adolescent psychological task of achieving her identity. Perhaps the pregnancy is one way she sorts out who she is, as related to her mother, and the pregnancy becomes a way of understanding her mother's experience of pregnancy and placing her for adoption. Interestingly, many adopted girls choose to place their babies for adoption (Stone, 1975). For example, Janice Beerman (Note 2), of Children's Home Society, Orlando, Florida, noted that of the 95 adoptions their agency handled during 1982 nine or 9.47% of the birth mothers placing their babies for adoption had themselves been adopted.

The incidence of having been a victim of child abuse was slightly higher in Groups I and II than in Group III, with Group I having the greatest incidence (see Table 8). While Chi square analysis did not reach statistical significance ($p < .10$), the actual numbers showed a trend in the expected direction. For Groups I and II this may have been a factor in sexual activity in that the victim may have been seeking acceptance and tenderness from her boyfriend in reaction to lack of warmth and/or abuse at home. Further, the abuse probably was both physical and emotional, and would have affected her self-image negatively, thus leaving her more vulnerable to poor decision-making in relationships and needing to find affirmation elsewhere than at home. Three of the girls who indicated they had been adopted also indicated they had been victims of child abuse. This created a suspicion of a higher incidence of child abuse toward adopted children. However, verification of this suspicion was outside the scope of this study.

A higher incidence of having been a victim of sexual abuse at home was reported in Group I than in Groups II and III (see Table 9).
However, while the chi square analysis supported only a trend in this direction ($p < .10$), actual numbers were again in the expected direction. The results in Group I correlated with observations of the population of pregnant adolescents, in that a higher number of sexually abused girls are referred for pregnancy services than might be expected in the general population of adolescent girls. This may have been related to the sexual activity in Groups I and II, for these ages, in that sexual abuse victims learned at home that sexual activity brought approval and acceptance. The examiner has observed that sexual abuse victims frequently become promiscuous but distrustful of men in general. Sex, for them, can become an illusion of intimacy, with the trust required for a deep relationship eroded by the abuse. While her sexual activity may be frequent, her self-image and relationship satisfaction are negative. Thus, the sexual abuse has made her vulnerable sexually but unable to form mature relationships.

Three of the six sexual abuse victims, in Group I, also reported being child abuse victims. Since child abuse was not defined, in the questionnaire, as physical abuse, it was possible that these three girls were reporting the same abuse in both instances. On the other hand, it was possible that they were victims of both physical and sexual abuse, and had learned that sexual activity avoided physical abuse.

When a Chi square statistic was computed for a combined abuse index (i.e., an index reflecting the occurrence of sexual or general child abuse), results were statistically different [$\chi^2(2) = 7.68$, $p < .025$ (see Table 10)]. The data suggest an over-representation of
abused girls in Group I, with a corresponding under-representation of abused girls in Groups II and III. Thus, being an abuse victim was not independent of the treatment groups. More abuse victims were found in Group I than would be expected in the general population.

Comparing the groups' living situations with the incidence of abuse, it might be possible to say that the fairly intact and stable living situations of the girls in Group III contrasted again with the situations of the girls in Group I. Fewer of Group I girls were living in the home, and the statistical incidence of abuse might be confirming that indeed home was not a safe or protective place to be.

A problem in this analysis was that frequency of abuse was not noted. Subjects were asked if they ever had been a victim of child abuse or sexual abuse, and no discrimination was made between the daily or weekly abuse victim and the girl who might have been abused only once. Also, abuse was not defined and there was no control over each girl's interpretation of the meaning of abuse.

Just as group ages did not differ significantly, neither did ages at first sex (see Table 11). Inquiry was made in order to see if the pregnant group might have initiated sexual intercourse at a much younger age than the never pregnant but sexually active group. While there was a slight difference of not quite two months between Groups I and II initiating intercourse, an inspectional analysis of these data suggested no significant differences. Therefore, it is not concluded that the pregnant group had been exposing themselves to risk of pregnancy for a significantly longer time than the never pregnant group. It may be assumed that a girl who initiates sexual activity at 12
years of age would be exposing herself to the risk of pregnancy for a longer period than the girl who begins sexual activity at 17 years, but there were not obtained significant differences between the two sexually active groups studied. What was not known, however, was the frequency of intercourse for the various ages, nor the types of birth control attempted. This seemed to further substantiate that pregnancy risk for every act of intercourse is independent of age at first intercourse or frequency of intercourse. Thus, the present data suggest that the adolescent who thinks that because she engages in sex infrequently she will not get pregnant is in error.

Average age, at first pregnancy for Group I was 16.7 years or 16 years and 8.4 months (see Table 12). While the exact number of months was not computed between first sex and first pregnancy for each subject in this group, the mean suggested approximately a 1.4 year interval. This presents somewhat different evidence than Zabin, Kantner, and Zelnik's study (1979), which found that girls who become pregnant tend to do so within six months of initiating sexual activity. Their sample size was considerably larger than the 50 subjects used in Group I of this study, but differing results bear mentioning.

Nearly all pregnancies among subjects in Group I were reported as unplanned (see Table 13). However, well over half stated the pregnancy was wanted (see Table 14). It had been assumed, given their ages and single status, that the majority of pregnant subjects would indicate the pregnancy was both unplanned and unwanted. The fact that 68% said it was wanted suggested important underlying dynamics regarding emotional needs that the pregnancy might have been filling.
Differences between the small number of planned as compared with the large number of wanted pregnancies appear to be contradictory (see Table 15) but may well be more than coincidental. The discrepancy may be explained by differences between conscious planning and conscious wanting. Conscious wanting may be indicative of unconscious planning in the sense of allowing a pregnancy to happen—i.e., not taking precautions to prevent pregnancy even though knowledge of birth control and where to obtain it is quite high among this age group (see Hall, 1977).

Seven subjects who planned the pregnancy also said it was wanted. Another 27 (54%) subjects in Group I, who said the pregnancy was unplanned, said it was wanted, suggesting that beyond the 14%, who both planned and wanted the pregnancy, another 54% of the total group wanted to be pregnant, though they did not consciously plan to become pregnant.

In examining differences among the age groups, it was noted that of the 14 subjects in Group I that were 18 years old, 28% planned and wanted to be pregnant, and another 57.5% wanted to be pregnant, for a total of 85.5% who wanted to be pregnant. Among the 17 girls in the 17 year old group, 5.88% planned and wanted to be pregnant and another 58.74% wanted to be pregnant but did not plan to, for a total of 64.62% who wanted to be pregnant. All of the 16 year olds (nine) said the pregnancy was unplanned, but 66.67% said they wanted to be pregnant. Among the 15 year olds, 20% (two) said the pregnancy was planned and wanted, and another 40% said it was wanted though unplanned for a total of 60% who wanted pregnancy. Thus, in every age group, over 60%
said the pregnancy was wanted. While actual numbers were small, the
18 year olds were most likely to have planned (or to have been con­
scious of planning) the pregnancy, and the 15 year olds next most
likely to have planned it.

Among the girls who said the pregnancy was wanted, several planned
to have an abortion. One 15-year-old, for example, said that she had
been worried that she could not become pregnant, but now having proved
that she could become pregnant, she wanted an abortion. It seems that
the depth of psychic need felt by this girl, was suggested in her
statement.

In terms of some important needs not being met in more traditional
ways for this group (see sections regarding living situations, educa­
tional levels, child abuse, sexual abuse, and adopted status), the
pregnancy and/or baby may have been seen as ways to meet those needs
and thus be wanted and even unconsciously "planned." "Planned" and
"unplanned" were not defined in this study, nor were "wanted" nor
"unwanted," which may have limited the study. However, allowing the
meaning to be vague might have tapped into unconscious processes that
may be relevant to the issue, though difficult to measure and quantify.
"Planned" may refer to partners discussing wanting a baby, agreeing on
a time, and making life adjustments around that decision, whereas
"unplanned" may refer to not discussing a plan for a baby and/or
pregnancy, and not mutually agreeing but sensing that the baby and/or
pregnancy might "help."

Another factor in pregnancy not being planned, but wanted, is the
change in self-image required for a girl to use contraceptives
effectively. If a pregnancy is unplanned and "happens," she may not see herself as sexually active but may say to others, or even to herself, that the sexual activity also just "happened." Ambivalent feelings about the sexual activity in which she is engaging, may be producing a certain amount of guilt, and she may expose herself to pregnancy risk as a form of punishment.

On the basis of frequency with which individual events occurred to subjects in each group, it had been assumed that the pregnant group and/or the sexually active groups would have a different constellation of events than the never pregnant and not sexually active group. Differences in the actual events that had occurred in each group were not discernible, but differences showed up in the number of events that had occurred among the groups.

All three groups listed "break-up with steady boyfriend" as occurring most often (see Tables 16 and 17). This suggested that such break-ups are among the most common crises of adolescence, but also that these "crises" do not discriminate regarding prediction of pregnancy nor sexual activity. Furthermore, it cannot be concluded that it was the most severe of the events in its impact. Generally it cannot be concluded from these results that any individual item was most severe or most predictive of initiating sexual activity or precipitating pregnancy.

"Pregnancy of a relative or close friend" was second in frequency among the pregnant group for the year before first pregnancy (IB), first among the pregnant group for the year before first sex (IA), and third among the never pregnant but sexually active group (II). In the
<table>
<thead>
<tr>
<th>Event</th>
<th>Group IA</th>
<th>Group IB</th>
<th>Group II</th>
<th>Group III</th>
</tr>
</thead>
<tbody>
<tr>
<td>Break-up with steady boyfriend</td>
<td>23</td>
<td>30</td>
<td>31</td>
<td>22</td>
</tr>
<tr>
<td>Pregnancy of relative or close friend</td>
<td>25</td>
<td>27</td>
<td>18</td>
<td>13</td>
</tr>
<tr>
<td>Recent move</td>
<td>21</td>
<td>22</td>
<td>15</td>
<td>16</td>
</tr>
<tr>
<td>Serious mental illness of family member(s) including alcohol and drug problems</td>
<td>15</td>
<td>21</td>
<td>23</td>
<td>8</td>
</tr>
<tr>
<td>Dropped out of school</td>
<td>14</td>
<td>19</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Serious physical illness of close family member(s)</td>
<td>20</td>
<td>18</td>
<td>10</td>
<td>15</td>
</tr>
<tr>
<td>Family member(s) or self arrested by police</td>
<td>15</td>
<td>17</td>
<td>9</td>
<td>3</td>
</tr>
<tr>
<td>Violence at home</td>
<td>20</td>
<td>16</td>
<td>12</td>
<td>15</td>
</tr>
<tr>
<td>Death of close family member(s)</td>
<td>10</td>
<td>12</td>
<td>8</td>
<td>10</td>
</tr>
<tr>
<td>Loss of job of self or major income earner in the family</td>
<td>7</td>
<td>10</td>
<td>12</td>
<td>5</td>
</tr>
<tr>
<td>Death(s) of close friend(s)</td>
<td>10</td>
<td>7</td>
<td>12</td>
<td>4</td>
</tr>
<tr>
<td>Separation/divorce of parents</td>
<td>6</td>
<td>6</td>
<td>12</td>
<td>10</td>
</tr>
<tr>
<td>Victim of child abuse</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>2</td>
</tr>
<tr>
<td>Victim of sexual abuse within family</td>
<td>4</td>
<td>4</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Serious physical illness of close friend(s)</td>
<td>3</td>
<td>4</td>
<td>9</td>
<td>6</td>
</tr>
<tr>
<td>Suicide attempt by family member(s)</td>
<td>3</td>
<td>3</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Victim of rape</td>
<td>4</td>
<td>2</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Suicide attempt(s)</td>
<td>2</td>
<td>2</td>
<td>8</td>
<td>3</td>
</tr>
<tr>
<td>Other significant life event(s)</td>
<td>0</td>
<td>2</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>208</strong></td>
<td><strong>228</strong></td>
<td><strong>197</strong></td>
<td><strong>142</strong></td>
</tr>
</tbody>
</table>

*a*Group IA—year before first sex  
**b**Group IB—year before first pregnancy
### Table 17

**Ranked Order of Items According to Frequency Individual Items Occurred, as Compared with Group IB**

<table>
<thead>
<tr>
<th>Item</th>
<th>IA^a</th>
<th>IB^b</th>
<th>II</th>
<th>III</th>
</tr>
</thead>
<tbody>
<tr>
<td>Break-up with steady boyfriend</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Pregnancy of relative or close friend</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>Recent move</td>
<td>3</td>
<td>3</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>Serious mental illness of family member(s) including alcohol and drug problems</td>
<td>6</td>
<td>4</td>
<td>2</td>
<td>8</td>
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<tr>
<td>Dropped out of school</td>
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<td>9.5</td>
<td>3.5</td>
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<td>8</td>
<td>6.5</td>
<td>3.5</td>
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<tr>
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<td>9</td>
<td>12.5</td>
<td>6.5</td>
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<td>Loss of job of self or major income earner in the family</td>
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<td>6.5</td>
<td>11</td>
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<tr>
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<td>11</td>
<td>8.5</td>
<td>12</td>
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<tr>
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<td>6.5</td>
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<tr>
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<tr>
<td>Victim of sexual abuse within family</td>
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<td>14.5</td>
<td>18.5</td>
<td>17</td>
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<tr>
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<td>10</td>
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<td>16</td>
<td>18.5</td>
<td>15.5</td>
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<tr>
<td>Victim of rape(s)</td>
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<td>16.5</td>
<td>18.5</td>
</tr>
<tr>
<td>Suicide attempt(s)</td>
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<td>17.5</td>
<td>12.5</td>
<td>13.5</td>
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<td>Other significant life event</td>
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<td>15</td>
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</table>

^aGroup IA--year before first sex

^bGroup IB--year before first pregnancy
never pregnant nor sexually active group (III), this event ranked fifth in frequency, reflecting a somewhat lower perceived incidence. This could suggest that the sexually active groups were in actuality more frequently exposed to the pregnancy of relatives or close friends, or were more aware of the pregnancy of relatives or close friends, perhaps observing the attention and excitement of others about the pregnancy and contrasting that with their neediness and feelings of loss due to other events in their lives. This may translate into an unconscious wish to fill her needs through pregnancy and/or a baby.

"Recent move" was cited by all groups among the top four events in frequency. This event, therefore, did not discriminate regarding pregnancy or the initiation of sexual activity, but it again appears to reflect a common "shock" that a large portion of adolescents face.

"Serious mental illness of a family member, including alcohol and drug problems" proved somewhat different among the three groups. The pregnant group, for the year before first pregnancy (IB), and the sexually active but never pregnant Group II, for the year before first sex, had a higher incidence (fourth most frequent and second most frequent, respectively) as compared with the sexually inexperienced group who reported the event as eighth most frequent. Actual frequencies in Group IB were 21, with 23 reports in Group II, as compared with 8 reports in Group III. Serious mental illness may represent a loss of the person because the emotional problems of the family member may negate the needed relationship with the adolescent. She may then fill some of her needs, that are unmet by that significant person,
through her boyfriend, making him even more important to her and thus leaving her more vulnerable sexually from an emotional viewpoint.

Interestingly, "serious physical illness" was cited sixth most often by Group IB, ninth most often by Group II, and third most often by Group III, suggesting that while it occurred more often among Group III than Group II (15 reports as compared with 11 reports), it might not have been as debilitating to the adolescent as mental illness in the family. Also, subjects in Group III did not have the number of losses to cope with that the girls in the other groups experienced, particularly Group I the year before first pregnancy.

The frequency data, thus, did not establish significance of individual events, nor did the ranked order of frequency of occurrences imply order in severity of events. The data simply reflected incidence of the most common stressors or losses of adolescents.
SUMMARY AND CONCLUSION

The major hypothesis of this paper stated that there would be significant differences in the RLEQ scores among the three groups. While total point scores were not significantly different between the groups, significant differences did exist on the number of events score between the pregnant group for the year before first pregnancy (Group IB) and the sexually inexperienced group (Group III). The number of stressors experienced by Group I during that year seemed to leave them statistically more vulnerable to pregnancy than their sexually inexperienced peers. Statistically significant differences did not exist between the never pregnant but sexually active group (Group II) and Group III, although higher scores for Group II were in the expected direction. The results suggest an important area of intervention, so that girls most at risk for young unmarried pregnancy (i.e., girls who have been experiencing a number of life changes in a brief amount of time) can be helped to cope with the myriad of stressors they are experiencing, and thus meet their needs in more age-appropriate ways than through an unwanted pregnancy. Statistical differences in this study suggested that it was more the pregnancy and/or the baby that was sought to replace the losses brought about by the number of life changes, rather than the intimacy that was
sought. Although an either-or view would be unrealistic and impossible to conclude definitively, this was indicated by the critical difference existing between the year before first pregnancy rather than the year before first sex.

While total mean RLEQ scores, between Groups IA and IB did not differ at a statistically significant level, the obtained mean differences were consistent with expectations (i.e., Group IB [year before pregnancy] scores were higher than for Group IA [year before first sex]) and approached statistical significance, $p < .10$. The trend suggested that more traumatic events did in fact occur to Group I the year before pregnancy than the year before first sex. While Group IA had more reported life stress events than Group III, they were apparently able to absorb these changes and cope. However, in the year before first pregnancy, those same girls (Group I) may have experienced more changes or losses than it would appear, statistically, they could handle, with pregnancy the result.

Data from this study did not provide a simplistic analysis of the problem of adolescent pregnancy. It continues to remain a complex phenomenon requiring complex analyses. However, a profile did emerge of the adolescent girl who may be at risk for unmarried pregnancy and might be identified for preventative intervention by educational and mental health professionals.

The profile includes a girl residing with neither or only one parent. She is more likely to be adopted than the general population of her peers. She is more likely to be a victim of child abuse and/or sexual abuse at home. Additionally, she is more likely not to be in
school, or if in school she is not at her normal grade level. School represents a major arena and time expenditure for adolescents, and develops industry in the emerging adult. It follows that not mastering the work challenges of school, with subsequent feelings of inferiority, could relate to her desire to succeed in some area of her life, perhaps motivating her to attempt to accomplish and succeed through pregnancy and parenting. Thus, she does not see the pregnancy as a problem but rather as a solution to some of her other problems, such as bringing her relief and good things in her life (i.e., this baby will stay with me, this baby will love me). Adults may see the pregnancy as a problem in the long view because she is not developmentally ready for the demands of parenting, but the elation of many adolescents, even though scared when receiving a positive pregnancy test report, belies the adult view of the problem of adolescent pregnancy. This was further suggested by the data of this study which showed that 68% of the pregnant group said the pregnancy was wanted, including some of those subjects who indicated they would have abortions.

Finally, the profile also includes a girl experiencing a higher number of recent life stress events than would be expected as compared with the never pregnant and not sexually active girl. No single event seems definitive to predict adolescent pregnancy but the compounding impact of several traumatic incidences the year before first pregnancy appears to overwhelm the adolescent and make her vulnerable to pregnancy. She may see her boyfriend and the baby as providing some element of stability and predictability to her life, thus reducing her vulnerability to other changes.
For future research, it may be more profitable to study pregnant adolescents ages 14-17, rather than 15-18. Eighteen year olds may reflect some maturing life choices not necessarily evident with younger ages. Further, the examiner in this study had to turn away many 14 year olds with positive pregnancy tests, suggesting the need to study the younger pregnant girl too. The very young girl (ages 9-13) who seeks pregnancy services is frequently a victim of sexual abuse, suggesting still another group in the pregnant population that deserves study.

It may be helpful in future research to have a larger number of black subjects in order to see if similar results obtain across racial groups (that numbers of stressors the year before first pregnancy are statistically higher) or whether racial groups reveal different constellations of significant stressors.

Future studies also may want to investigate frequency of abuse and correlate that with the timing of adolescent pregnancy. In fact, frequency of occurrence of all the events for each subject may be important to investigate and correlate with the pregnancy, although it was outside the scope of this study.

Interviewing each subject separately, besides administering the demographic questions and RLEQ, may help to reduce error to a minimum in terms of interpretation of items and to elicit the seriousness of various events to adolescents.

Data from this study suggested that educational and mental health professionals who become aware that an adolescent girl fits the profile mentioned above and is having to handle several traumatic life events
in a brief amount of time would be in a position to intervene. They may be able to help her find new ways to cope with everything that is happening in her life, which may appear to her as losses, to help her grieve if needed, and to guide her through this period so she can fill her needs in more age-appropriate ways than pregnancy.
APPENDIX A

RELEASE FORM

PARTICIPANTS:

I understand that I will be given a 20-item questionnaire involving recent changes in my life. The results of my questionnaire will be used in a completely anonymous manner for research on adolescents and on pregnancy, conducted by Mahalla Lenzi, a graduate student in psychology at the University of Central Florida. I also understand that, if I am interested, the overall results of this study will be communicated to me when it is completed. I understand the above and agree to participate.

______________________________  ______________________________
Witness                                           Signature of client

_________________________  ______________
Age                                           Date

PARENTS OF MINORS:*

I am aware that my daughter ____________________________ will be given a 20-item questionnaire regarding recent changes in her life. The results of this questionnaire will be used in a completely anonymous manner for research studying adolescents and studying pregnancy, conducted by Mahalla Lenzi, a graduate student in psychology at

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the University of Central Florida. I also am aware that, if I am interested, the overall results of this study will be communicated to me when it is completed. I understand the above and agree to allow her to participate.

Witness

Signature of parent/guardian

Date

*Control Groups II and III
APPENDIX B

INSTRUCTIONS GIVEN TO ALL SUBJECTS

You are being asked to participate in research that is studying when adolescent pregnancy occurs in someone's life. Your life experiences and your honesty about them can be extremely significant to this study. Your anonymity will be preserved throughout the study. A few questions about your background will be asked first, followed by a questionnaire. Your participation is greatly appreciated.

Background Information

Age ___  Grade ___  If not in school, graduation date from high school _______ or approximate date you dropped out of school _________.

Race ___

With whom do you live? (circle) mother  father  both parents  alone other relative  husband  boyfriend  other friend

To your knowledge, are you an adopted child? yes  no

Have you ever been a victim of child abuse? yes  no

Have you ever been a victim of sexual abuse at home? yes  no

Have you ever been pregnant? yes  no

Have you ever engaged in sexual intercourse? yes  no

If yes, approximately how old were you when you first had sex? ___
Questionnaire Instructions

IF YOU HAVE EXPERIENCED SEXUAL INTERCOURSE:

Listed below are several events that may have occurred in someone's life in the past. You are asked to think back to when you first experienced sexual intercourse, and to remember the month and year. Then you are asked to read each item on the Events list, and think of whether that event happened to you within 0 to 3 months before you first had sex. If it did happen to you during that time, rate the event when you think back on it according to whether at the time it seemed

1--not at all important to you in your life
2--not very important to you in your life
3--important to you in your life
4--quite important to you in your life
5--very important to you in your life

Then put the number of the rating (1-5) on the line next to the item and under 0-3 months; (for example, 0-3 months
Death of a close family member 5).

If the event happened 4 to 12 months before you first had sex, rate the event and put the number next to the item and under 4-12 months; for example, 0-3 months 4-12 months
Recent move 3).

If the event happened both 0-3 months and 4-12 months before you first had sex, rate each time it occurred separately, and put the number under the appropriate time period; (for example, 0-3 months 4-12 months Violence at home 5 4).

OR IF YOU HAVE NOT EXPERIENCED SEXUAL INTERCOURSE:

Think back on the events that have happened to you within this last year. Read through the list of events and rate each event that has happened to you within the last 0-3 months, and the last 4-12 months, according to the directions given above.
APPENDIX C

RECENT LIFE EVENTS QUESTIONNAIRE

Ranking:  1--not important at all to you in your life
         2--not very important to you in your life
         3--important to you in your life
         4--quite important to you in your life
         5--very important to you in your life

<table>
<thead>
<tr>
<th>Event</th>
<th>0-3 months</th>
<th>4-12 months</th>
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</thead>
<tbody>
<tr>
<td>Death(s) of close family member(s)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Death(s) of close friend(s)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Separation/divorce of parents</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Break-up(s) with steady boyfriend(s)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recent move(s)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Serious physical illness(es) of close family member(s)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Serious physical illness(es) of close friend(s)</td>
<td></td>
<td></td>
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<tr>
<td>Serious mental illness(es) of family member(s), including alcohol and drug problems</td>
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<td>Loss of job(s) of self or major income-earner in the family</td>
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<tr>
<td>Family member(s) or self arrested by police</td>
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<tr>
<td>Violence at home</td>
<td></td>
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<td>Suicide attempt(s)</td>
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<td>Suicide attempt(s) by family member(s)</td>
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<td></td>
</tr>
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<td>Dropped out of school</td>
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<tr>
<td>Pregnancy of relative(s) or close friend(s)</td>
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<td>Victim of child abuse</td>
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<td>Victim of sexual abuse within family</td>
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<td></td>
</tr>
<tr>
<td>Victim of rape(s)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other significant life event (please name)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
APPENDIX D

INSTRUCTIONS GIVEN TO PREGNANT SUBJECTS

IF YOU ARE NOW PREGNANT OR HAVE JUST RECEIVED A POSITIVE PREGNANCY TEST AT BETA:

Listed on the next page are several events that may have occurred in someone’s life in the past. You are asked to think back to when you became pregnant with this pregnancy. Then you are asked to read each item on the Events list, and think of whether that event happened to you within 0-3 months before you became pregnant. If it did happen to you during that time, rank the event when you think back on it according to whether at the time it seemed

1--not important at all to you in your life
2--not very important to you in your life
3--important to you in your life
4--quite important to you in your life
5--very important to you in your life

Then put the number of the ranking (1-5) on the line next to the item and under 0-3 months; (for example, 0-3 months 5).

If the event happened 4 to 12 months before you became pregnant this time, rank the event and put the number next to the item and under 4-12 months; (for example, 0-3 months 4-12 months).

If the event happened both 0-3 months and 4-12 months before you became pregnant, rank each time it occurred separately, and put the number under the appropriate time period; (for example, 0-3 months 4-12 months 5 4).

Death of a close family member
Recent move
Violence at home
Background Information

Your age ______  Your race ______

Approximate date you became pregnant ________________

Is this pregnancy a planned pregnancy? (circle) yes no

Is this pregnancy a wanted pregnancy? yes no

Are you enrolled in school? yes no

If yes, what grade? ______  If graduated, year of graduation ______

If no, approximate date you dropped out? ________________

Your age when you became pregnant __________
REFERENCE NOTES


REFERENCES


