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ABSTRACT

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Reactivity to observation is one of the most widely recognized methodological concerns for those employing naturalistic observation. Because the object of direct observation is to yield a representative sample of subjects' naturally occurring behavior, investigators are typically concerned about the fact that the presence of an observer may influence subjects' behavior. Such concerns are particularly disturbing when a researcher seeks to obtain behavioral data in the home environment. In this typically constricted and private setting, the possible intrusive affects of a live observer are especially apparent. For these reasons, several investigators have pioneered the development of mechanical recording devices for obtaining naturalistic behavioral data (e.g., Bernal, Gibson, William, & Pesses, 1971; Hoshiko & Holloway, 1968; Nordquist, 1971; Purcell & Brady, 1965; Soskin & John, 1963).

The object of the present study was to determine whether such mechanical recording procedures used alone would yield less reactive, or at least different, data than that obtained with an observer present. In short, this study compared the behavior of children and parents at home as recorded by audio tape recordings in two conditions--with an observer present and with the observer absent. Differences in the behavior of individuals was expected between these two conditions, and these differences were assumed to reflect the subjects' differential reactivity.

Several extended reviews of the reactivity question are available in the literature (e.g., Johnson & Bolstad, 1973; White, 1972; Wiggins, 1973), and such a review will not be reproduced here. As the present authors have previously pointed out (Johnson & Bolstad, 1973), the reactivity question has been studied with two basic paradigms--a) by the recording of behavioral changes over time, and b) by comparisons of data collected by differing methods which presumably differ in obtrusiveness. As White (1972) has concluded, the presence or absence of reactivity or observer effects appears to depend upon many factors including the setting employed, the intrusiveness of the observation procedures, the research paradigm employed, and the dependent variable examined.

Because most audio recording procedures seem to be less obtrusive than procedures involving a live observer, it is logical to suspect that they may yield less reactivity. In spite of the growing use of such procedures, however, there has as yet been no adequately controlled test of this assumption. Both Soskin and John (1963) and Purcell and Brady (1965) noted that their subjects' references to being observed disappeared after one or two days. These findings only suggest rapid adaptation, however, and do not prove either adaptation or the lack of reactive affects. Although Bernal et al. (1971) compared their observer recorded and tape recorded data protocols, their study was not designed to examine the issue of reactivity as such an examination was confounded by the data protocol source (i.e., observer recorded data or data coded from the audio recording). The present study employed both paradigms outlined above for the study of reactive effects by comparing subjects' behavior in two conditions presumed to differ in the obtrusiveness of observation procedures (observer present or absent) and further examined behavior changes over time.

As the present authors have outlined elsewhere (Johnson & Bolstad, 1973), audio recording procedures have several additional advantages over direct observation. First, such procedures attenuate the problem of observer bias by limiting subject-observer contact. Second, these procedures allow for completely random checks of observer agreement thereby eliminating the inflated observer agreement estimates which are produced by observers who are aware of periodic agreement checks as demonstrated by Reid (1970) and Taplin and Reid (in preparation). Finally, these procedures also appear to provide greater convenience to all involved and are typically less costly than direct observation. All of these advantages were realized in the present investigation.

Method

Subjects

Twelve families with only children between the ages of four and eight years were recruited through newspaper advertising and paid \$15 for their participation. Families with only one child were recruited because pilot investigations indicated that observers could not reliably discriminate between children's voices on the audio tapes employed.²

Observers

Three undergraduate students were recruited to serve as observers for this study. These observers were trained by paid research assistant observers to simulate the observational recording procedures employed in other research conducted in this laboratory (e.g., Eyberg & Johnson, 1974; Johnson, Wahl, Martin, & Johansson, 1973; Wahl, Johnson, Johansson, & Martin, 1974). Simulation of regular data collection procedures was employed because the paid observers were required for other research, complete training of accurate observers is very expensive, and all data for the present study was based on data protocols from the recorded tapes.

Three paid research assistant observers were employed in the coding of audio tapes. These observers were uninformed as to the purpose of the investigation and, of course, unaware of which tapes represented each of the two conditions. Although several hypotheses were formulated by the coders concerning the object of the study, only one observer correctly guessed the nature of the manipulation and her hypothesis was tentatively held. Thus, the authors conclude that the data probably could not have been seriously affected by observer bias.

Apparatus

All recordings in the families' homes were made on Sony cassette tape recorders, Model TC40A. These small cassette recorders which measure 1-5/16"x7"x4-3/8" are relatively unobtrusive recording devices.

Procedures

All families were observed for six consecutive week days with observers present on alternate days. Observer presence was counterbalanced such that for half of the families, observers were present on the first, third, and fifth days. For all other families, observers were present on the alternate days.

In order to obscure the real purpose of this investigation, families were told that the observers were required to observe more families than they had time for. As a result of this, they could be present in the home for only three days, and would have to rely on tape recorded data for the remaining three days. No subjects gave any evidence of doubting the veracity of this cover story.

The observers arranged a standard 45-minute time period for observation. This time always involved the hour prior to the family's typical dinner time.

In the observer-present condition, the observer appeared in the home for the scheduled observation at this time; in the observer-absent condition, the parents were instructed to activate the cassette tape recorder. In all families, the parents were called at the appointed time for the first observer-absent observation condition. Thereafter, parents were trusted to activate the cassette tape recorder at the appointed hour. No family indicated that this requirement was not met. The observer activated the cassette tape recorder on observer present days.

During all observation periods, the family was subjected to the same restrictions used in earlier research employing home observation procedures. That is, families were not permitted to watch television, to have outside visitors or extended phone calls, or to interact with the observer. In addition, subjects in this study were restricted to one room as opposed to the two-room restriction employed in earlier home observation research.

Observation System

A new observation code was devised for this study. This coding system includes only those categories which can reliably be coded from an audiotape recording. Several of the codes employed were derived from the direct observation system devised by Patterson, Ray, Shaw and Cobb (1969). Three basic summary statistics were used for the current study. They were a) child deviant behaviors, b) parent negative behaviors, c) parent commands. The child deviant behaviors included the following codes: physical negative, disapproving tone, cry, whine, yell, verbal negativism, tease, and demand attention. The parent negative behaviors included the following codes: disapproval, threat, whine, yell, verbal negative, tease,

physical negative, and disapproving tone. Parent commands included initiating, terminating and threatening command categories.

Observer Agreement

All data for this study were taken from coded protocols of the tape recordings. Three observers were randomly assigned to code the tapes from each family, and one-third of the tapes were randomly assigned to a second observer for agreement checks. None of the observers were aware of which of their own tapes were calibrated for agreement or when they were calibrating another observer's data for agreement. Thus, the observer agreement checks were completely random and can be viewed as completely representative of the remaining, non-calibrated data. This procedure seems to solve the methodological problem documented by Reid (1970) and Taplin and Reid (in preparation) that observers tend to achieve higher agreement scores when they are aware of being calibrated.

Observer agreement was computed by correlational methods on total frequency scores obtained over the entire 45-minute recording as recommended by Johnson and Bolstad (1973) and Hartmann (1974). With one-third of the total 68 tapes calibrated in this fashion, the observer agreement correlation for child deviant behavior was .96; parent negative behavior, .89; and parent commands, .91.

Results

Results were analyzed by means of two-way analyses of variance with repeated measures, testing for the effects of observation conditions and changes associated with the passage of time. Due to mechanical failure, four of the seventy-two tapes were not usable for coding, and the analyses were accomplished with corrections for this missing data as suggested by Meyer (1972, pp. 171-172). Such analyses were performed on each of the three

dependent variables--child deviant behavior, parent negative behavior, and parent commands. No significant main effects or interactions were found. Thus, there was no evidence in this data to suggest differential reactivity to the observation procedures, and no evidence for adaptation to the observational procedures. Separate one-way repeated measures analyses of variance were performed on the observer present and the observer absent data to further check for adaptation effects. No such effects were found.

Correlations between observer present and observer absent data were also computed. The Pearson product moment correlations were as follows: child deviant behavior, $\bar{r} = .68$, $p < .01$; parent negative behavior, $r = .51$, $p < .05$; and, parent commands, $r = .48$, $p < .06$. While all of these correlations are somewhat lower than those stability correlations obtained in earlier home observation research (e.g., Johnson & Bolstad, 1973), all but the parent command correlation were significant. Furthermore, such correlations might be expected to be somewhat lower due to the fact that the observational conditions differed, potentially contributing more variability in behavior.

Discussion

Although it seems very likely that mechanical recording procedures would yield less reactivity and faster adaptation in the observed, there is no evidence in the present study to substantiate that proposition. The significant correlations between the observer present, and observer absent conditions are consistent with Bernal et al.'s (1971) earlier findings, and the lack of significant change over time is consistent with the earlier findings of Patterson and Cobb (1971).

Because the proposition that audio recording devices should yield less reactive data is so intuitively persuasive, it may be well to examine those factors in the present research which could have contributed to the negative results. First, and most obvious, is the fact that all family members were aware of the exact time at which the recordings were taking place. The parents were required to activate the tape recorder, and all family members were restricted to one room. Obviously, this restriction and the awareness of data recording would have made the procedures obtrusive to the family members. Parenthetically, it would seem nearly impossible to arrange an observer present condition without subject awareness in the home setting. Second, the observations under each condition were conducted for a relatively brief period, and it is possible that the findings would have reflected differences had the research been carried out for a longer period. Third, the counterbalancing procedures which required observer presence on alternate days may have enhanced the reactive effects on observer absent days. It might be well in future research to counterbalance blocks of observer present and observer absent time.

In an effort to deal with some of the problems outlined above, the present authors are currently pilot testing radio transmitters which are carried by the target child (as in Hoshiko & Holloway, 1968; Nordquist, 1971; Purcell & Brady, 1965; Soskin & John, 1963). These transmitters are connected to a receiving-recording apparatus which can be activated at random intervals without the awareness of those observed (as in Bernal et al., 1971). Because such recording procedures also attenuate the methodological difficulties of observer bias and problems in testing observer agreement, as outlined earlier, and because they provide for

greater convenience to observers and families at a somewhat lower cost, they appear to be of considerable utility irrespective of the reactivity question. At this point, however, any advantages of audio recordings in reducing reactivity remain to be demonstrated.

Footnotes

¹This research was supported by National Institute of Mental Health Grant MH 19633. The authors wish to thank Andrew Christensen for his work in helping complete various aspects of this study.

²Such discriminations can be made with the use of sophisticated radio transmitters now employed by our laboratory.

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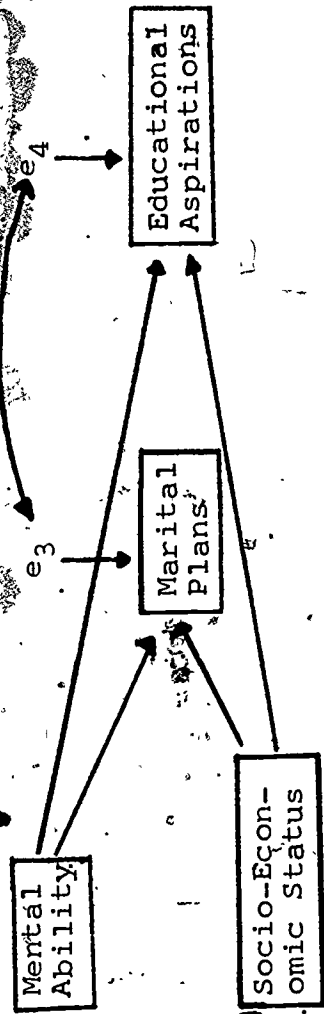
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causal effect (.45) was found between educational plans and marital plans. The model is found in Figure 2. Thus, Bayer reported two studies in the same year, utilizing essentially the same data set, but positing contradictory relationships between women's marital plans and educational attitudes. It is interesting to note that in both cases "large" causal effects were reported ("large" relative to other effects in the model). When these two findings are taken together, the actual form of the relationship between the variables becomes problematic, and a dilemma exists concerning which explanation is preferable.

To further complicate the form of the relationship, Schoenberg, in a rather extensive critique of Bayer in Sociological Methodology 1972, has pointed out numerous difficulties with the Bayer study and suggested yet another plausible explanation for the reported correlations. This third explanation was that the correlation might be spurious as a result of the effect of prior variables. This relationship corresponds to Explanation 3 above, and is modeled in Figure 3.

In addition, a fourth possible relationship may exist between the two variables. It is also possible that there is a reciprocal relationship between the

Figure 3. Path diagram showing a spurious relationship between women's marital plans and educational aspirations.



From: Ronald Schoenberg. "Strategies for Meaningful Comparison" in Herbert L. Costner's Sociological Methodology, 1972, San Francisco: Jossey-Bass, Inc., p. 26.

two variables. It is also possible that there is a reciprocal relationship between the variables. This explanation, of course, corresponds to the listed Explanation 4 above (See Figure 4). By combining these three studies of Bayer and Schoenberg, it can only be concluded that although a relationship appears to exist between women's marital plans and mobility-linked attitudes, the form is not only unknown, but also problematic in present sociological literature.

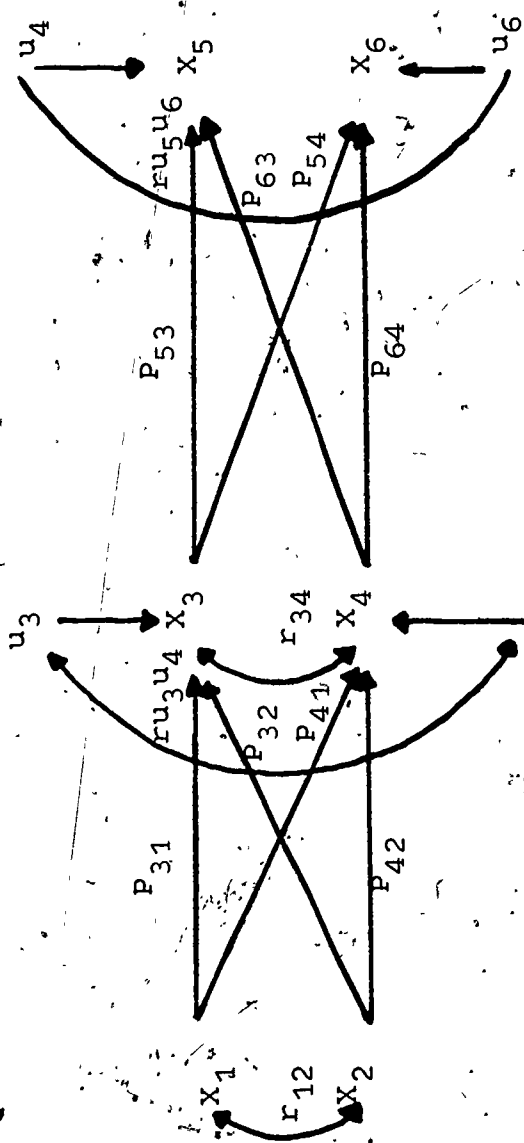
Definition of Terms

In this section, an attempt shall be made to delineate the major analytical concepts in this thesis. The conceptual framework for the major research hypotheses are stated.

Occupational choice. Occupational choice has been defined by Kuvlesky and Bealer as a psychological preference of the individual regarding work statuses (Kuvlesky and Bealer, 1966:267). They maintain the term is equitable to aspiration, and is only a part of the total occupational attainment process.

Aspirations. Aspirations are "a person's...orientation toward a goal" (Kuvlesky and Bealer, 1966:269). This special form of the concept "attitude" can be broken into three analytical elements: "(1) a person

Figure 4. Heise path analytic model for two variables and three waves.



of persons, (2) wanting (having an orientation toward or about), (3) a social object (i.e., a goal)" (Kuvlesky and Bealer, 1966:270). Both the goal and orientation elements can vary either internally or independently of each other.

Expectations. An individual's expectation is his estimation of probable achievement pertaining to a specific goal. Expectations are not the same as aspirations because they need not be desired and considered a goal.

Occupational aspirations. This may be conceptualized as the individual's desired occupational goal. An occupational aspiration reflects the professional position that an individual most desires.

Educational aspirations. Educational aspirations may likewise be conceptualized as the individual's desired educational goal. An educational aspiration reflects the degree of education that the individual most desires.

Occupational expectations. In contrast to occupational aspirations, an occupational expectation is the occupation the individual actually expects to attain. This projection may not actually be the desired occupation of the individual; unlike occupational aspirations, the occupation involved is not necessarily a goal.

(Picou, 1967:77).

Educational expectations. Similarly, educational expectations are the level of educational attainment expected by the individual. Once again, these expectations may not reflect the goals or desires of the individual since they estimate actual achievement.

Level of aspiration. The term level of aspiration signifies an individual's orientation toward a goal (Haller and Miller, 1971:7). Since an individual's goal is chosen from various alternatives, his orientation is also variable. An individual's level of orientation is determined by the central tendency in his orientation toward a particular goal.

Level of occupational aspirations. Haller and Miller (1971) have defined the level of occupational aspirations as being a special case of the generalized level of aspirations. It is distinguished from the general concept because it takes on the occupational hierarchy as its object; furthermore, the continuum of difficulty consists of various stages in that hierarchy.

Level of educational aspirations. Likewise, the level of educational aspirations (LEA) may be differentiated from the general concept solely because it focuses upon the educational hierarchy, and the continuum of

difficulties associated with LEA consist of the various levels on the educational hierarchy.

Marital plans. According to Bayer (1969a, 1969b), marital plans operationalized by the actual age at which an individual expects to marry. In his studies, it has been found that the age response concerning the individual's desired age at marriage closely coincides with that individual's actual age at marriage.

Implications of the Research

Basically, there are three implications of this research in regards to sociology and theory construction, methodology, and applications for research.

The significance of this research regarding theory construction is two-fold. First of all, this research helps in a modest manner to resolve the problem of relational specification between the variables, marital plans, level of educational aspirations, and level of occupational aspirations. Secondly, this research extends present analysis of marital plans to populations for which it is currently otherwise available. While most analyses are limited to Northern and urban populations, this research deals with a Southern, non-metropolitan, black-white population.

Methodologically, the significance of this research is in the application of the new procedure, the Heise path analytical technique. Heretofore, this technique has had limited usage. Consequently, additional experience and utility with the technique has been gained by using it in this research.

The third significant implication of this research would concern applications for future research. Here, it is discernable that the disparities and inequalities experienced by women in society are most likely related to choices available concerning their educational, occupational, and marital plans, and the manner in which they resolve such conflicts. Information leading to the understanding of these conflicts should be valuable in the understanding of inequality and possibly in developing strategies to alleviating it.

CHAPTER I

REVIEW OF THE LITERATURE

Empirical Aspects

Recently, a wide range of literature concerning women has been developing; much of this literature is associated with the development of a theory of women's occupational choice. As this literature has become more extensive, several factors have become increasingly apparent. First of all, many of these studies show a strong relationship between occupational and educational choices with the marital plans of women. Therefore, it becomes evident that a theory explaining the occupational choices of women involves more variables and relationships than would affect a theory of male occupational choice. However, major efforts toward a theory dealing with the occupational choices of women have attempted to analyze these choices utilizing the theoretical constructs developed for men (Ginzberg, 1951; 1966). The following review of literature will discuss current empirical studies revealing a relationship between marital plans and mobility-linked attitudes; furthermore, it will discuss various theoretical and hypothetical leads

which might be valuable in theory construction.

The substantive question of the relationship between marital plans and mobility-linked attitudes fits into the rest of current sociological literature which has been associated with the development of women's occupational attitudes (Epstein, 1973; Gubbles, 1973; Havens, 1973; Matthews and Tiedeman, 1964; Papanek, 1973; Sewell, 1971; and Thomas, 1971). These studies all reveal a significant relationship between marital plans and mobility-linked attitudes of females.

Sexual occupation differentiation: Epstein has theorized that "in the exchange system of American society, women's sex status...has typically cost them prestigious and remunerative jobs because society did not evaluate (women) as being high in either capacity or potential" (1971:912). Furthermore, in her analysis of sexual occupational differentiation, she has suggested

Those (women) who did succeed had to be brighter, more talented, and more specialized than white males in a comparable labor pool, whom the society ranked higher. Thus, they paid more for the same benefits...if they were permitted to acquire them at all. (1973:912)

Occupations have become sex-typed such that males feel compelled to obtain masculine occupations to assert their virility, just as women feel compelled to accept

occupations considered "proper" for females in order to protect their feminine self-image (Gubbles, 1973:213). Consequently, marriage and motherhood are still the major goals of most women. These decisions tend to limit other goals, especially occupational ones. Traditional female occupations are domestic services, teaching elementary and secondary schools, clerical work, nursing, retail sales, factory labor, needlework, and social work (Fichter, 1973:206; Pinchbeck, 1973:28; Waldeman, 1973:33). Finally, "regardless of occupational field, they enter, women around the country and across racial lines tend to have the same distribution of work activities on the job itself" (Fichter, 1973:206).

Female occupational and educational attitudes. Today women have greater access to higher education than at any previous time in history, education which will ideally aid their employment opportunities. The American female, socialized primarily by another female, her mother, tends to reflect traditional attitudes toward education and career. Furthermore, Sewell's analysis (1971) indicated that while "women make better grades in high school than do their male cohorts, they are still seriously disadvantaged relative to men in levels of teachers' and parents' encouragement and in their own

levels of educational aspirations" (1971:800). He has further stated that women have lower chances to obtain additional schooling, college attendance or graduation, or of attending graduate or professional schools than do males. (1971:796). He hypothesizes the major sources of these lower attainment rates of women are to be found in the period immediately following high school completion because "the effects of socialization in the family and in the school are easily manifest in women's levels of school performance, of significant other's influence, and of aspiration" (1971:796). Sewell concludes that

a narrow sex-role training that stresses household and family roles for women over educational and occupational opportunities -- and which becomes most salient when young women for the first time face the realities of discrimination in higher education and the job market -- plays a major part in depressing the women's post-secondary educational attainments. (1971:804)

Thomas has hypothesized that among white females "the girls appear to have internalized the achievement orientation which so conspicuously characterizes American society...without abandoning the normative prescription that females marry, have children, and devote themselves to the mother role" (1971:24). She has indicated that white females may not utilize their education to obtain an occupation; instead, white females tend to use their education to obtain a husband during college years, and

thereafter follow the traditional female roles of wife and mother. Papanek has theorized that a woman may accomplish vicarious achievement "through the husband's job in a special combination of roles which (she calls) the 'two-person single career'" (1971:822). Female participation in such a career may deter the wife from pursuit of a full-fledged career for herself. In fact, she may be discouraged from a career by both her husband and his employer who may feel that her participation in a career would hurt her husband socially. In contrast to patterns of white females, black females expect to utilize their education professionally (Epstein, 1973).

Female marital plans. Matthews and Tiedeman have hypothesized that the developmental effect of attitudes toward a career and marriage upon life styles occur as a person ages (1964:375). These marital plans of an individual are best measured by directly asking the individual at what age she intends to marry (Bayer, 1969a: 558).

The level of female nonmarriage in a given status category increases with income. Havens asserts that the occupational status of working women can be analyzed as a variable affecting differential levels of marriage for women, if the economic rewards associated with a given occupation are viewed as elements of status (1973:977).

Haven's explanation of this phenomenon hypothesizes that "the higher the economic achievement of females, the less their desire to accept the confining traditional familial sex role" (1973:980). Furthermore, Carter has theorized that the marital status of a woman has a negative effect upon her occupational status (1972:2). She suggests that non-married women are more likely than married women to have occupations ranking highly in occupational status. Conversely, married men have higher occupational statuses than non-married men (Carter, 1972:2-3).

Disparity of women's attitudes. Matthews and Tiedeman have discussed four disparities of women's attitudes toward marriage, education, and occupation (1964:382-383). First of all, the female's perception of male attitudes toward her intelligence may cause the marriage-minded female not to pursue her desired career, or to forego it for the security of marriage. A second disparity occurs in the traditional attitudes that women are qualified only to be homemakers, while men should hold the dominant position of breadwinner in the family. A third disparity arises in the "conflict between acceptance of the role of wife and mother and acceptance of a feminine career" (1964:382). Fourth, women's attitudes toward desired age at marriage conflicts with the purpose and

desire of college education.

Theoretical Aspects

While sociologists have been interested in the area of social mobility, education, and occupations for many years, a relatively small proportion of the literature focused upon women. Consequently, it is necessary to delineate the nature of past theory, including that pertaining to males, in order to understand the degree of limitations involved in studies of occupational choices of women.

Occupational Choice

There are two basic approaches to the study of occupational choice: the adventitious and the developmental.

The adventitious approach is characterized by a kind of choice factor in which the individual more or less "lucks into" an occupation without any real rational thought about it. In contrast to this, the developmental approach is analogous to the maturation process. (Falk and Gosby, 1974:1)

In 1951, Ginzberg theorized three stages in the development of occupational choice, the fantasy stage, the tentative stage, and the realistic stage. Ginzberg assumed that an individual will consider many possible

occupational choices over the years; therefore, occupational choice and eventual attainment may be considered a process which begins in childhood and continues into adulthood. "Occupational attainment is thus a product of prior influences as well as current circumstances. The importance of differential socialization of roles is contained within this framework" (Falk and Cosby, 1974:2).

The general approach of studies on the development of occupational choice may be briefly summarized. First of all, occupational choice may be viewed as a process and therefore be treated in a developmental framework. The choice process begins early in the development of a child, continuing into adulthood. Therefore, occupational choice must be viewed as a product of both prior and present influences (Ginzberg, 1951). Secondly, the importance of differential socialization in the formation of the occupational role of the child is stressed. The manner in which the child is socialized in the family will primarily determine that individual's idea of acceptable occupational goals and roles. Socialization is effected in schools, peer groups, among family members, and in work. Also, various stages in the process of occupational choice may be distinguished such that

the "quality of the choice varies according to the stage of the development" (Cosby and Legere, 1971:12). Ginzberg has discussed the pre-adolescent fantasy stage, the tentative stage of adolescence, and early adulthood (Ginzberg, 1951). As the child moves from stage to stage in this choice process, his occupational choices will become more focussed, frequently the range of acceptable occupations narrows, and the individual's personal commitment to a particular occupational goal may increase.

Different types of choice can be delineated at various phases in the choice process. At least two dimensions of choice can be distinguished although there is a considerable lack of agreement on appropriate terminology and conceptual differences. First of all, there are occupational aspirations which indicate an individual's wishes or desires concerning his life's work. Secondly, there are occupational expectations which indicate the individual's expectation or anticipation of entrance into a given career for his life's work (Kuvlesky and Bealer, 1966).

During the pre-adolescent years, a child selects occupations which are perceived as being pleasurable. These choices are usually variable, high in status, and unrealistic in terms of actual career attainment later.

In addition, the career choices made during this period are "goal centered"; they show little or no concern for the means required to acquire a given occupation (Ginzberg, 1951). During adolescent years, career choices become more tentative. Both the type and range of aspired and expected occupations are greatly delineated. During this period, the individual becomes concerned with the means essential to the obtention of specific occupational goals. As the individual considers necessary means of obtaining occupational choices, obstacles are perceived which may limit or obstruct the earlier "goal-centered" choices. If the individual believes the obstacles are severe, occupational choices will be lowered. Also, "the severity of blockage should vary according to actual occupational disparity in the social situation" (Cosby and Legere, 1971:13).

One group of potential limitations is referred to as structural disparities. These are possible blocks of which the student must become aware of the disparity and view it as limiting his occupational chances.

The developmental approach suffers from at least two serious deficiencies. First of all, this approach was originally constructed in reference to the development of male's occupational choice. Ginzberg applied it later to females, giving the impression that this application

was an afterthought (1966). Consequently, the process has been inadequately explicated for the feminine aspects of occupational choice. Secondly, Ginzberg's developmental framework possesses an underlying construct of increasing realism of choice; unfortunately, however, this construct is both conceptually and operationally difficult to apply.

Theories of Women's Occupational Choices

Since theories of occupational choice have typically been oriented toward male development, it should prove useful to review some conceptualizations concerning the special problems of women. However, these conceptualizations are at a different level of sophistication than are the general theories of occupational attainment dealing with the occupational choices of males.

As previously discussed, Matthews and Tiedeman (1964) have suggested four conflicts that a woman may experience in her development that are not generally characteristic of males. It may be inferred from the Matthews and Tiedeman hypothesis that a woman is socialized such that she will develop conflicting attitudes of success: the success of the traditional wife-mother role versus the occupational-educational role. According to Falk and Cosby, the resolution of this conflict is viewed as a

primary focus in the analysis of the career decisions of women (1974:7).

George Psathas (1968) has provided an outstanding theoretical perspective on occupational choice of women. Psathas acknowledges the importance of a developmental perspective which considers both the various stages of development and the dynamics within each stage. For Psathas, primary importance is placed upon the relationship between occupational roles and sex roles since these are relevant within the developmental framework of his theoretical perspective. However, Psathas does not actually delineate a theory of women's occupational choices; instead, he suggests certain variables which effect the occupational choice process for women. These variables include the marital plans of women, fertility aspirations, family financial situation, presence of brothers who may gain deferential financial support for college education, parental socio-economic status, and the desire of a woman for a working career versus the traditional role of wife and mother.

Not only do females have the special problems of attitude conflicts and occupational sex-typing, there is also empirical evidence to indicate that women receive less encouragement from others to attain higher levels of education (Sewell, 1971). In Sewell's research on status

attainment, the influence of significant others has been found to be an important factor intervening in the transmission of parental status to their children.

Furthermore, it may be expected that many of the behaviors of young women may also provide difficulties in attainment not experienced by males. Other than the obvious economic difficulties of early marriage and child bearing, it could also be suggested that the husband's encouragement not to work may have a negative influence on the wife's attainment. As was previously mentioned, Papanek (1970) hypothesizes that a wife may be discouraged from a career by both her husband and his employer who feel that her participation in a career would harm her husband both professionally and socially.

In summary, it would appear that the general theories of development and attainment have proven deficient as models for understanding women's occupational, educational, and marital plans. These theories manifest a strong male bias and tend to ignore problems which are peculiar to women. Four basic axioms can be detailed that are sexually unique to females and generally result in a disparity in the development process. First, at the earliest stage in development, a female is socialized primarily by another female. This female is usually her mother who generally maintains traditional views of what

constitutes appropriate educational and occupational goals. Secondly, American society tends to sex-type occupations such that pressures exist for women to express femininity through the choice of certain occupations which are restricted in range and status, unlike the wide range of career positions available to males. Third, during adolescence the young woman experiences serious attitudinal conflict between notions of success defined in terms of educational and occupational goals versus marriage and motherhood, and fourth, influence from others including parents, teachers, peers, husbands, and the husband's employer tend to encourage women to accept the marriage-motherhood roles and to sacrifice further educational and occupational goals.

CHAPTER III

METHODOLOGY

Source and Data Collection Procedures

The data for analysis were obtained from a three-wave, six year panel study of Southern youth with non-metropolitan origins. This study (S-81)¹ includes comparable data on individuals interviewed at three different times from the states of Alabama, Georgia, Louisiana, Mississippi, South Carolina and Texas. Wave I data were originally collected in 1966-1967 when the subjects were high school sophomores. Wave II data were collected two years later when the majority of the youth in the panel were in their senior year in high school. Additional information was collected in Wave III during the summer and fall of 1972 when most of the subjects were four years beyond their expected date of high school graduation. The resulting panel consisted of a total of 1,228 respondents, with a subset of 528 females. In this analysis, only single females are

¹A project of the USDA (CSRS), entitled "Development of Human Resource Potentials of Rural Youth in the South and Their Patterns of Mobility."

utilized.²

Two subsets of the three-wave, six year data set design are unavailable. Wave I data was not collected in Louisiana and Wave II data was not obtained in Mississippi.³ Therefore, the data subsets from these two states have been deleted from the present study. Consequently, the subsets of single females from Texas, Alabama, South Carolina and Georgia are 84 blacks and 63 whites.³

The major method of data collection for the Wave I interviews was group-administered interviews; these questionnaires were administered to purposely selected non-metropolitan schools,⁴ and possessed high proportions of Blacks and low-income families. Wave II data was likewise collected through the administration of questionnaires to groups of students. Wave III information

²Since the concept of marital plans implies a future occurrence, it seemed implausible to include married women. After all, it is poor logic to assume that an individual's achievement reflects his idealized goals (in this case, marital plans).

³Of the original 528 females in the panel 172 were from Louisiana, 172 from Mississippi, and 156 were married. Thus, the reduced panel size for this study was 147 females, with 63 whites and 84 blacks.

⁴Non-metropolitan is used to refer to communities with less than 100,000 population.

was primarily obtained from a stratified sample of the respondents by personal interview;⁵ however, mailed questionnaires and telephone interviews were used to recontact a portion of the panel. Panel attrition appeared to be associated with high school drop-outs and migration at Wave II (the data collection which occurred during the estimated senior year of high school), and due to out-of-state migration and military service in Wave III (the post-high school period).⁶

Indicators of Measurement

A common set of questions were utilized in the various interviews in each of the waves and across states. This repeated measurement of variables focussed on the youth's orientation toward such critical life areas as occupational plans, educational plans, residential attitudes, and marital plans. Thus, the study has the potential for the analysis of the stability and

⁵The sample was stratified 50:50 by race and 60:40 by sex (See Carolyn Delores White, 1974, forthcoming).

⁶There is no statistical evidence to support this assertion; it appears to be subjective opinion of the interviewers (See Carolyn Delores White, 1974, forthcoming).

mutual dependence, over time, of these variables.⁷

Of primary interest were the repeated measurements of women's occupational aspirations and expectations, educational aspirations and expectations, and marital plans. Measures of these variables were obtained at each of the three waves. To determine the women's occupational aspirations, the respondents were asked, "If you were completely free to choose any job, what would you desire most as a lifetime job?" The open-ended responses were coded and evaluated by the Blau-Duncan SEI Scale. Women's occupational expectations were determined by the question, "Sometimes we are not always able to do what we want most. What kind of job do you really expect to have most of your life?" Answers were coded and evaluated as they were for occupational aspirations. However, the major operationalization of an occupational attitude to be utilized for evaluative purposes in this thesis will be the Level of Occupational Aspirations (LOA), a variable which consists of the mean of the scores of occupational aspirations and expectations. The variable Level of Occupational Aspirations approximates Haller and Miller's LOA as discussed in the book,

⁷The Southern Youth Study was not designed for this particular research; however, it is amenable to such a test.

The Occupational Aspiration Scale (1971). The formula for this operationalization may be written as follows:

$$LOA = \frac{\text{Blau-Duncan score of occupational aspirations} + \text{Blau-Duncan score of occupational expectations}}{2}$$

To determine educational aspirations, each respondent was asked, "If you could have as much education as you desired, which would you do?" This question was followed by the following series of structured responses:

1. Quit school right now.
2. Complete high school.
3. Complete a business, commercial, electronics, or some other technical program after finishing high school.
4. Graduate from a junior college (2 years).
5. Graduate from a college or university.
6. Complete additional studies after graduating from a college or university.

The subjects were then asked, "What do you really expect to do about your education?" The answers to this question were structured like those for the question concerning educational aspirations. This operationalization of the variable, educational expectations, is consistent both with Bayer's measurement and with the conceptual distinction between aspirations and expectations developed by Kuvlesky and Bealer (1966). Here again, however, the major operationalization of educational attitudes in the Level of Educational Aspirations. (LEA).

This newly created variable is the mean measurement of the composite educational aspirations and expectations, and may be formulized as:

$$LEA = \frac{\text{educational aspirations} + \text{educational expectations}}{2}$$

Finally, women's marital plans were defined as the respondents' orientation toward a definite age at marriage and was operationalized as the actual age response to the question, "At what age would you like to get married?" This measurement was also largely in agreement with the procedures used by Bayer (1969a, 1969b).

Development of the Model

As should be recalled, the objective of this research was to investigate and specify the form and degree of the relationship between marital plans and mobility-linked attitudes. It was felt that the utilization of multi-wave, repeated measurement data with path analytic procedures would provide superior information to certain critical issues of form. More specifically, repeated measurement (longitudinal) panel data in comparison to cross-sectional surveys in the analysis of questions of directionality, stability and mutual dependence.

The basic modeling technique applied was the path

analytic method developed by Heise (1970). The Heise path-panel technique was developed to deal with the problems of stability and cross-lagged effects in two-wave, two-variable designs. The method is an extension of the cross-lagged correlation technique (Pelz and Andrews, 1964) and has been evaluated with simulated data (Pelz and Lew, 1970). Empirical applications of this technique can be found in papers by Falk and Cosby (1974) and Cosby and Ohlendorf (1973).

Following the Heise approach, our model treats the same variable observed at different waves as hypothetically different variables (this general approach is graphically represented in Figure 4, p. 9). The x-odd variables (X_1, X_3, X_5) refer to marital plans, and the x-even variables (X_2, X_4, X_6) to educational expectations. Using this arrangement, the three-wave, two-variable models resulted in a model with four hypothetical variables. It was obvious and theoretically desirable that all possible paths in this model could not be computed (See Heise, 1969; and Heise, 1970). Fortunately, however, the introduction of a set of assumptions, discussed in some detail by Heise, which are isomorphic with the notion of causation in time-ordered data, allowed a theoretically agreeable solution. First, the assumption of temporal asymmetry of effects was made so

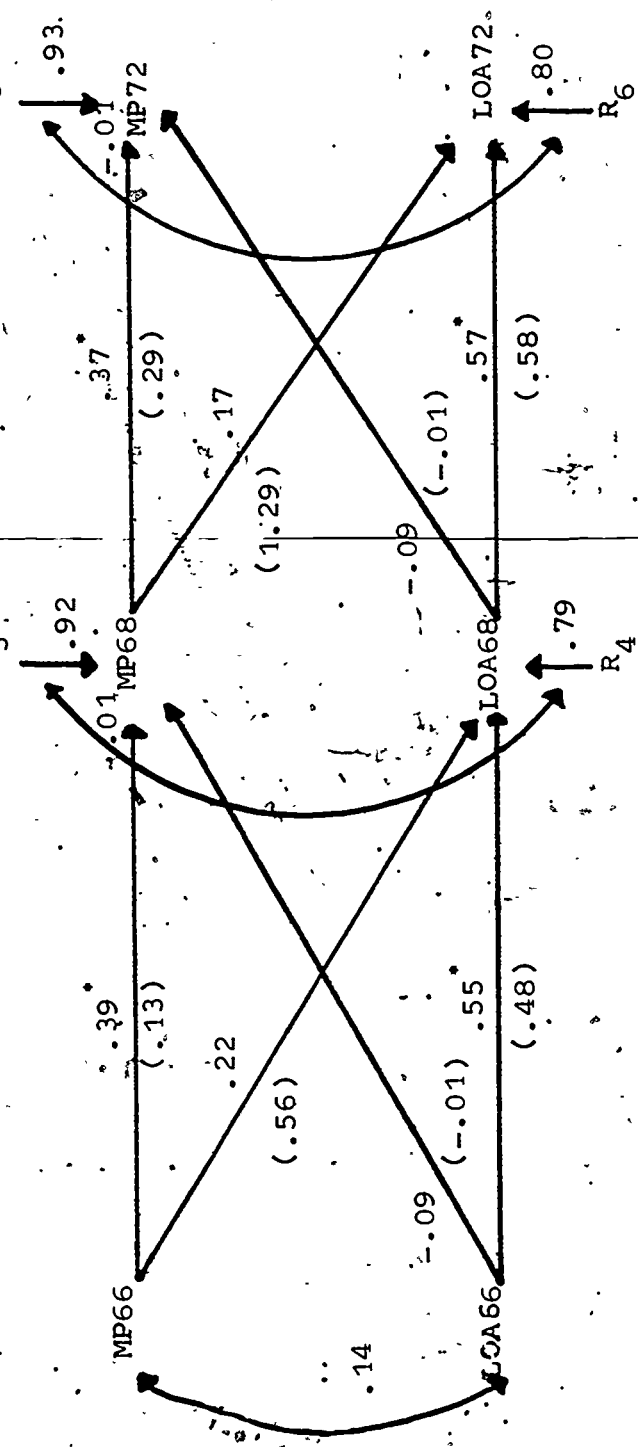
that later states of a variable could not influence earlier states. Thus, it was assumed that educational expectation levels in Wave II did not affect levels of the variables in Wave I. The application of this assumption eliminated the following twelve paths:

$(X_6 \rightarrow X_{1,2,3,4}; X_5 \rightarrow X_{1,2,3,4}; \bar{X}_4 \rightarrow X_{1,2}; X_3 \rightarrow X_{1,2})$.

Second, it was assumed that effects did not occur instantaneously but instead after some finite period of time. Consequently, it was assumed that marital plans and educational expectations measured in the same wave did not affect each other but instead that effects were cross-lagged across waves. The generalization of this assumption resulted in the deletion of six additional paths $(X_1 \rightarrow X_2; X_2 \rightarrow X_1; X_3 \rightarrow X_4; X_4 \rightarrow X_3; X_5 \rightarrow X_6; X_6 \rightarrow X_5)$.

The paths in this three-wave, two-variable model (Figure 4, p. 9) lead to two types of interpretation. First, one set of paths are interpreted as estimates of the consistency or stability of each type variable between waves. For example, paths from x-odd to x-odd variables for Figure 5 are estimates of the consistency or stability of marital plans, and paths from x-even to x-even variables are estimates of the consistency or stability of the level of educational aspirations.

Figure 5. White female 3W-2V model relating marital plans and level of occupational aspirations (N = 54)^a.



^aThe coefficients reported along the primary paths are standardized path coefficients above the arrows and unstandardized path coefficients in parentheses below the arrows; asterisks indicate that the significant correlation is at least twice its standard error.

Second, the paths from x-odd to x-even variables and x-even to x-odd variables are interpreted as estimates of the cross-lagged effects. Thus, the paths in the model from marital plans to educational expectations (x-odd to x-even) and from the level of educational aspirations to marital plans (x-even to x-odd) are estimates of various cross-lagged effects between the variables. These interpretations of estimates agree with the Heise model (1970) and with the earlier work on cross-lagged correlations by Pelz and Andrews (1964).

CHAPTER IV

ANALYSIS OF DATA

The analysis of data has been prepared in two major sections. The first of these involves a series of selected bivariate analysis of relationships between the key variables of marital plans, occupational attitudes and educational attitudes of females. The intent of this section is primarily descriptive in that simple bivariate relationships are presented in tabular form without statistical tests of significance. This description focusses on the stability of attitudes over time and the relationship between attitudes over time by racial groupings. The purpose of this section is to provide familiarity with the data prior to the utilization of more involved and complex multivariate analysis. Also, the contingency tables allow for a presentation of the data in a form comparable to most extant research on the problem.¹

The second major section of the report involves the

¹ However, a note of caution should be introduced. Cell sizes are often of very small magnitude, with many cells being less than ten in number. These small cell sizes are reported for descriptive purposes, and interpretation of computed percentages should be made with the same cell size in mind.

application of multivariate procedures, with tests of significance, to the problems of stability and mutual dependency between attitudes. Path analytic techniques in the form of Heise's cross-lag models are applied alternately to: (1) marital plans and level of occupational aspirations and (2) marital plans and level of educational aspiration.

Bivariate Analysis Utilizing Contingency Tables
of the Relationship Between Each Additional
Measure

Stability of Marital Plans.

Black Women. An examination of Table 1 indicates that there was a considerable degree of stability in black women's marital plans between the sophomore and senior interviews. A slight majority of these women tended to report the same planned age at marriage at both Wave I and Wave II. For example, 63% of the black women who had planned to marry at an age of 20 or earlier in 1966 reported similar early planned marital ages in 1968. Also, 54% of those who planned to marry between 21 and 23 years of age in Wave I reported likewise in Wave II, and 47% of those who planned to marry at 24 years of age or later in Wave I indicated similar

Table 1. Bivariate Analysis of the Longitudinal Relationship of Marital Plans of Women by Race

	MP66											
	18-20			21-23			24+					
	Black %	White %	N	Black %	White %	N	Black %	White %	N	Black %	White %	N
MP68	63	36	(5)	15	20	(7)	11	10	(4)	42	60	(6)
18-20	25	57	(8)	54	71	(25)	42	15	(15)	60	60	(6)
21-23	13	7	(1)	31	9	(3)	47	30	(17)	30	30	(3)
24+	Black = 14			White = 4			N = 4			N = 147		
missing												
	MP68											
	MP72											
	18-20			21-23			24+					
	Black %	White %	N	Black %	White %	N	Black %	White %	N	Black %	White %	N
MP72	00	00	(0)	16	00	(0)	3	00	(0)	14	14	(1)
18-20	39	82	(9)	19	41	(15)	14	14	(4)	14	14	(1)
21-23	62	18	(2)	65	60	(22)	83	86	(24)	86	86	(6)
24+	Black = 8			White = 8			N = 8			N = 147		
missing												

plans in Wave II.

In addition to the previously mentioned pattern of stability, there was a tendency for women to plan older ages at marriage. For example, the majority (62%) of those who planned to marry between the ages of 21 and 23 in the senior interviews had raised their planned age at marriage to 24 years of age or older by Wave III. This second pattern is partially an artifact of the nature of the panel. It should be recalled that as the transition between Wave II and Wave III was occurring, the respondents are moving into or are past the age categories specified earlier as the planned age at marriage. This would partially explain the shift to older planned ages at marriage.

White Women. For white women, a noticeably different pattern was observed in the changes of marital plans between the high school sophomore and senior interviews (see Table 1, p. 40). First, there was a strong tendency at both interview periods for white women to select the middle category of 21 to 23 years of age. Furthermore, in the transition from sophomore to senior marital plans, there appears to be some clumping behavior. That is, there was a tendency for those who had planned to marry relatively early or relatively late to shift to the middle category of 21 to 23.

Stability of Level of Occupational Aspirations.

Black Women. For purposes of tabular analysis, Duncan SEI scores for level of occupational aspirations were categorized as low (0 to 25), low-medium (26-50), high-medium (51-75), and high (76-100). There was a noticeable tendency to report LOA's in the high-medium occupational range at both the sophomore and senior contacts (See Table 2). The main divergence from this pattern was that 40% of the respondents who had indicated low levels of occupational aspirations in 1966 likewise indicated low LOA's in 1968. Furthermore, the highest stability category was among those who consistently reported high-medium responses at both waves. Also, it can be observed that there was a tendency for those respondents who either scored in the low or high occupational categories to maintain those levels. An examination of Table 2 reveals that of those black women who had low LOA's in 1966, none had high LOA's in 1968. Similarly, none of the women having high LOA's in 1968 expressed either low or low-medium choices in 1968.

Of those women who gave the same responses in both 1968 and 1972, 48% aspired to low-medium range occupations at both times, and 58% aspired to occupations in the high-medium range at both times. Divergencies occurred

Table 2. Bivariate Analysis of the Longitudinal Relationship of Level of Occupational Aspirations of Women by Race

LOA66

	0-25		26-50		51-75		76-100	
	Black %	White N	Black %	White N	Black %	White N	Black %	White N
0-25	40	(4) 25 (1)	9	(3) 17 (2)	4	(1) 00 (0)	00	(0) 00 (0)
26-50	30	(3) 50 (2)	44	(15) 58 (7)	19	(5) 25 (10)	00	(0) 00 (0)
51-75	30	(3) 25 (1)	48	(16) 25 (3)	78	(21) 70 (28)	64	(7) 43 (3)
76-100	00	(0) 00 (0)	00	(0) 00 (0)	00	(0) 5 (2)	36	(4) 57 (4)
missing								
				Black = 2			White = 0	N = 147

LOA68

	0-25		26-50		51-75		76-100	
	Black %	White N	Black %	White N	Black %	White N	Black %	White N
LOA72								
0-25	13	(1) 50 (1)	24	(5) 6 (1)	2	(1) 3 (1)	25	(1) 00 (0)
26-50	63	(5) 50 (1)	48	(10) 44 (8)	30	(15) 14 (5)	00	(0) 00 (0)
51-75	25	(2) 00 (0)	29	(6) 50 (9)	58	(29) 74 (26)	50	(2) 83 (5)
76-100	00	(0) 00 (0)	00	(0) 00 (0)	10	(5) 9 (3)	25	(1) 17 (1)
missing								
				Black = 1			White = 2	N = 147

at either extreme and tended to shift toward the middle ranges. Thus, 63% of the respondents who had very low 1968 scores had raised their LOA's by 1972 to the low-medium range. Likewise, 50% of the respondents who had high LOA's in 1968 had lowered their LOA's slightly by 1972 (lowered to the high-medium range of 51 to 75).

White women. The majority of single white women tended to maintain their levels of occupational aspirations between the 1966 sophomore and 1968 senior interviews. This, also, is shown in Table 2 (p. 43). For example, 58% of the women aspired to low-medium range LOA's both in 1966 and 1968, 70% aspired to high-medium LOA's at both contacts, and 57% aspired to high LOA's at the sophomore and the senior waves. The primary divergence from this pattern existed among those subjects who had originally aspired to low LOA's and had raised their LOA's to the low-medium range LOA category; in fact, 50% of the respondents had raised their LOA's during that period.

Between 1968 and 1972, occupational aspirations tended to level off at the high-medium LOA range. Thus, 50% of those respondents indicating LOA's in the low-medium category in 1968 raised their LOA's to the high-medium range by 1972; 74% of the women who had chosen high-medium LOA's in 1968 again indicated high-medium

range choices in 1972, and 83% of the women who had aspired to high range LOA's in 1968 lowered their choices to the upper-middle LOA category by 1972. The main divergence occurred when low range LOA's were consistently selected at both Wave II and Wave III by 50% of the respondents.

Stability of Level of Educational Aspirations.

Black Women. For purposes of tabular analysis, LEA scores were categorized as high school completion or less (0.0 to 2.0), completion of technical schooling or junior college (2.1 to 4.0), and college completion with or without additional graduate studies (4.1 to 6.0). The majority of black women tended to maintain their LEA's between 1966 and 1968 (See Table 3). Of those women aspiring to the low level of educational aspirations in 1966, 50% maintained those aspirations for only high school completion or less education in 1968.² Likewise, 67% of those respondents aspiring to the completion of technical schooling or junior college in 1966 maintained their LEA's between sophomore and senior waves, and 73.2% of

² However, 50% also shifted their LEA upward to the middle range, supporting the pattern established by blacks during the Wave II-to-Wave III period, and for white females at all periods.

Table 3. Bivariate Analysis of the Longitudinal Relationship of Level of Educational Aspirations of Women, by Race

LEA66												
LEA68	0.0 - 2.0		2.1 - 4.0		4.1 - 6.0		0.0 - 2.0		2.1 - 4.0		4.1 - 6.0	
	%	N	%	N	%	N	%	N	%	N	%	N
0.0 - 2.0	50	(2)	13	(1)	1	(3)	10	(3)	5	(2)	00	(0)
2.1 - 4.0	50	(2)	88	(7)	67	(26)	66	(19)	22	(9)	12	(3)
4.1 - 6.0	00	(0)	00	(0)	26	(10)	24	(7)	73	(30)	89	(23)
missing	Black = 0		White = 0		White = 0		N = 147		N = 147		N = 147	

LEA68												
LEA72	0.0 - 2.0		2.1 - 4.0		4.1 - 6.0		0.0 - 2.0		2.1 - 4.0		4.1 - 6.0	
	%	N	%	N	%	N	%	N	%	N	%	N
0.0 - 2.0	00	(0)	25	(1)	5	(2)	3	(1)	00	(0)	00	(0)
2.0 - 4.0	86	(6)	75	(3)	51	(19)	62	(18)	28	(11)	7	(2)
4.1 - 6.0	14	(1)	00	(0)	43	(16)	35	(10)	73	(29)	94	(28)
missing	Black = 8		White = 8		White = 8		N = 147		N = 147		N = 147	

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the black women aspiring to graduation from a college or university and possibly graduate studies maintained their high LEA's between those periods.

Between 1968 and 1972, this pattern was generally maintained. The 1968 LEA's for the completion of technical schooling or junior college were maintained by 51% of the respondents in 1972, and the 1968 LEA responses in the college graduate or higher level were maintained over time by 73% of the respondents. The main divergence from this pattern found between Wave II and Wave III is the change from low 1968 educational aspirations for high school completion or less to aspirations for graduation from technical schooling or junior college in 1972 by 86% of the respondents.

White Women. The pattern for white women was identical to the 1968 to 1972 pattern for black women (See Table 3, p. 46). Once again, between 1966 and 1968 the women maintained their aspirations for graduation from technical school, junior college, a college or university, or post-graduate studies. Low 1966 LEA's indicating a desire for high school graduation or less raised to a desire for graduation from technical schooling or junior college by 1968. Thus, 66% of the white women maintained their sophomore LEA for graduation from a technical school or junior college into their senior year, and 86%

maintained LEA's for graduation from a college or university or more schooling over time. The main divergence shown occurred when sophomore LEA's for high school graduation or less shifted upward to graduation from technical schooling or a junior college for 88% of the respondents.

Between 1968 and 1972, this pattern was again repeated. Levels of educational aspirations of high school education or less schooling for 1968 shifted upward to graduation from a technical school or junior college in 1972 for 75% of the respondents. Finally, 62% of the women aspiring to graduation from technical schooling or junior college in 1968 maintained their LEA's in 1972, and LEA's for college graduation or more school were overwhelmingly maintained for 93% of the women between 1968 and 1972.

The Relationship Between Marital Plans and Level of Occupational Aspirations.

Black Women. Between the sophomore and senior years, black single women maintained levels of occupational aspirations in the high-medium range regardless of planned age at marriage (See Table 4). Between 1966 and 1968, 42% of the women desiring to marry between the ages of 18 and 20 desired high-medium range LOA's. Of those

Table 4. Bivariate Analysis of the Longitudinal Relationship Between Marital Plans and Level of Occupational Aspirations of Women by Race

MP66

LOA68	18-20		21-23		24+	
	Black % N	White % N	Black % N	White % N	Black % N	White % N
0-25	17 (2)	7 (1)	7 (2)	3 (1)	8 (3)	00 (0)
26-50	42 (5)	36 (5)	36 (10)	19 (7)	17 (6)	17 (2)
51-75	42 (5)	43 (6)	50 (14)	58 (21)	61 (22)	33 (4)
76-100	00 (0)	14 (2)	7 (2)	19 (7)	14 (5)	50 (6)
missing	Black = 8		White = 1		N = 147	

MP68

LOA72	18-20		21-23		24+	
	Black % N	White % N	Black % N	White % N	Black % N	White % N
0-25	24 (3)	00 (0)	6 (2)	5 (2)	00 (0)	00 (0)
26-50	31 (4)	15 (2)	25 (8)	28 (11)	42 (13)	13 (1)
51-75	39 (5)	62 (8)	56 (18)	56 (22)	52 (16)	63 (5)
76-100	8 (1)	24 (3)	13 (4)	10 (4)	7 (2)	25 (2)
missing	Black = 8		White = 3		N = 147	

0000

women planning to marry between the ages of 21 and 23 in 1966, 50% desired high-medium LEA's; likewise, of those planning to marry at age 24 or later, 61% aspired to high-medium LEA's for these periods.

This pattern was repeated between Wave II and Wave III. Here, 39% of the respondents planning to marry between the ages of 18 and 20 aspired to high-medium LEA's, as did 56% of the women planning to marry between 21 and 23, and 52% of the women planning to marry at age 24 or older.

White women. Between 1966 and 1968 the white single women revealed a pattern quite similar to that of the black women (See Table 4, p. 49). Of the women desiring early marriages between the ages of 18 and 20, 43% aspired to occupations at the high-medium level; furthermore, 58% of those women planning to marry between the ages of 21 and 23 aspired to high-medium LEA's. The main divergence from the pattern for black females is that 50% of the white women planning to marry at age 24 or older indicated aspirations in the high occupational range. This may indicate that white women aspiring to higher LOA's place a lower priority upon early marriage.

Between 1968 and 1972, the white women again repeated the pattern for black women. Regardless of planned age at marriage LOA's were consistently in the high-medium

range. Thus, 62% of those women planning to marry between 18 and 20 also aspired to high-medium level occupations, as did 56% of the women planning marriages between the ages of 21 and 23, and 63% of the women planning to marry at age 24 or older.

The Relationship Between the Level of Occupational Aspirations and Marital Plans.

Black Women. Between 1966 and 1968, there is no clearly discernible pattern indicating a stable relationship between the variables. This is shown in Table 5. For instance, 50% of the women aspiring to low level occupations planned to marry at age 24 or later; similarly, 41% of the women aspiring to low-medium range LOA's planned to marry at 24 years of age or older. However, 46% of the women aspiring to high-medium LOA's planned to marry between 21 and 23, as did 55% of the women desiring high LOA's.

Between 1968 and 1972, a pattern did begin to emerge. With the exception of the high range of levels of occupational aspirations, the majority of black women indicated that they planned to marry at age 24 or later regardless of their LOA. Thus, 100% of the women aspiring to low LOA's in 1968 planned to marry at age 24 or later in 1972, as did 75% of those aspiring to low-medium range

Table 5. Bivariate Analysis of the Longitudinal Relationship Between Level of Occupational Aspirations and Marital Plans of Women by Race

		LOA66				LOA68			
		0-25		26-50		51-75		76-100	
MP		Black	White	Black	White	Black	White	Black	White
		%	%	%	%	%	%	%	%
		N	N	N	N	N	N	N	N
18-20		.167 (1)	.250 (1)	.219 (1)	.333 (4)	.115 (3)	.216 (8)	.091 (1)	.000 (0)
21-23		.333 (2)	.750 (3)	.375 (12)	.333 (4)	.462 (12)	.730 (27)	.545 (6)	.714 (5)
24+		.500 (3)	.000 (0)	.406 (13)	.333 (4)	.423 (11)	.054 (2)	.364 (4)	.286 (2)
missing			Black = 11			White = 3			N = 147
		0-25		26-50		51-75		76-100	
MP		Black	White	Black	White	Black	White	Black	White
		%	%	%	%	%	%	%	%
		N	N	N	N	N	N	N	N
18-20		.000 (0)	.000 (0)	.000 (0)	.000 (0)	.065 (2)	.000 (0)	.000 (0)	.000 (0)
21-23		.000 (0)	.000 (0)	.250 (5)	.500 (9)	.269 (12)	.424 (14)	.750 (3)	.400 (2)
24+		1.000 (8)	1.000 (1)	.750 (15)	.500 (9)	.674 (31)	.576 (19)	.250 (1)	.600 (3)
missing			Black = 6			White = 6			N = 147

0063

LOA's and 67% of those aspiring to high-medium LOA's.

It is interesting to note that those black women aspiring to the highest LOA's indicated plans for marriage between the ages of 21 and 23.³

White Women. Between 1966 and 1968, it appears that regardless of the anticipated LOA of the respondent, the majority of the white women tended to plan marriage for the ages between 21 and 23. (See Table 5, p. 52). Thus, 75% of the respondents in the low range LOA category planned marriages between 21 and 23, 33% in the low-medium range LOA category planned to marry between 21 and 23, as did 73% of the women in the high-medium LOA range, and 71% in the high LOA range.

Between the 1968 and 1972 interviews, this pattern shifted to the 24 years old or later planned age at marriage category for all LOA groupings. Therefore, 100% of the respondents in the low LOA category indicate marital plans at 24 or older, as do 75% of the white women in the low-medium LOA category, 58% in the high-medium category, and 60% in the upper category.

³ However, the N of this grouping is quite small and the statistic may therefore be deceptive.

The Relationship Between Marital Plans and Level of Educational Aspirations.

Black Women. Between 1966 and 1968, the relationship between marital plans and LEA of black women appears to indicate that an early age at marriage corresponds to a low level of educational aspirations; likewise, delayed marital plans correspond to higher levels of educational aspirations. This is shown in Table 6. Of the respondents indicating a desire for early marriages between the ages of 18 and 20, 50% also revealed LEA's for high school graduation or less education. Also, 55% of the women planning to marry between 21 and 23 indicated LEA's for graduation from a technical school or a junior college, and 67% of these desiring marriages at age 24 or after aspired to college graduation through post-graduate studies.

Between Wave II and Wave III, the relationship between these variables changes considerably. Of these women still aspiring to early marriages, 62% indicated they desired to graduate from technical school or junior college; however, 68% of the women planning to marry between 21 and 23 aspired to graduation from college through post-graduate studies. Thus, there is a general tendency to raise LEA's among single black women over

time.

White Women. Between the sophomore and senior interviews, there appears to be a general tendency for age at marriage and LEA to correspond directly for single white women; however, this is less clear than for single black women as cited previously (See Table 6). Among those single white women planning to marry before 20 years of age, 64% desired graduation from technical school or junior college; 50% of those planning marriages between 21 and 23 aspired to college graduation or higher education; and 58% of the women planning to marry at age 24 or older also indicated that they desired college graduation or more education.

Between the Wave II and Wave III interviews, the white women displayed the same pattern as during the 1966 and 1968 interviews. Thus, 46% of the women planning to marry before age 20 again indicated a desire for graduation from a technical school or junior college, and 69% of the women planning to marry between 21 and 23 aspired to college graduation through post-graduate studies, as did 88% of the women planning to marry at 24 or older.

The Relationship Between the Level of Educational Aspirations and Marital Plans.

Black Women. Between 1966 and 1968, there was no

Table 6. Bivariate Analysis of the Longitudinal Relationship Between Marital Plans and Level of Educational Aspirations of Women by Race

LEA58	MP66				MP68			
	18-20		21-23		18-20		21-23	
	Black %	White %	Black %	White %	Black %	White %	Black %	White %
0.0 - 2.0	50 (6)	7 (1)	3 (1)	6 (2)	00 (0)	00 (0)	00 (0)	8 (1)
2.1 - 4.0	42 (5)	64 (9)	55 (16)	44 (16)	33 (12)	33 (4)	33 (12)	33 (4)
4.1 - 6.0	8 (1)	29 (4)	41 (12)	50 (18)	67 (24)	58 (7)	67 (24)	58 (7)
missing	Black = 7		White = 1		Black = 7		White = 1	
	N = 147		N = 147		N = 147		N = 147	

LEA58	MP66				MP68			
	18-20		21-23		18-20		21-23	
	Black %	White %	Black %	White %	Black %	White %	Black %	White %
0.0 - 2.0	8 (1)	15 (2)	00 (0)	00 (0)	00 (0)	00 (0)	00 (0)	00 (0)
2.1 - 4.0	62 (8)	46 (6)	31 (10)	31 (12)	31 (10)	12 (1)	32 (10)	12 (1)
4.1 - 6.0	31 (4)	38 (5)	69 (22)	69 (27)	68 (21)	88 (7)	68 (21)	88 (7)
missing	Black = 8		White = 3		Black = 8		White = 3	
	N = 147		N = 147		N = 147		N = 147	

clearly discernible relationship between the level of educational aspirations and marital plans of black women. This is shown in Table 7. In the LEA category of high school graduation or less schooling, 100% indicated they planned to marry early between the ages of 18 and 20. In the LEA category indicating desire for graduation from a technical school or junior college, 44% of the women planned to marry at age 24 or older. And finally, 45% of those with high LEA's desiring at least college graduation planned to marry between 21 and 23.

A very different, clearly discernible pattern is evidenced between 1968 and 1972; it is evident that the women consistently planned to marry at age 24 or older regardless of LEA. Among those women desiring only high school graduation or less schooling, 60% of the respondents planned late marriages, as did 79% of the respondents desiring graduation from a technical school or junior college, and 65% of the women aspiring to graduation from college or post-graduate studies. Once again, this upward shift to a later planned age at marriage is occurring simultaneously as the girls approached an average 22 years of age. Therefore, the categories younger than 22 no longer were practicably applicable to them.

White Women. Between the sophomore and senior interviews, white women indicated marital plans between 21

Table 7. Bivariate Analysis of the Longitudinal Relationship Between Level of Educational Aspirations and Marital Plans of Women by Race

LEA66

	0.0 - 2.0		2.1 - 4.0		4.1 - 6.0	
	Black % N	White % N	Black % N	White % N	Black % N	White % N
MP68						
18-20	100 (2)	43 (1)	14 (5)	33 (9)	16 (6)	12 (3)
21-23	0 (0)	88 (7)	42 (15)	44 (12)	45 (17)	80 (20)
24+	0 (0)	0 (0)	44 (16)	22 (6)	40 (15)	8 (2)
missing						N = 147
						White = 3

LEA68

	0.0 - 2.0		2.1 - 4.0		4.1 - 6.0	
	Black % N	White % N	Black % N	White % N	Black % N	White % N
MP72						
18-20	0 (0)	0 (0)	03 (1)	0 (0)	05 (2)	0 (0)
21-23	40 (2)	0 (0)	18 (6)	48 (12)	45 (17)	56 (20)
24+	60 (3)	100 (3)	79 (27)	52 (13)	65 (26)	44 (16)
missing						N = 147
						White = 6

and 23 for all LEA categories (See Table 7, p. 58). Among those women desiring only graduation from high school or less education, 88% of the women planned marriages between the ages of 21 and 23; 44% of those desiring graduation from a technical school or a junior college planned to marry between those ages, and 80% of those women aspiring to higher educational levels (college graduation through post-graduate studies) planned marriages during those particular years.

Similar to the pattern established for black women for the 1968 to 1972 period, 100% of the women desiring only high school graduation or less education planned late marriages at age 24 or later as did 52% of the women desiring graduation from a technical or junior college. However, 44% of the women desiring college graduation or more education still planned to marry between the ages of 21 and 23. The general delay in marital plans to the 24 or older category may once again reflect the women's own increasing age and continued single status.

Multivariate Analysis Between Each

Attitudinal Measure

Marital Plans and Level of Occupational Attitudes.

Correlation Coefficients and Means. The mean levels for

marital plans and the level of occupational attitudes at the three ways are presented in the margins of Table 8. The average planned age at marriage for white sophomores was 22.5 years, 22 for seniors, and four years after graduation was 24 years of age. Black marital plans were higher slightly than those of whites, 23.5 at the sophomore level, 23 at the senior level, and 24 at the post-graduate level. Mean levels of occupational attitudes for whites were about 59 at the sophomore level, 57.5 at the senior level, and 58 at the post-graduate level. Black mean levels of occupational attitudes were somewhat lower: the sophomore LEA mean was approximately 52, the senior mean 53, and the post-graduate average dropped to 51.

An examination of the correlation coefficients between marital plans and LOA (Table 8) revealed several patterns. First, eight of the 15 correlation coefficients were of sufficient magnitude to indicate statistical significance at the .05 level. Second, the stability correlations (those correlations between repeated measures of the same variable) were found to have the strongest association: the correlation between sophomore and senior marital plans was .37, and the correlation between the senior and post-graduate period was .38; the correlation between sophomore and senior level of occupational

Table 8. Matrix of Zero-Order Correlations and Means for Marital Plans and Level of Occupational Aspirations (Black females above diagonal, whites below)

	MP66	LOA66	MP68	LOA68	MP72	LOA72	Means
MP66	1.00	.19	.44	.23	-.06	.25	23.46
	.00	.29	.01	.04	.61	.03	
LOA66	.14	1.00	.11	.46	-.18	.29	53.77
	.28	.00	.67	.00	.12	.01	
MP68	.37	.01	1.00	.05	.07	.06	22.91
	.01	.95	.00	.69	.54	.60	
LOA68	.28	.58	.18	1.00	-.06	.35	53.67
	.03	.01	.16	.00	.61	.01	
MP72	.27	.38	.38	-.08	1.00	-.27	24.05
	.04	.01	.01	.59	.00	.02	
LOA72	.18	.43	.20	.53	.11	1.00	53.24
	.16	.01	.12	.01	.59	.00	
Means	22.44	59.08	21.98	58.62	23.64	57.41	

It will be noted that sets of figures are shown in each category. The top figure indicates the correlation coefficient, and the bottom figure indicates the level of significance. Probability is calculated such that $P(|\rho| > .18) = .16$.

attitudes is .58, and the corresponding correlation between the senior and post-graduate period was .53. Third, the correlation between marital plans and level of occupational attitudes at the sophomore wave was .14, at the senior wave was .18 and of the post-graduate level was .11. These correlations are suggestive of a slightly increasing relationship between the variables during high school. Finally, the cross-lagged correlation between sophomore marital plans and senior level of occupational attitudes is .28, much larger than the $-.01$ correlation between the sophomore level of occupational aspirations and the senior level of marital plans. Furthermore, the cross-lagged correlation between senior marital plans and post-graduate level of occupational attitudes is .20, and the correlation between senior level of occupational attitudes and post-graduate marital plans is $-.08$. However, neither cross-lag in the post-graduate period is of sufficient magnitude to indicate statistical significance at the .05 level.

An examination of the correlation coefficients for black females (Table 8, p. 61) revealed somewhat different patterns. First, seven of the 15 correlation coefficients were of sufficient magnitude to indicate statistical significance at the .05 level, similar to the white pattern. However, the stability coefficients prove

to be somewhat different: the correlation between sophomore marital plans and senior marital plans is .44, but the correlation between senior and post-graduate marital plans is only .07; in addition, the correlation between sophomore and senior level of occupational attitudes is .46, and between senior and post-graduate level of occupational attitudes is .35. Therefore, it appears that while the LOA among black females is stable between the three waves, marital plans for black females are only stable during high school, changing sharply in the post-graduate years. Third, the correlation between marital plans and level of occupational attitudes at the sophomore level is .19, at the senior level is .05, and at the post-graduate level is -.27. Combined with the decreasing stability of marital plans over time, these correlations are suggestive of a decreasing relationship between the variables over time. Fourthly, the cross-lagged correlation between sophomore LOA and senior marital plans is .11. Also, the cross-lagged correlation between senior marital plans and post-graduate level of occupational attitudes is .06, and the cross-lagged correlation between senior level of occupational attitudes and post-graduate marital plans is -.06: like the white females neither of these post-graduate cross-lags is significant at the .05 level.

Therefore, when the configurations of correlations for black and white females were compared, sets of similarities and differences emerged. Among the differences, it is found that stability correlations are significant for both variables and all waves for whites, whereas for blacks the level of occupational attitudes is likewise highly stable at both waves, but their marital plans are only significant during the sophomore to senior wave. The main similarities are: (1) the similar degree of interrelatedness of variables for blacks and whites; and (2) there appears to be a "causal priority" of marital plans over the level of occupational attitudes for both subsets during the high school period, with no relationship between the variables after high school graduation.

The Three Wave, Two Variable Model. The three wave, two variables (3W-2V) path-panel model for the white females appears as Figure 5. Analysis indicates that approximately 15%⁴ of the variation in senior year marital plans and 38%⁵ of the variation in senior level

⁴This correlation has been calculated by the formula

$$1 - \sqrt{r^2}$$

⁵This correlation has been calculated by the formula

$$r = \frac{\sum_{i=1}^n (x_i - \bar{x})(y_i - \bar{y})}{n s_x s_y}$$

of occupational attitudes could be "explained" by the combined influence of the sophomore levels of the two variables; likewise, approximately 14% of the variation in post-graduate marital plans and 37% of the variation in post-graduate level of occupational attitudes could be "explained" by the combined influence of the senior levels of the two variables. These estimates represent estimates of disturbance for the senior year marital plans and the level of occupational attitudes respectively of .92 and .78, and .93 for the post-graduate marital plans and .80 for the post-graduate level of occupational attitudes.

The coefficients reported along the primary paths are standardized path coefficients above the arrows and unstandardized path coefficients in parentheses below the arrows.⁶ No path in the white 3W-2V model other than

⁶Path coefficients along primary paths have been calculated by the following regression solutions:

Heise formulae

$$P_{32} = \frac{P_{13} - P_{12} P_{23}}{1 - P_{12}^2}$$

$$P_{42} = \frac{P_{24} - P_{12} P_{14}}{1 - P_{12}^2}$$

$$P_{32} = \frac{P_{23} - P_{12} P_{13}}{1 - P_{12}^2}$$

$$P_{53} = \frac{P_{35} - P_{34} P_{54}}{1 - P_{34}^2}$$

$$P_{41} = \frac{P_{14} - P_{12} P_{24}}{1 - P_{12}^2}$$

$$P_{54} = \frac{P_{45} - P_{34} P_{35}}{1 - P_{34}^2}$$

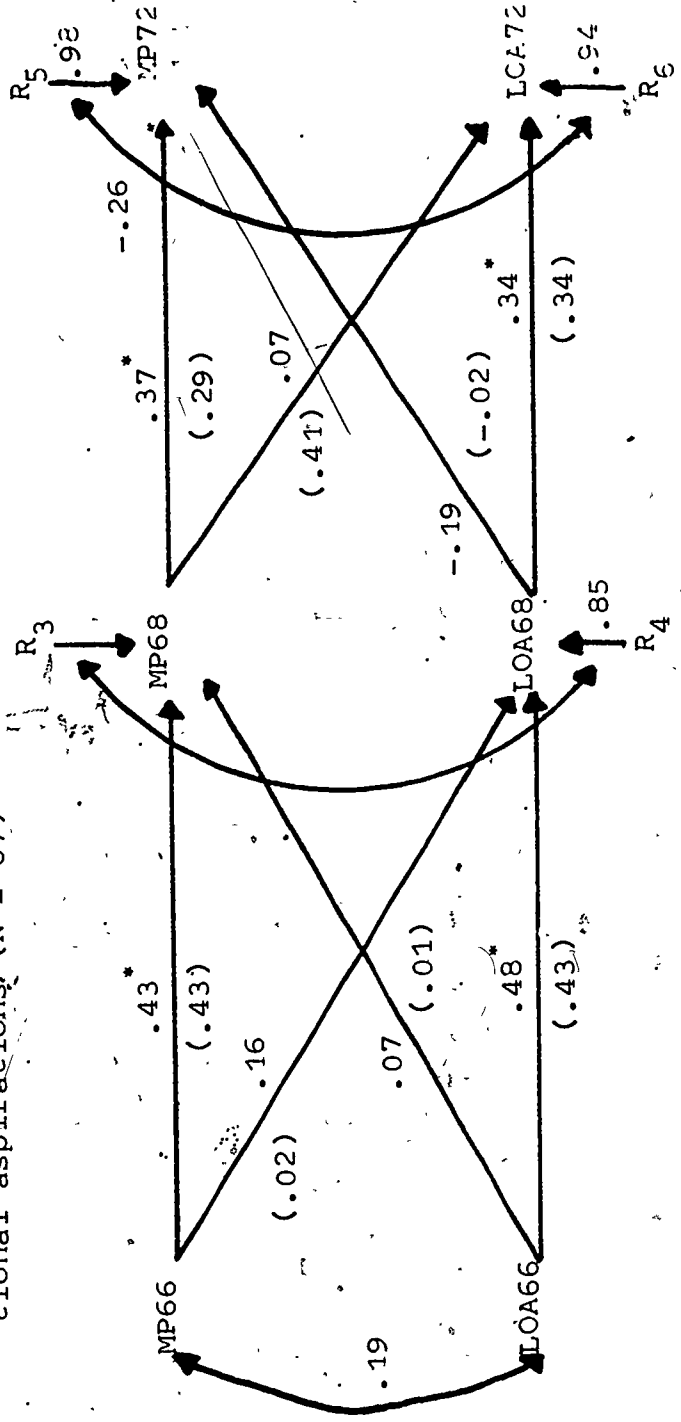
stability paths was found to be at least twice its stand-
ard error and was considered of sufficient magnitude to
indicate effect. As had been the pattern in the correla-
tion matrix, the stability of both marital plans and level
of occupational attitudes were moderate to strong during
the periods. The stability paths for marital plans were
estimated to be .39 between the sophomore and senior waves,
and the paths between the sophomore and senior levels of
occupational attitudes is .55, and between senior and
post-graduate levels of occupational attitudes is .57. An
examination of the cross-lagged paths reveals no signifi-
cant paths in the model.

The same 3W-2V model for black females appears as
Figure 6. The amount of explained variation was smaller
than for white females. In contrast, 20% of the variation
in senior marital plans and 27% of the variation in senior
level of occupational attitudes was explained by prior
sophomore levels of the same variable, and 4% of the vari-
ation in post-graduate marital plans and 12% in

$$p_{63} = \frac{p_{36} - p_{34} p_{46}}{1 - p_{34}^2}$$

$$p_{64} = \frac{p_{46} - p_{34} p_{31}}{1 - p_{34}^2}$$

Figure 6. Black female 3W-2V model relating marital plans and level of occupational aspirations (N = 67)^a



^aThe coefficients reported along the primary paths are standardized path coefficients above the arrows and unstandardized path coefficients in parentheses below the arrows; asterisks indicate that the significant correlation is at least twice its standard error.

post-graduate level of occupational attitudes was explained by the senior levels of the same variable. These estimates represent the coefficient of alienation for the senior year marital plans and the level of occupational attitudes respectively of .89 and .85, and .98 for post-graduate level marital plans and .94 for the post-graduate level of occupational attitudes.

Only three of the paths in the black 3W-2V model were found to be at least twice their standardized error and were considered of sufficient magnitude to indicate effect. The stability paths for the level of occupational attitudes were moderate to strong during these periods (.49 and .34, respectively), but the stability of marital plans dropped sharply in the post-graduate period (.43 and .09, respectively). The cross-lagged paths revealed a somewhat different pattern for blacks than for whites. None of the four cross-lags were found to be of sufficient strength to indicate effect. Thus, for our black data, it would appear that no causal relationship exists between marital plans and the level of occupational attitudes.

Marital Plans and Level of Educational Attitudes.

Correlation Coefficients and Means. The mean levels for marital plans and the level of educational attitudes at the three waves are presented in the margins of Table 9.

Table 9. Matrix of Zero-Order Correlations and Means for Marital Plans and Level of Educational Aspirations (Black females above diagonal^a, whites below)

	<u>MP66</u>	<u>LOA66</u>	<u>MP68</u>	<u>LOA68</u>	<u>MP72</u>	<u>LOA72</u>	<u>Means</u>
MP66	1.00	.17	.44	.41	-.062	.30	23.40
	.00	.13	.01	.01	.61	.01	
LEA66	.12	1.00	.22	.57	-.22	.43	4.19
	.63	.00	.85	.01	.05	.01	
MP68	.37	.05	1.00	.22	.07	.16	22.86
	.01	.69	.00	.05	.54	.17	
LEA68	.14	.71	.18	1.00	-.22	.49	4.26
	.28	.01	.16	.00	.04	.01	
MP72	.27	-.02	.38	-.08	.1.00	-.21	24.04
	.04	.91	.01	.59	.00	.06	
LEA72	.14	.47	.28	.73	.11	1.00	4.60
	.28	.01	.03	.01	.59	.00	
Means	22.44	3.92	21.98	4.24	23.65	4.68	

^a It will be noted that sets of figures are shown in each category. The top figure indicates the correlation coefficient and the bottom figure indicates the level of significance. Probability is calculated such that

$$P(|\hat{p}| > .18) = .16.$$

The average planned age at marriage for white sophomores was approximately 22.5, 22 for seniors, and 23 years of age four years after high school graduation. Black marital plans revealed an average planned age at marriage of 23.4 for sophomores, approximately 23 for seniors, and approximately 24 years of age at the post-graduate level. Mean levels of educational attitudes for whites and blacks were approximately 4 at sophomore and senior levels, and approximately 5 at the post-graduate level.

An examination of the correlation coefficients for white females (Table 9, p. 70) reveals several patterns. First of all, seven of the 15 coefficients were of significant magnitude to indicate statistical significance at the .05 level. Secondly, the stability correlations were found to have the strongest associations: the correlation between sophomore and senior marital plans is .37, and between the senior and post-graduate waves is .38; in contrast, the correlation between sophomore and senior level of educational attitudes is .71, and between the senior and post-graduate periods is .73. Third, the correlation between marital plans and level of educational attitudes at the sophomore levels is .12, at the senior level is .18, and at the post-graduate level is .11. These correlations, like those between marital plans and the level of occupational attitudes, suggest a slightly

increasing relationship between the variables at the sophomore and senior waves, with a similar decrease between senior and post-graduate waves. Finally, the cross-lagged correlation coefficients between sophomore marital plans and senior level of educational attitudes is .14, while the cross-lag between sophomore level of educational attitudes and senior marital plans is .05; however, neither cross-lag is significant at the .05 level. The cross-lagged correlation between senior marital plans and the post-graduate level of educational attitudes is .28, approximately five times larger than the -.08 correlation between senior level of educational attitudes and the post-graduate marital plans.

The correlation coefficients for black females again reveals somewhat different patterns. First of all, nine of the 15 correlation coefficients were of sufficient magnitude to indicate statistical significance at the .05 level, once again similar to the white pattern. Stability paths are again different from white patterns. Marital plans are stable between sophomore and senior waves (.44), but drop sharply in stability between senior and post-graduate waves (.07). In contrast, the stability of the level of educational attitudes appears to be strong: the stability coefficient between sophomore and senior waves is .57, and between senior and post-graduate waves is .49.

Therefore, it appears the LEA for blacks, like LOA, is stable between waves, although marital plans appear to only be stable prior to high school graduation. Thirdly, the correlation between marital plans and the level of educational attitudes at the sophomore level is .17, at the senior level is .22, and at the post-graduate level is -.21. This appears to further support the idea that the correlation between the variables changes sharply after high school graduation for black females. Finally, the cross-lagged correlations between sophomore marital plans and the level of educational attitudes is .41, approximately twice as large as the correlation between sophomore level of educational attitudes of .22. Furthermore, the cross-lagged correlation of .16 between senior marital plans and the post-graduate level of educational attitudes is not significant, whereas the cross-lag between senior level of educational attitudes and post-graduate marital plans is -.22, and significant.

Thus, when the configurations of correlations for black and white females were compared, various similarities and differences emerged. Among the similarities, it is revealed that: (1) both blacks and whites show strong stabilities between waves for the level of educational attitudes variable; and (2) there is a similar degree of interrelatedness between variables for blacks and whites.

The main differences are: (1) whites appear to have more stable marital plans than do blacks, especially in the post-high school period; and (2) the cross-lags differ considerably with blacks showing a priority of marital plans over level of educational attitudes between sophomore and senior waves, and a strong negative causal priority of senior level of educational attitudes and post-graduate marital plans, whereas whites show no causal relationship between sophomore and senior waves, but marital plans have causal priority over the level of educational attitudes between the senior and post-graduate waves.

The Three Wave, Two Variable Model. The three wave, two variable model for white females appears as Figure 7. The analysis indicates that approximately 14%⁷ of the variation in senior year marital plans and 58%⁸ of the variation in senior level of educational attitudes could be "explained" by the combined influence of the sophomore levels of the two variables; in addition, approximately

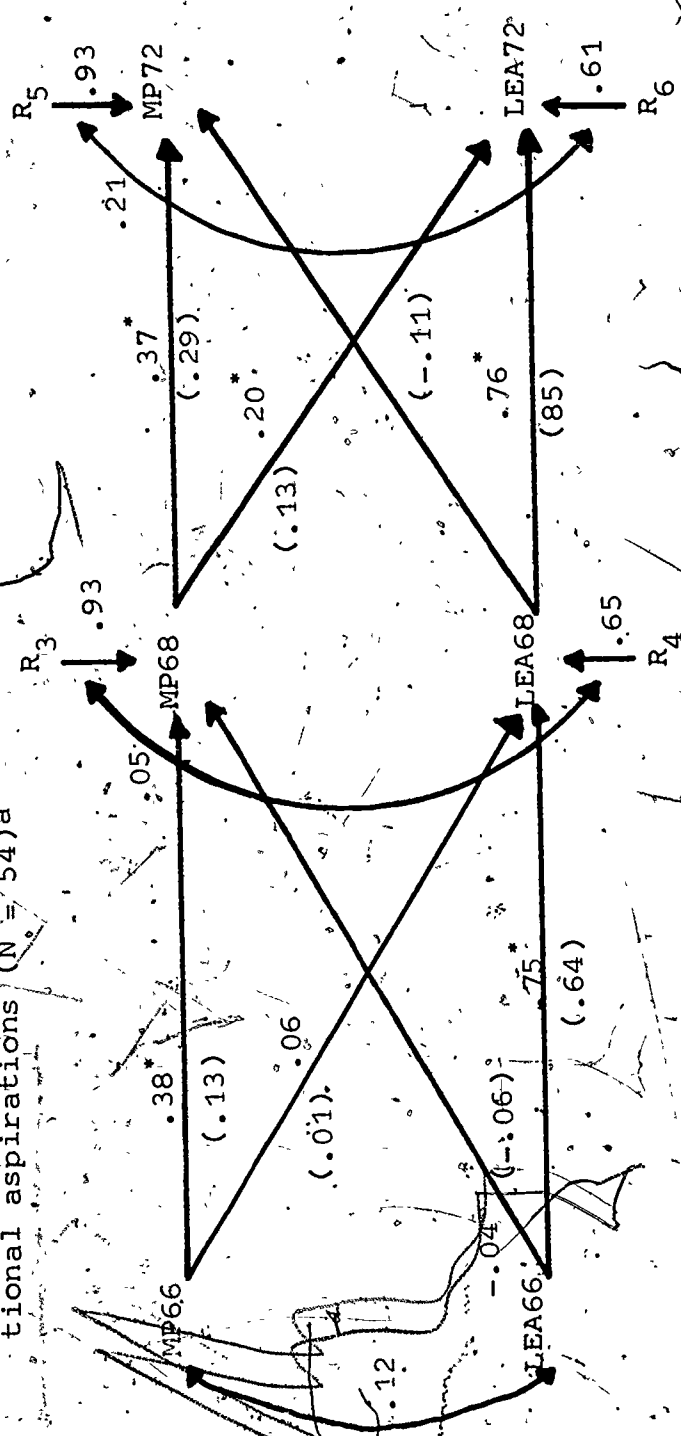
⁷This correlation has been calculated by the formula

$$1 - \sqrt{r^2}$$

⁸This correlation has been calculated by the formula

$$r = \frac{\sum_{i=1}^n (x_i - \bar{x})(y_i - \bar{y})}{n s_x s_y}$$

Figure 7. White females 3W-2V model relating marital plans and level of educational aspirations (N = 54)a



aThe coefficients reported along the primary paths are standardized path coefficients above the arrows and unstandardized path coefficients in parentheses below the arrows; asterisks indicate that the significant correlation is at least twice its standard error.

14% of the variation in post-graduate marital plans and 63% of the variation in the post-graduate level of educational attitudes could be "explained" by the combined influence of the senior levels of the two variables. These estimates represent paths of the disturbance term for the senior year marital plans and level of educational attitudes respectively of .93 and .65, and .93 for the post-graduate marital plans and .61 for the post-graduate level of occupational attitudes.

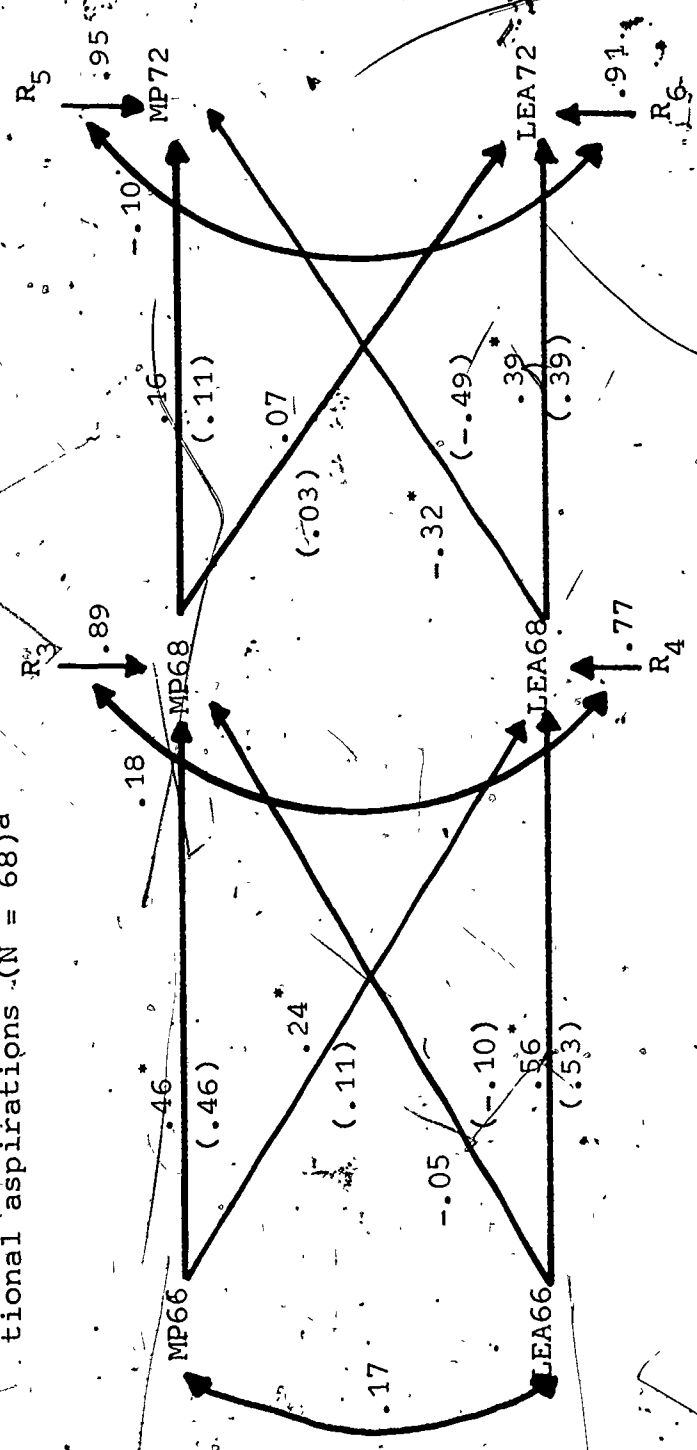
The coefficients reported along the primary paths are once again standardized path coefficients above the arrows and unstandardized path coefficients in parentheses below the arrows. Only one path in the 3W-2V model other than the stability paths was found to be at least twice its standard error and was considered of sufficient magnitude to indicate effect. As had been the pattern in the correlation matrix, the stability of both marital plans and the level of educational attitudes were moderate to strong during the periods. The stability paths for marital plans were estimated to be .38 between sophomore and senior waves and .37 between senior and post-graduate waves. The stability paths for the levels of educational attitudes were estimated to be .75 between sophomore and senior years and .76 between senior and post-graduate years. An examination of the cross-lags

reveals only one significant path in the model; the path from senior marital plans to the post-graduate level of educational attitudes is .20. This pattern among the cross-lagged correlations shows no causal relationship between the variables during the high school period, and a priority of marital plans over the level of educational attitudes during the post-graduate period, thus supporting Explanation 1 for that period.

The same 3W-2V model for black females appears as Figure 8. The amount of explained variation was smaller than for white females. Also, 21% of the variation in senior marital plans and 41% of the variation in senior level educational attitudes was explained by the prior sophomore levels of the same variable, and 10% of the variation in post-graduate marital plans and 17% in the level of educational attitudes was "explained" by the senior levels of the same variable. These estimates represent paths of the disturbance term for the senior year marital plans and the level of educational attitudes respectively of .89 and .77, and .95 for the post-graduate marital plans and .91 for the post-graduate level of educational attitudes.

All but three of the paths in the black 3W-2V model are found to be at least twice their standard error and were considered of sufficient magnitude to indicate

Figure 8. Black females 3W-2V model relating marital plans and level of educational aspirations (N = 68)^a



^aThe coefficients reported along the primary paths are standardized path coefficients above the arrows and unstandardized path coefficients in parentheses below the arrows; asterisks indicate that the significant correlation is at least twice its standard error.

effect. Again like the pattern for the correlation coefficients, the level of educational attitudes stability paths were moderate to strong during these periods (.56 and .39, respectively), although the stability of marital plans dropped sharply in the post-graduate period (.46 and .16, respectively). Once again, the cross-lagged paths revealed different patterns for the blacks than for whites. During the high school period, there is a priority of marital plans over the level of educational attitudes, once again supporting Explanation 1. However, during the post-graduate period there appears to be a reversal of priorities; analysis of the model reveals a strong negative correlation from the level of educational attitudes to marital plans during this period.

CHAPTER V

SUMMARY AND CONCLUSIONS

The summary and conclusions will be organized into three main parts. The first section deals with the major discernable descriptive trends in the data; the second concerns the conclusions based upon the analysis of the form of marital plans and the mobility attitudes; and the third will discuss the major limitations of the study.

Descriptive Trends

The Maintenance of High Mobility Attitudes. There was a general trend for the maintenance of high level mobility attitudes for each racial groupings. Both black and whites indicated a desire for the attainment of medium or high range levels of educational aspirations; in other words, the majority of the respondents aspired to attending college in some form. In fact, a tendency was evidenced over time to maintain aspirations, or to raise them. Similarly, there was a tendency to select high levels of occupational aspirations for both races.

It may be recalled that the concept of "increasing realism of choice" is implicit in Ginzberg's treatise

on the development of occupational choice among males (1951). Ginzberg utilizes the hypothesis of increasing realism of choice to explain change from early fantasy choices (the goal-centered choices of pre- and early adolescence and young adulthood). Similar theoretical formulations have been developed by Super (1953), Blau et al. (1956), Tiedeman (1961), and Kuvlesky (1970). Many of the developmental concepts treat "choice dynamics as a function of social and social-psychological maturation structured in successive stages" (Cosby, 1974). Therefore, the nature of choices is believed to vary with the stages of development. More specifically, Ginzberg's model explicates the fantasy (preadolescence), the tentative (adolescence), and the realistic stages (late adolescence), and the realistic stages (late adolescence and early adulthood); consequently, the hypothesis of increasing realism of choice can be inferred.

It has been recounted that for this panel of southern, nonmetropolitan women, both racial groupings desired medium to high range levels of educational and occupational aspirations at all three waves. These choices were consistent as the women progressed through Ginzberg's tentative stage and entered the realistic stage; in fact, the primary deviation from the observed pattern was a tendency to raise both LOA and LEA over time.

These findings do not generally support the hypothesis of increasing realism of choice within the limitations of the data set.

In analyzing this observation, several aspects of the data set are brought to mind. First of all, in 1966 well over 50% of the women maintained medium to high level occupational aspirations, as did the majority of women who selected medium to high LEA's as well. These choices did, of course, leave ample opportunity for downward, presumably realistic changes in levels of aspirations during subsequent waves. However, these anticipated "realistic" changes did not occur as the women grew older. Secondly, the majority of the panel (southern, nonmetropolitan youth) were from low-income counties; this population is generally considered to have special problems in occupational attainment. When the conditions of high levels of aspirations are combined with low income and rural origins, the conclusion of no aggregate change toward a so-called realistic choice further reinforces the finding that the hypothesis is not applicable to this data set.

¹ Similar findings have recently been reported for a panel of southern, nonmetropolitan males. See Arthur G. Cosby, "Occupational expectations and the hypothesis of increasing realism of choice," *Journal of Vocational Behavior* (August, 1974).

Trends in Marriage Plans. There was a tendency demonstrated by the women in this panel to group their planned age at marriage in the 21 to 23 year old range. This pattern occurs at all waves, and held true for both races.

There was a noticeable and not too surprising trend for women to raise their planned age at marriage as they grew older and remained single. However, there appeared to be some racial differences concerning this pattern. The black women in the panel more readily shifted their planned age at marriage upward; the white women maintained marital plans in the 21 to 23 year old range (even though the women were approaching the upper limit of that range in age by the 1972 Wave III interview). Whites appear to be more reluctant to adjust away from the 21 to 23 year old range, even though it is becoming "unrealistic" to maintain such marital plans. One post factum interpretation of this observed trend might be in terms of the hypothesis of differential priorities of black and white women. The institution of marriage may be less vital to the black woman who is seeking a career than for a white woman in a similar situation. This supports the earlier hypothesis of Epstein (1973).

Epstein has suggested that women's sexual status has prevented them from obtaining prestigious, well-salaried

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positions because American society does not value women highly either in potential or capacity (1973). Consequently, successful career women must be more intelligent, talented, and specialized than white males in a comparable labor pool. Thus, women competing with males for careers have "sacrificed" more for the benefits generally afforded to males, if indeed the women were permitted to obtain them at all (Epstein, 1973). The negative effects of such stiff competition combine with generalized occupational sex-typing to further discourage women from entering into the career market. Such traditional sex-typing encourages men to accept only "masculine" occupations, and compels women to accept occupations considered "feminine" (Gubbles, 1973). It may further be recalled that white women may be encouraged to fulfill their occupational goals vicariously by her husband and his employer, who maintain that career participation by the wife would damage the husband's social and hence occupational status (Papanek, 1973). In contrast, Epstein (1973) has hypothesized that black females expect to utilize their education professionally; furthermore, the black professional women interviewed by Epstein showed significantly low degrees of interest in early marriage. In fact, Epstein's study of black professional women indicated that such women tended to minimize the importance of marriage at

all, stressing instead the importance of their careers. Many black professional women indicate reluctance to marry men with less education or lower social status than themselves; they realize that such reluctance greatly limits their opportunities for marriage. Thus, it might be concluded that among those black women successful at attaining their desired LOA's and LEA's, the desire for ~~as~~ attainment and the general high degree of personal sacrifice involved in that attainment process tend to relegate marriage to the position of an unimportant or undesirable goal. An early marriage might well signify the termination of the highly desired occupational success to which the black woman aspires; consequently, marriage is considered a bad risk (Epstein, 1973).

While the present panel deals with black women aspiring to professional and non-professional careers (as well as whites aspiring to both career categories), the blacks involved in this study may be placing a lower priority on marital plans than LOA or LEA, as the black professionals of Epstein's study place lower priority on marriage than occupational plans. Thus, it follows that if black women place lower priority on marital plans, they would be more flexible on realigning planned age at marriage as the need arose than would white women.

Marital Plans and Mobility Attitudes. There appears to be some congruency² for both racial groups to select LEA's and LOA's of similar rankings; furthermore, there was a tendency among those women indicating high LEA's and expressing a desire for college attendance to also desire fairly high LOA's. In addition, there appeared to be a tendency for both races to select marital plans and levels of educational aspirations of similar rankings. In other words, a woman indicating an early planned age at marriage tended to likewise indicate a low LEA; women indicating high LEA's tended to also plan late marriages. Finally, women desiring high marital plans likewise tended to desire high levels of occupational aspirations.

There are two additional notes of interest. First of all, marital plans and LEA's were fairly congruent whether both were high or low. However, marital plans and LOA's were congruent only in regard to high levels of these variables. Low marital plans were not congruent with low LOA's. Thus, it would appear that the pattern of congruency between variables was not as strong for LOA as for LEA or marital plans. Secondly, substantial numbers of the responses were not congruent. Consequently, the

² Congruency may be defined as a state of agreement or correspondence between the variables.