This study expanded the Wisconsin model of status attainment, a path model including social psychological as well as social structural antecedents of occupational attainment. Recent research on status attainment has moved away from the description of mobility rates and toward explanation of the processes by which occupational positions are attained. This study was a secondary analysis of data gathered during October 1973 by an introductory research methods class. Analyses were done on 524 undergraduate subjects and also on males and females separately. Only a modest six percent of the variance was explained for the sample. While high usage media, grade point average, and socioeconomic status correlated with occupational expectations, there was a dubious negative path from news media usage to grade point average. The separate analyses for males and females revealed different paths accounting for thirteen percent and six percent of the variance, respectively. The inclusion of communication variables indicates that, with more refined measures, they may increase the prediction power of the Wisconsin model. Suggestions are made for future research on occupational attainment, with emphasis on the inclusion of more media and other communication information. (Author/RB)
INTERPERSONAL COMMUNICATION PATTERN, MASS MEDIA AND
THE OCCUPATIONAL EXPECTATION PROCESS

Fausto Izcaray, Richard Allen and Renee Coulter

Paper presented to the Theory and Methodology Division of the Association for Education in Journalism, San Diego, California, August 18-21, 1974.
Recent research on status attainment and stratification has moved away from traditional concerns with description of mobility rates and toward explanation of the processes by which educational and occupational positions are attained. The two main theoretical models emerging from this line of research are the Blau-Duncan (1967) and Wisconsin models (Sewell, et al., 1969) of status attainment.

The Blau-Duncan model studies the extent to which inherited status determines the social fate of individuals. It begins with two variables describing the early stratification position—father's education and father's occupational attainment. It then moves to two behavioral variables—the educational level the individual has completed and the prestige level of his first job. The dependent variable was the individual's occupational prestige position at a later time.

While the model is not without power, it omits the social psychological factors which mediate the influence of input variables on attainment. The Wisconsin model represents a path model including social psychological as well as social structural antecedents of educational and occupational attainment. A causal sequence is proposed which commences with the parent's socio-economic status—measured by income, father's education, mother's education, and father's occupation—and individual's mental ability. From there it moves to performance in school, then to the influence of significant others, then to levels of educational and occupational aspiration and finally to educational and occupational attainment.

This model proved its utility first when applied to longitudinal data for a large sample of farm-reared youth. Then, in a replication of the study, Sewell and Haller showed the model to be adequate when applied to young men from communities of differing sizes and differing residential backgrounds (Sewell et al.,
It is a sociological truism, evidenced by a number of studies, that children of higher social class origins are more likely to aspire to high educational and occupational goals than are children of lower social origins (Sewell and Shah, 1972; Sewell, Haller and Straus, 1957; Sewell, 1964; Sewell and Orenstein, 1965; Sewell and Armer, 1966, and many others). This is true despite wide differences among studies in the nature of their samples, the age level of their subjects, their measurement procedures, and the particular cutting points used to categorize the variables (Haller and Miller, 1963).

Even when other variables known to be related both to social class origins and aspirations—such as intelligence, high school achievement, value orientations, and residence have been controlled, social class origins have been found to have an independent influence on educational and occupational aspirations.

Both the Blau-Duncan and Wisconsin models postulate a similar causal order of comparable status variables. However, the Wisconsin model, by using mediating variables and hypotheses, eliminates some direct effects in favor of intervening paths. It was found, for instance, that parental SES works through significant other's influence (SOI) and that SOI works directly on educational aspirations, occupational aspirations, and educational attainment.

One factor in SOI, the most important social psychological variable in the Wisconsin model, is the degree to which the child perceives his parents as encouraging him or even pressuring him to have high educational and occupational goals. Haller and Woelfel designed a series of questionnaires, called the Wisconsin Significant Other Battery (WISOB), to identify significant others and measure their influence on the individual (Haller and Woelfel, 1972). From a sample of high school seniors, they determined that fathers are Significant
Others' (SOI's) for 85 percent of the students and mothers are SOI's for 75 percent. While their data indicate a wide scattering of SOI's among persons of various role relationships to the youth, they also provide support for those who, for research purposes, would assess significant others by measuring average expectations of parents, friends, and teachers.

Another important social psychological variable, which has been researched considerably, is the structure of the family communication system. Chaffee and McLeod contend that, while no family is perfectly consistent over time in its communication orientation, there is evidence of enough homogeneity to justify treating these attributes of the family as a definable communication system.

In studying the family communication patterns, they utilize two dimensions—socio-orientation and concept-orientation. Socio-orientation is indicated by the frequency of (or emphasis on) communication that is designed to produce deference, and to foster harmony and pleasant social relationships in the family. For example, the child may be instructed to defer to his elders, or to give in on arguments rather than risk offending others. Concept-orientation involves emphasis on stimulating the child to develop his own views about the world, and to consider more than one side of an issue (McLeod and Chaffee, 1972).

In the research on family communication patterns, blue-collar homes showed some tendency to stress socio-orientation and white-collar families gave more attention to concept orientation. However, the differences were not particularly strong and the relationships these orientations had to various consequences for cognitive processes did not seem explainable as simply manifestations of social class.

The Problem

The present report is an attempt to expand the Wisconsin model to include
communication variables—both interpersonal and mass media—within a causal framework predicting to expected occupation. Because the study was a secondary analysis and the original study was not conducted primarily for the purpose of investigating the Wisconsin model, some of the Wisconsin model variables were not included. The original Wisconsin model utilized six individual variables—mental ability, academic performance, level of educational aspiration, level of occupational aspiration, educational attainment, and occupational attainment—and two indices. SES was an index including income, father's education, mother's education, and father's occupation; SOI was a summated score of individual's perceived support from parents, support from teachers, and report of friend's college plans.

Of these variables, it was necessary to exclude both educational and occupational attainment since we are dealing with cross-sectional data of college students. Likewise, while we had a measure of the respondent's occupation aspirations, we had no measure of educational aspirations (although they are often closely related). Our data had no measure of mental ability and we reduced SOI to a measure of perceived parental support only.

Communication variables, dealing with the interpersonal communication situation within the family and among peers and public media use, were included in an attempt to strengthen the model. Family communication patterns, while they have been used in differing areas of research, had not before been incorporated in a status attainment model. In addition, while most of the major studies concerning occupational aspirations have dealt with males only (Klemmack and Edwards, 1973), we have included women in the main study and also in a separate model.

A Social Psychological Model

The model treats causal relationships among eleven variables. \( X_1 \) is the occupational prestige level to which the individual aspires (OCCEXP); \( X_2 \) is hic
college grade average or what the Wisconsin model calls the academic performance of individuals (GPA); X₃ is one of the measures of communication with peers, dealing with the degree of socio-orientation in the peers' communication pattern; X₄ is the other measure of peers' communication pattern, the degree of concept-orientation; X₅ is a measure of the use of news media--newspapers and TV news programs (PUBMED); X₆ is a measure of the frequency of parental encouragement to go to college to get a career (CAREER); X₇ is the frequency of parental encouragement to go to college to get new ideas (IDEAS); X₈ is the subject's reported performance in high school, high school rank (HSR); X₉ is the degree of concept orientation in the individual's family communication patterns; X₁₀ is the degree of socio-orientation in the communication patterns of the subject's family; and X₁₁ is the level of his family in the stratification system, or its socio-economic status.

Path models require a knowledge of the causal order among variables (Sewell et al., 1969; Burt, 1973, pp. 264-265). Our model attempts to elaborate on the causal order of the variables predicting to occupational expectations. Beyond the causal arguments presented below, additional credibility is suggested by the existence of a plausible temporal order among variables. X₁₁ (SES), X₁₀ (FSOC) and X₉ (FCON) precede everything else. By no means do all the possible causal linkages seem defensible. The most likely ones are indicated in Diagram 1. In it straight solid lines stand for causal paths that are to be theoretically expected, dotted lines stand for possible but theoretically debatable causal paths, and curved lines represent unanalyzed correlations among variables which cannot be assigned temporal priority.

(DIAGRAM 1 ABOUT HERE)

Commencing from the left of Diagram 1, it is assumed as has been found before, that a low positive correlation exists between SES and family communication type
(McLeod and Chaffee, 1972). We anticipate the existence of a substantial effect of SES on SOI as measured by the two SOI variables, IDEAS and CAREER. Parents from a higher SES home would encourage children to go to college because they can afford the education without prohibitive financial strain and they are more likely to be educated themselves, realizing the value of college on upward mobility.

We theorize SES will have some effect on HSR and GPA because the type of cultural and literary exposure characteristic of the higher SES homes would provide the child with background for school work. Also, to some extent, the child may model his parents, who are more likely to be educated themselves. We expect only a small positive correlation between SES and PUBMED because the use of TV news is likely to be about the same regardless of SES. However, more newspapers may be available in the higher SES home, contributing to the child's readership. On the other hand, we anticipate a positive effect of FCON (the concept-oriented child) on PUBMED because it has been shown that children from concept-oriented homes tend to read more newspapers and to watch more TV news (McLeod and Chaffee, 1972, p. 89; Chaffee et al., 1966; Chaffee et al., 1971; McLeod et al., 1967).

It seems likely that FCON and PCON would be related as would FSOC and PSOC because individuals from a certain family communication structure would tend to seek out similar orientations in friends. FCON should relate positively to HSR and GPA because children from concept-oriented homes should have learned to conceptualize problems and examine issues, skills necessary for high grades. On the other hand, we were unable to specify any relationship between FSOC, HSR and GPA. However, FSOC was included in order to find out whether there was any possible path from the latter variable to any of our determined variables.

HSR has been shown, in many studies, to predict highly to GPA since good students continue their high academic performance. We expect HSR to have a great
effect on SOI as those of high standing will be encouraged by their parents to continue their education, whether for new ideas and/or a career. But SOI may in turn affect GPA as the individual may try to fulfill his parents' wishes by working hard and receiving high grades in college.

We theorize that PUBMED should be more related to PCON than to PSOC as the media would serve as a source of ideas for concept-oriented individuals. The link between PCON and PSOC with GPA is defended on similar grounds as the effect of the family communication structure.

We assume that PCON is a surrogate of FCON. Therefore, the emphasis on ideas and examining both sides of an issue will continue within peer groups. Moreover we assume that this emphasis is conducive to higher grade point averages (McLeod and Chaffee, 1972, p. 89).

Those paths predicting directly to expected c-occupation (OCCEXP) reduce to three as the other effects are mediated by three intervening variables. We expect GPA to predict to (OCCEXP) as those with higher grades have more occupational possibilities and are likely to choose the higher prestige careers. PCON would predict to OCCEXP (because concept-orientation encourages one to seek an occupation which requires decision-making and manipulation of abstract ideas—both found in higher status jobs). Finally, we expect some effect of PUBMED on OCCEXP as the media portray the higher occupational status jobs.

**Method**

The data used in our secondary analysis were gathered during October, 1973 by students in an introductory research methods class. In total, 524 interviews of University of Wisconsin-Madison undergraduates were complete enough to be used in the analysis. The interview was approximately an hour in length, consisting of
both oral response and self administered items, and covered topics about phases of campus life and attitudes. The interviewees, selected by a systematic random sample, were drawn from the registrar's list.

Variables

The dependent variable was expected occupation (OCCEXP), which was conceptualized as the individual’s choice of occupation to which he aspired in the future. It was operationalized by asking the respondent his best guess as to what kind of job he would have after college and was coded by Duncan's (1961) socioeconomic index of occupational status.

College grade point average (X2-GPA) was the individual’s report of his cumulative grade point as assigned on a 4.0 scale at the UW-Madison.

Peer communication patterns (X4-FCON) was a summated scale of items aimed to determine emphasis on concept-orientation in communications.

Peer communication patterns (X3-FSOC) was also a summated scale which measured the degree of soci-orientation in the peers' communication structure.

Public media use (X5-PUBMED) was an index composed of the individual's report of his TV viewing of news and public documentaries and his report of frequency of newspaper reading.

Significant Others' Influence (X7-Ideas and X6-Career) was measured by two separate questions relating to the individual's perceived parental support for attending college. IDEAS was operationalized as parents frequently saying the child should go to college to learn new ideas. CAREER was operationalized as parents frequently saying the child should go to college to be trained for a career.

High School Rank (X6-HSR) was the individual's report of the percentile in which he fell in his high school graduating class.
Family Communication patterns. Two variables measured the degree of concept-orientation (X₂ - FCON) and the degree of socio-orientation (X₁₀ - FSOC) respectively in the structure of communication within the family of the the individuals. Both were obtained by a summed scale of items intending to determine whether the subjects' families stressed either type of communication.

Socio-economic status (X₁₁ - SES) was an index composed of father's education, father's occupation, mother's education and mother's occupation. Parental income was unavailable. Mother's occupation was included because, although we were not interested in determining the effects of mother's occupation on child's expected occupations, it is another indicator of overall family position.

Results

The zero-order correlation coefficients among the eleven variables are presented in Table 1. Diagram 1 shows all the paths that were significant at least at .05 level and which were hypothesized or at least previewed as possible. A complete representation with all the paths would be cumbersome and difficult to interpret. However, paths coefficients for all possible lines determined by the causal order explained above were calculated.

(TABLE 1 ABOUT HERE)

As predicted, there were two positive paths from PUBMED and GPA toward occupational expectations (.09 and .17 respectively). Yet, those two paths do not account for all the variance in occupational expectations. Social class differences shown by a positive coefficient from socioeconomic background (SUPSES) to our dependent variable, though modest (.10) was statistically significant. This is a suggestion that inequalities in the status of the families act as a disadvantage against the poorer individuals; it is also a departure from the findings of Sewell et al. (1969),
that showed a mediation of the influence of SES through the effect of significant others' encouragement. This might be explained by the fact that our measure of significant others' influence was not as sophisticated as the one used by the Wisconsin model and it leaves the possibility that a better and more complete measure of SOI would replicate the findings of Sewell et al. (1969). Nevertheless the fact remains that children from higher social class origins are more likely to aspire to high educational and occupational goals than are children of lower social class origins (Sewell and Shaw, 1963).

(DIAGRAM 2 ABOUT HERE)

Surprisingly peer-concept-orientation (PCON) dropped out of the model. Nevertheless, the socio-orientation type of communication among peers (PSOC) showed a negative path toward GPA. This suggests that those persons from socio-oriented environments tend to get lower grade point averages than those from concept oriented homes. Although there is a strong positive path (.30) from FCON to IDEAS and then a negative path (-.07) from IDEAS to GPA, the explanation for this fact might be that we are dealing with a very select sample of college students with little variation in many of the characteristics measured. This may have produced some of the dubious negative causal paths in the model. Nevertheless, there is a modest but positive path which indicates an indirect effect of FCON on OCCEXP through PUBMED. Yet, there is still the fact that socioeconomic background accounts for most of the variance on OCCEXP both directly and through GPA, but also through HSRANK via GPA again.

A note of caution regarding any enthusiastic interpretation of the effect of PUBMED on academic performance in general and on occupational expectations is introduced by the negative path from PUBMED to GPA (-.08). It might be interpreted that
media have a negative influence on the students by distracting them from their coursework and, hence, mitigating against high academic performance. Yet, we feel that an equally likely interpretation is that some of our independent variables are correlated among themselves, resulting in a negative beta from PUBMED to GPA. There is also a dubious negative path from IDEAS to PUBMED, which was not hypothesized. This suggests that more consideration should be given to the possibility that these two variables as well as IDEAS and GPA may have a nonlinear relationship. As hypothesized HSRANK has a positive direct path to CPA (.32). However, there was not a significant path from HSRANK to our measure of SOI. Again, this may be due to the fact that our measures of SOI are a poor approximation to the measures used by Sewell et al. (1969). For occupational expectations our model accounted for a modest six percent of the variance ($R^2=.064$), whereas for GPA it accounts for 15 percent of the variance ($R^2=.15$).

Because of the possibility of interactions, we decided to partition our sample into males and females. This approach allowed us to actually determine empirically different patterns of causality in the model.

For males, the only variables predicting directly to occupational expectations are GPA (.29) and PCON (.10). These paths were hypothesized in our original model. Many of the other paths that were hypothesized dropped out of the model. Our three exogenous variables have only an indirect effect to GPA and PCON. That is, the influence of socioeconomic background is mediated by performance in college. It should be noted (Diagram 3, appendix) that there is a similarity of paths from FCON and FSOC to PCON (.17 and .18, respectively). This suggests that family communication patterns, as pointed out by McLeod and Chaffee (1972), are not unalterable
psychological traits. Rather, they can be thought of as situational variables, at least for males. Therefore, it may be the case that those individuals from either socio- or concept-oriented families adjust themselves to the new environment in college, which is predominantly concept oriented. Interestingly, HSRANK does not seem to be affected by any of our exogenous variables. This may be explained by the selection process of college attendance. Maybe, the variable determining HSRANK is mental ability. Since our sample is composed of college students, selected on the basis of high grades in high school and high IQ test scores, the variance in HSRANK as a dependent variable is reduced, leaving little variance to be accounted for by FCON, FSCOC and SUPSES. As hypothesized, there is a positive path from HSRANK to GPA (.31). In general our model accounts for 13 percent of the variance in both OCCEXP ($R^2=.13$) and GPA ($R^2=.13$). The paths not included in Diagram 3 might be seen in Table 3 in Appendix.

(DIAGRAM 3 ABOUT HERE)

Diagram 4 shows the path model for females only, in which the only direct path to OCCEXP goes from SUPSES (.18). None of the other variables yielded statistically significant path coefficients. There seems to be no direct influence of GPA on OCCEXP. The lack of paths from the communication variables and from GPA might be attributed to the fact that we did not control for marital status or plans to get married, which might be sources of interaction with occupational expectations. Further, attention should be given to this possibility. It might also be necessary to include variables related to more specific significant others' influences. Among the latter, we suggest some measures regarding peers' educational and occupational expectations. But again, it might be that the occupational expectations of women are determined by their marital expectations.
Finally, our model for women accounts for a modest 6 percent of the variance in OCCEXP ($R^2 = 0.06$) and a 15 percent of the variance for GPA ($R^2 = 0.15$), as can be seen in Table 4 in Appendix.

(DIAGRAM 4 ABOUT HERE)

**Conclusions**

The construction of our model was an attempt to follow as closely as possible the social psychological Wisconsin model for educational and occupational attainment. Nonetheless, our sample and our variables were not identical to the ones used in the Sewell et al. model. In fact, the main social psychological variables used in the Wisconsin model such as significant others' influence (SOI), educational and occupational attainment and educational aspirations were not included. We did include, however, several variables related to communication patterns among families and peers as well as measures of public media variables.

The inclusion of these communication variables did indicate that, with more refined measures, they may increase the predictive power of the Sewell et al. model. For example, the variable of peer communication (PCON) had a considerable effect on occupational expectations for males. For the entire sample, public media (PUBMED) accounted for a portion of the variance for occupational expectations (OCCEXP). This was explained by the fact that the media portray higher occupational status positions. Further, the media carry information concerning those higher status positions.

Our data, like Sewell and Sharp (1969), show a direct path of socioeconomic status and occupation expectation, even when all other variables are controlled. High school rank and grade point average are mediating variables through which part of the influence of socioeconomic status is transmitted to occupational expectation.

Two factors may explain the modest amount of variance accounted for by our model.
First, our sample was drawn from a rather homogeneous group of college students. Given that this group would tend to be higher in socioeconomic status and occupational expectation than a nonstudent population, this would attenuate the amount of variance left to be explained. This fact may explain the paucity of variance accounted for, the elimination of some of our hypothesized paths, and the dubious negative paths evidenced.

Secondly, our measure of significant others' influence was not adequate. Moreover, we were not able to include many of their actual measures of significant others' influence.

We would suggest in future research the inclusion of all the variables present in the Wisconsin model. Further, we suggest that more refined measures of communication variables be included in a model pertaining to occupational attainment. Different measures of media should be included, such as the frequency of media use, types of media most used, kinds of programs watched most, number of special journals most frequently read (Auto Mechanics, Journalism Quarterly, etc.). Also, structural communication variables may be included, for example, the degree of concept or socio orientation.

Lastly, peer occupational and peer educational plans are two variables, we think, should be included. And for females, control for marital status and/or marital expectations should be introduced into the model. Since our variable CAREER drops out of the equation for our entire sample and for the male sample, but remains for our female sample (negative path), there are some interesting possibilities that may be worth investigating. That is, we should not only find out the parent's career encouragements, but also the extent that the student internalizes these expectations.
REFERENCES


Chaffee, Steven H., Jack M. McLeod and Daniel B. Wackman. *Family Communication and Political Socialization.* Paper presented to Association for Education in Journalism, Iowa City, Iowa.


DIAGRAM 1.

MODEL PREDICTING OCCUPATIONAL EXPECTATIONS

---

Straight lines represent causal paths.

Dotted lines represent possible but non hypothesized paths.
PATH DIAGRAM 2.

VARIABLES PREDICTING TO OCCUPATIONAL EXPECTATIONS
ENTIRE SAMPLE (N=524)

SUPSES: Socioeconomic status of parents.
FCON: Family communication patterns (concept orientation)
HSR: Subject's high school rank.
IDEAS: Frequency of parental encouragement to go to college to get new ideas.
PUBMED: Number of newspapers read and frequency of exposure to tv news programs.
GPA: Subject's grade point average in college.
PSOC: Pattern of communication with peers (socio-orientation).
OCCEXP: Subject's expected occupation.

ALL PATHS ARE SIGNIFICANT BY T_{v-1} (one-tailed) AT .05 level.
PATH DIAGRAM 3.

VARIABLES PREDICTING TO OCCUPATIONAL EXPECTATIONS

MALES (N=301)

SUPSES: Socioeconomic status of parents
FCON: Family communication pattern (concept orientation)
FSOC: Family communication pattern (socio orientation)
HS RANK: Subject's high school rank
PCON: Pattern of communication with peers
GPA: Subject's grade point average in college
OCCEXP: Subject's expected occupation

\[ R^2 = .13 \]

---dotted lines indicate non-significant path at .05 level \( t_{v-1} \) (one-tailed)
PATH DIAGRAM 4.

VARIABLES PREDICTING TO OCCUPATIONAL EXPECTATIONS

FEMALES ONLY (N=223)

SUPSES: Socioeconomic status of parents
FCON: Family communication pattern (concept orientation)
FSOC: Family communication pattern (socio-orientation)
HS RANK: Subject's high school rank
CAREER: Frequency of parental encouragement to go to college to get a career
GPA: Subject's grade point average in college
OCCEXP: Subject's expected occupation

\[ R^2 = .064 \]

all paths in diagram are significant by \( t_{.05} \) at .05 level
--dotted line indicate non-significant path at .05 level
### TABLE 1. ZERO-ORDER CORRELATIONS

<table>
<thead>
<tr>
<th></th>
<th>(X_5) PUBLIC MEDIA</th>
<th>(X_2) GPA</th>
<th>(X_8) HSR</th>
<th>(X_3) PSOC</th>
<th>(X_4) PCON</th>
<th>(X_7) IDEAS</th>
</tr>
</thead>
<tbody>
<tr>
<td>(X_5) PUB MED</td>
<td></td>
<td>-0.11</td>
<td>-0.09</td>
<td>-0.03*</td>
<td>0.05*</td>
<td>0.06*</td>
</tr>
<tr>
<td>(X_2) GPA</td>
<td></td>
<td></td>
<td>0.34</td>
<td>-0.09</td>
<td>0.05*</td>
<td>-0.04*</td>
</tr>
<tr>
<td>(X_8) HSR</td>
<td></td>
<td></td>
<td></td>
<td>-0.01*</td>
<td>-0.08*</td>
<td>0.01*</td>
</tr>
<tr>
<td>(X_3) PSOC</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-0.04*</td>
</tr>
<tr>
<td>(X_4) PCON</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(X_7) IDEAS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(X_6) CAREER</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(X_1) OCCEXP</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(X_9) FCON</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(X_{10}) FSOC</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(X_{11}) SUPSES</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: \(\cdot\) indicates correlation is not significant at the 0.05 level.
TABLE 1. CONTINUED

<table>
<thead>
<tr>
<th>$X_6$ CAREER</th>
<th>$X_1$ OCCEXP</th>
<th>$X_9$ FCON</th>
<th>$X_{10}$ FSOC</th>
<th>$X_{11}$ SUPSES</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Frequency of parental encouragement to go to college to get a career)</td>
<td>(Occupation expectation prestige scores Duncan-Rice)</td>
<td>(Family communication pattern concept)</td>
<td>(Family communication pattern socio)</td>
<td>(Index of socio-economic status)</td>
</tr>
<tr>
<td>$X_5$ PUB MED</td>
<td>.01*</td>
<td>-.06*</td>
<td>.06*</td>
<td>-.00</td>
</tr>
<tr>
<td>$X_2$ GPA</td>
<td>-.02*</td>
<td>.18</td>
<td>-.02*</td>
<td>-.08*</td>
</tr>
<tr>
<td>$X_8$ HSR</td>
<td>-.01*</td>
<td>.09</td>
<td>-.05*</td>
<td>-.06*</td>
</tr>
<tr>
<td>$X_3$ PSOC</td>
<td>.06*</td>
<td>.02*</td>
<td>.00</td>
<td>.19</td>
</tr>
<tr>
<td>$X_4$ PCON</td>
<td>-.08*</td>
<td>-.09</td>
<td>.18</td>
<td>.03*</td>
</tr>
<tr>
<td>$X_7$ IDEAS</td>
<td>.42</td>
<td>-.01*</td>
<td>.28</td>
<td>-.03*</td>
</tr>
<tr>
<td>$X_6$ CAREER</td>
<td>...</td>
<td>.00</td>
<td>.09</td>
<td>.16</td>
</tr>
<tr>
<td>$X_1$ OCCEXP</td>
<td>...</td>
<td>...</td>
<td>.04*</td>
<td>-.02*</td>
</tr>
<tr>
<td>$X_9$ FCON</td>
<td>...</td>
<td>...</td>
<td>...</td>
<td>-.41</td>
</tr>
<tr>
<td>$X_{10}$ FSOC</td>
<td>...</td>
<td>...</td>
<td>...</td>
<td>...</td>
</tr>
<tr>
<td>$X_{11}$ SUPSES</td>
<td>...</td>
<td>...</td>
<td>...</td>
<td>...</td>
</tr>
</tbody>
</table>

*Not significant by t-test at .05 level (one-tailed).
## TABLE 2. STANDARDIZED BETA COEFFICIENTS FOR HYPOTHESIZED CAUSAL PATHS

**Whole Sample (N=524)**

<table>
<thead>
<tr>
<th>Dependent Variables</th>
<th>( X_{11} )</th>
<th>( X_9 )</th>
<th>( X_{10} )</th>
<th>( X_8 )</th>
<th>( X_7 )</th>
<th>( X_6 )</th>
<th>( X_5 )</th>
<th>( X_4 )</th>
<th>( X_3 )</th>
<th>( X_2 )</th>
<th>( R^2 )</th>
</tr>
</thead>
<tbody>
<tr>
<td>( X_8 ) HSR</td>
<td>.08</td>
<td>-.09</td>
<td>.07</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.01</td>
</tr>
<tr>
<td>( X_7 ) IDEAS</td>
<td>.17</td>
<td>.30</td>
<td>-.14</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.11</td>
</tr>
<tr>
<td>( X_6 ) CAREER</td>
<td>.10</td>
<td>.17</td>
<td>.26</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.06</td>
</tr>
<tr>
<td>( X_5 ) PUBMED</td>
<td></td>
<td>.08</td>
<td></td>
<td>-.08</td>
<td>-.08</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.02</td>
</tr>
<tr>
<td>( X_4 ) PCON</td>
<td>.09</td>
<td>.22</td>
<td>.15</td>
<td>-.09</td>
<td>( ... )</td>
<td>( ... )</td>
<td>( ... )</td>
<td>( ... )</td>
<td>( .05^* )</td>
<td></td>
<td>.06</td>
</tr>
<tr>
<td>( X_3 ) PSOC</td>
<td>( ... )</td>
<td>.09</td>
<td>.23</td>
<td>( ... )</td>
<td>( ... )</td>
<td>( ... )</td>
<td>( ... )</td>
<td>( ... )</td>
<td></td>
<td></td>
<td>.05</td>
</tr>
<tr>
<td>( X_2 ) GPA</td>
<td>.15</td>
<td>( ... )</td>
<td>( ... )</td>
<td>.32</td>
<td>-.07</td>
<td>( ... )</td>
<td>( -.08 )</td>
<td>( ... )</td>
<td>( -.08 )</td>
<td></td>
<td>.15</td>
</tr>
<tr>
<td>( X_1 ) OCCEXP</td>
<td>.10</td>
<td>( .01^* )</td>
<td>( ... )</td>
<td>( ... )</td>
<td>( ... )</td>
<td>( ... )</td>
<td>( .09 )</td>
<td>( .06^* )</td>
<td>( ... )</td>
<td>( .17 )</td>
<td>.06</td>
</tr>
</tbody>
</table>

*Not significant by t-test at .05 level (one-tailed).

... Coefficients replaced by dots were dropped out of the model because they were too small.
### TABLE 3. STANDARDIZED BETA COEFFICIENTS FOR CAUSAL PATHS

**Males (N=301)**

<table>
<thead>
<tr>
<th>Independent Variables</th>
<th>X11</th>
<th>X9</th>
<th>X10</th>
<th>X8</th>
<th>X7</th>
<th>X6</th>
<th>X5</th>
<th>X4</th>
<th>X3</th>
<th>X2</th>
<th>R²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supses</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>X8 HSR</td>
<td>.06*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.01</td>
</tr>
<tr>
<td>X7 IDEAS</td>
<td>.13</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.07</td>
</tr>
<tr>
<td>X6 CAREER</td>
<td>.08*</td>
<td>.09</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.07</td>
</tr>
<tr>
<td>X5 PUBMED</td>
<td>-.06*</td>
<td></td>
<td>.01*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.02</td>
</tr>
<tr>
<td>X4 PCON</td>
<td>.12</td>
<td>.17</td>
<td>.18</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.05</td>
</tr>
<tr>
<td>X3 PSOC</td>
<td></td>
<td></td>
<td></td>
<td>.17</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.08</td>
</tr>
<tr>
<td>X2 GPA</td>
<td>.12</td>
<td>.00*</td>
<td>.01*</td>
<td>.31</td>
<td>-.06*</td>
<td>-.02*</td>
<td>-.02*</td>
<td>.01*</td>
<td>-.07*</td>
<td></td>
<td>.13</td>
</tr>
<tr>
<td>X1 OCCEXP</td>
<td>.08*</td>
<td>-.01*</td>
<td>.00*</td>
<td>.03*</td>
<td>-.08*</td>
<td>.04*</td>
<td>.06*</td>
<td>.10</td>
<td>.06*</td>
<td>.29</td>
<td>.13</td>
</tr>
</tbody>
</table>

*Not significant by t-test at .05 level (one-tailed).

...Coefficients replaced by dots were dropped out of the model because they were too small.
TABLE 4. STANDARDIZED BETA COEFFICIENTS FOR CAUSAL PATHS

Females (N=223)

<table>
<thead>
<tr>
<th>Dependent Variables</th>
<th>11</th>
<th>9</th>
<th>10</th>
<th>8</th>
<th>7</th>
<th>6</th>
<th>5</th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>R²</th>
</tr>
</thead>
<tbody>
<tr>
<td>HSR</td>
<td>.11*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.04</td>
</tr>
<tr>
<td>IDEAS</td>
<td>.22</td>
<td></td>
<td>.38</td>
<td>.16</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.19</td>
</tr>
<tr>
<td>PUBMED</td>
<td>.01*</td>
<td></td>
<td>.10*</td>
<td></td>
<td>.11*</td>
<td></td>
<td>-.15</td>
<td></td>
<td></td>
<td></td>
<td>.03</td>
</tr>
<tr>
<td>PCON</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.29</td>
<td>.13</td>
<td>.12</td>
<td></td>
<td></td>
<td></td>
<td>.09</td>
</tr>
<tr>
<td>PSOC</td>
<td>.04*</td>
<td></td>
<td>.05*</td>
<td></td>
<td>.19</td>
<td></td>
<td>.11*</td>
<td>.05*</td>
<td>.02*</td>
<td></td>
<td>.04</td>
</tr>
<tr>
<td>GPA</td>
<td>.17</td>
<td></td>
<td>-.08*</td>
<td></td>
<td>.34</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.15</td>
</tr>
<tr>
<td>OCCEXP</td>
<td>.19</td>
<td></td>
<td>.12*</td>
<td>.07*</td>
<td>.02*</td>
<td>.02*</td>
<td>-.12*</td>
<td>.02*</td>
<td></td>
<td></td>
<td>.06</td>
</tr>
</tbody>
</table>

*Not significant by t-test at .05 level (one-tailed).

...Coefficients replaced by dots were dropped out of the model because they were too small.