Two studies, the second essentially a replication of the first, were conducted to clarify the meaning of vocational maturity in female career development. The sample consisted of 55 college women in the first study and 145 women in the second study. Correlational analysis examined the relationship of vocational maturity, using the Career Maturity Attitude Scale, to career orientation variables. The career orientation variables included a measure of work role salience, the Desire to Work Scale, and three measures of occupational role innovation: level and traditionality of occupational choice, and educational aspiration. While no significant relationship between career orientation variables and vocational maturity was obtained in the first study, work role salience was positively related to vocational maturity in the second study. Correlation matrices of the career orientation variables in both studies revealed that the two dimensions of career orientation are independent in college women. Results are discussed in the context of Crites' theoretical model of vocational maturity and current expectations for female career participation. Implications for further research in female career development are presented.
Vocational Maturity and Career Orientation in College Women

Mary Sue Richardson, Ph.D.
New York University
School of Education, Health, Nursing, and Arts Professions
Department of Counselor Education
South 74
New York, N.Y. 10003

Lynne Kwalwasser
New York University

Marsha Shelov
New York University

The authors wish to express their appreciation to Audrey Levin for her assistance in data collection.

Two studies, the second essentially a replication of the first, were conducted to clarify the meaning of vocational maturity in female career development. The sample consisted of 55 college women in the first study and 145 women in the second study. Correlational analysis examined the relationship of vocational maturity, using the Career Maturity Attitude Scale, to career orientation variables. The career orientation variables included a measure of work role salience, the Desire to Work Scale, and three measures of occupational role innovation; level and traditionality of occupational choice, and educational aspiration. While no significant relationship between career orientation variables and vocational maturity was obtained in the first study, work role salience was positively related to vocational maturity in the second study. Correlation matrices of the career orientation variables in both studies revealed that the two dimensions of career orientation are independent in college women. Results are discussed in the context of Crites' theoretical model of vocational maturity and current expectations for female career participation. Implications for further research in female career development are presented.
The construct of vocational maturity in career psychology refers to the effectiveness with which individuals cope with vocationally relevant tasks associated with developmental stages. Ability to master stage-specific developmental tasks is related theoretically to progress at subsequent stages of the career development process. While theory, research, and instrumentation associated with vocational maturity have expanded considerably in recent years (Super, 1974), and vocational maturity instruments have been used with both male and female samples, questions have been raised about the applicability of constructs derived from studies of male career development to females (Osipow, 1975). More specifically, Richardson (1974b) suggested that vocational maturity, based on stages and related developmental tasks, is suspect in that stages and tasks for women may differ from those identified for men.

Several studies have indicated that young women tend to score higher on vocational maturity measures than young men (Myers, Thompson, Lindeman, Super, Patrick, & Friel, Smith & Herr, 1972), a finding that is perplexing given the unequal performance of adult men and women in occupational achievement. Sex-role related processes may help to account for this apparent discrepancy in that the meaning of vocational maturity may differ for young women engaged in making both occupational and family-oriented role decisions. Two studies, the second essentially a replication of the first, were conducted to clarify the meaning of vocational maturity in female career development by relating it to selected indices of career orientation in college women.

Career orientation, a widely used concept in research on female career development, is defined generally as the extent to which women are committed to and involved in the work role. As such, it taps a dimension of career development particularly relevant to women given
the nature of the sex-role socialization process in which women have a basic choice to make regarding the importance of the work role in their lives, as well as choice about the kind of work to do (Bailyn, 1964). Data available have suggested minimal or nonsignificant relationships between career orientation and vocational maturity (Putnam & Hansen, 1972; Richardson, 1974a). Nevertheless, one might expect a positive relationship between these variables in that women involved in the work role also are more likely to be engaged in occupational decision-making, and therefore, more vocationally mature than less career-orientated women.

Anticipatory role conflict is suggested as a moderator variable accounting for the lack of relationship between career orientation and vocational maturity in studies cited above. Anxiety attached to conflict between work and familial roles, experienced by some career-orientated women, may interfere in the developmental processes associated with vocational maturity, thereby obscuring the expected positive relationship between these variables. Accordingly, the studies were designed to control for the influence of role conflict in the relationships under investigation.

A secondary purpose of the studies was to examine the set of relationships among the measures of career orientation. Career orientation has been subject to widely diverse operational definitions (Astin, Suniwick, & Dweck, 1971; Levitt, 1972). These definitions can be grouped into two categories; those tapping work role salience and those related specifically to occupational role innovation. Work role salience refers to the extent to which women give the work role a high priority in their adult lives in place of, or in addition to, involvement in traditional family roles. Occupational role innovation, on the other
hand, refers to the kind of work role a woman chooses in terms of deviating from traditional sex-typed female occupations. While research has indicated that these two dimensions are highly correlated (Richardson, 1974a), recent data on both expectations of young women and actual labor force participation of women report dramatic increases in the extent to which women plan to and do work outside the home with less change in the kinds of occupations selected (Parelius, 1975; Rand & Miller, 1972; U.S. Department of Labor, 1974). Whether or not these changes are reflected in the topology of career orientation in college women will be examined in this study.

**Study 1**

**Methodology**

Subjects

The Ss for this study were randomly selected from the Freshmen and Junior classes of the undergraduate female student body at a large private suburban university. Two groups were used in order to explore developmental trends in the major variables of the study and in their interrelationships. There were 26 Freshmen, age 17-19, and 29 Juniors, age 20 to 21. The subjects of the study were full-time students with a variety of majors. Most were single; none had children.

Data were collected by mailed questionnaires in the Spring, 1973. Of the original questionnaires mailed, 26 out of 35 for Freshmen and 29 out of 35 for Juniors, were returned, representing a return for the two groups of 74% and 83% respectively.

**Measures**

**Vocational maturity.** Vocational maturity was assessed by Crites' Career Maturity Attitude Scale (CMAS) (1973). The Attitude Scale has been developed and studied more thoroughly than other tests of vocational maturity and is appropriate for use with a college age population.
Career orientation. The Desire to Work Scale (DWS) (Eyde, 1972) was used to assess Work Role Salience. This scale asks women to report their motivation to work in 17 conditions varying marital status, presence and number of children, and financial necessity on a 5-point scale. Three aspects of occupational role innovation were measured. Level of Occupational Choice was based on ratings of Ss' occupational choice using Hamburger's (Note 1) revision of the Warner Scale. This variable represents one assessment of aspiration level. Ss' occupational choices also were coded for Traditionality of Choice based on 1970 census data. (U.S. Department of Commerce, 1970) Occupations in which women represent less than one-third of workers were categorized as non-traditional (code = 3), while occupations in which women predominate (more than two-thirds) were categorized as traditional (code = 1). Occupations included in neither of these categories were labeled "neutral" (code = 2). The third measure of occupational role innovation was Educational Aspiration based on Ss' responses to a question asking for their highest educational goal and their degree of certainty regarding this goal. Certainty and aspiration level were combined in a 7-point rating scale with higher scores reflecting both greater certainty and higher aspirations.

Role conflict. The measure of role conflict used was based on Ss' responses to an open-ended question asking them to describe the conflicts they anticipate between work and family (marriage and parenthood) roles. Modal conflicts described included problems of child care and lack of husband's support for work role involvement. Responses were coded according to a four-point system based essentially on number of conflicts described with "4" representing highest level of role conflict. Interrater reliability of 94% was established for the coding system, using two independent raters.
Results

T-tests were conducted to determine any significant mean differences between Freshmen and Juniors on the major variables in the study. The only significant t-value indicated that Juniors expressed more vocationally mature attitudes than Freshmen (t = -2.03, p < .05).

Pearson product-moment correlation analysis examined the relationship between the Career Maturity Attitude Scale (CMAS) and the four career orientation variables for the Freshmen and Junior groups, and for the combined sample. In the only significant relationship obtained, maturity of vocational attitudes was related to Educational Aspiration in the Junior sample (r = .46, p < .05).

The influence of role conflict on the correlations between vocational maturity and career orientation was controlled by partialling out the role conflict measure for each group and for the combined sample. Results indicated that removal of variance due to role conflict did not affect the pattern of relationships obtained.

Pearson product-moment correlations among the career orientation variables for Freshmen, Juniors, and the combined group were computed. For the combined group analysis only one occupational role innovation variable (Traditionality of Choice) was significantly related to the measure of work role salience (DWS) (r = .32, p < .05). Occupational role innovation variables were highly intercorrelated, with Level of Occupational Choice significantly related to both Traditionality of Choice (r = .45, p < .01) and to Educational Aspiration (r = .41, p < .01). Similar results were found in the separate analyses for Freshmen and Juniors.
Study 2

Methodology

Subjects

The Ss of the second study were 145 undergraduate women selected by means of a stratified random sampling procedure from the Freshmen and Junior classes of the undergraduate colleges at a large private urban university. Ss were similar to those who participated in the first study in socioeconomic status (largely middle class), in variety of majors, and in marital status (mostly single; none with children). The measures of the study were included in a single self-administering questionnaire. Two data collection procedures were followed in the Spring semester, 1975, conforming to regulations of the various undergraduate colleges: mailed questionnaires with follow-up and in-class solicitation of volunteers. Data were available for 82 Freshmen and 63 Juniors, representing, respectively, a return rate of 48% and 36% for each class.

Analysis of return rate by data collection procedure indicated that mailed questionnaires resulted in return rates of 39% and 34% for the Freshmen and Junior classes, and in-class distribution of questionnaires resulted in return rates of 64% and 48% for each class respectively. The latter rates represent a more acceptable level for questionnaire studies. In lieu of data on non-respondents, it is not possible to directly determine the presence of systematic bias in the sample. General University statistics on characteristics of the undergraduate student body, however, indicate that Ss in the study did not differ from the norm in grade-point-average or in socioeconomic status.

Although the mean age of Freshmen and Junior women, 18.4 and 21.1, corresponded to that expected for a traditional college sample, the
degree of age overlap between the samples suggested that categorization by age would provide a clearer picture of age-developmental trends within the constraints of a cross-sectional design, as well as results more directly comparable with those of the first study. Accordingly, the obtained sample was categorized by age with 90 participants in the 17-19 age range and 55 participants in the 20-24 age range.

**Measures**

The measures used in the study were identical to those used in the first study with one exception. Educational aspiration was based solely on highest educational goal rather than combined rating for level and certainty. A 4-point rating scale was used with "4" representing the highest educational aspiration level.

**Results**

T-tests were conducted to determine any significant mean differences between the two age groups on the variables in the study. No significant differences were obtained. Differences in variance, examined with an F ratio, indicated that the older age group showed greater variability in vocational maturity than the younger women (F=1.90, p<.01).

Additional t-tests were conducted to determine whether there were any significant mean differences between the total samples in the first and second studies on the major variables. The only significant difference obtained indicated higher work role salience in the second sample (t=2.11, p<.05).

Pearson product-moment correlations were used to examine the relationship between vocational maturity and the four career orientation variables for each age group separately, and for the combined sample. Results reported in Table 1 show that vocational maturity was signi-
significantly related to work role salience in all analyses.

The effect of role conflict on the relationships between vocational maturity and career orientation measures was controlled by a partial correlation procedure in separate analyses by age, and for the combined group. Similar to results obtained in the first study, the pattern of relationships obtained was not affected by removal of variance due to role conflict.

Pearson product-moment correlation matrices among the four career orientation variables were computed for both age groups, and the combined sample. Results in Table 2 show that the two dimensions of career orientation were not related with the single exception of a significant relationship between the measure of work role salience (DWS) and Educational Aspiration in the older age group.

Additional analysis were conducted to determine the relationship between the measure of role conflict and the four career orientation variables and to determine patterns of interrelationships among the career orientation variables for women who differ in level of role conflict. Based on Pearson product-moment correlations role conflict was not significantly related to any of the career orientation variables in either age group or in the combined sample. The combined sample was then dichotomized by role conflict scores (high role conflict and low role conflict), and Pearson product-moment correlation matrices of the four career orientation variables were computed for Ss in each group. Data reported in Table 3 indicate that among women characterized by low role conflict, work role salience was significantly related to several occupational role
innovation variables. In women with high role conflict, no significant relationship between the two dimensions of career orientation was obtained.

Discussion

Comparison between age groups on the major variables in the two studies indicate that career orientation variables do not differ by age, at least within the limited age range of college students, and provide inconsistent support for increase in maturity of vocational attitudes with age. While cross-sectional designs do not permit examination of within-cohort changes over time, the results of these studies suggest that career orientation variables and vocational maturity are relatively stable characteristics in college age students.

Although no relationship between vocational maturity and career orientation was obtained in the first study, vocational maturity was significantly related to work role salience in the second study. This finding, in combination with the obtained nonsignificant relationships between occupational role innovation variables and vocationally mature attitudes in both studies, helps to clarify the meaning of vocational maturity in female career development when viewed within the context of Crites' (1973) theoretical model and emerging trends for female participation in the work force. In Crites' model, vocational maturity is conceptualized as one aspect of a general adjustment process. For women current societal norms support expectations of extensive participation in the work role throughout the life span. The relative lack of change in the kinds of work roles selected, however, and research documenting continued perception of negative consequences attached to success in non-traditional occupational roles (Hoffman, 1974; Horner, 1972) suggests that occupational role innovation, to some extent, is still per-
ceived as a deviation from acceptable sex-role standards for women. As such, it is not surprising that vocational maturity, an indice of general adjustment, was related to that dimension of career orientation more compatible with current sex-role expectations and standards, and not with variables reflecting greater deviance from these expectations.

While the relationship between vocational maturity and work role salience must be viewed with caution in light of inconsistent findings from the two studies, greater confidence can be placed on the results of the second study due to larger sample size. Moreover, one can speculate that the higher level of work role salience found in the second sample reflects a greater acceptance of liberal sex-role attitudes towards women's role in the population sampled, expectations likely to facilitate a positive relationship between vocational maturity and expectations for more extensive participation in work roles over the life span.

Correlation matrices among the career orientation variables in both studies indicate that occupational role innovation variables are highly interrelated with little or no relationship between these variables and work role salience. It is likely that rapid changes in acceptance of the work role in women's lives with no concomitant decrease in the sex-stereotyping of occupational choices has essentially eliminated previously found relationships between these two dimensions. The results support Kriger's (1972) suggestion that involvement in the work role and kind of work role chosen are related to different development processes in women. Additionally, it appears that the term, career orientation, has outlived its usefulness as a construct in theory and research on female career development. Use of more precise terms directly related to phenomena under investigation will provide clarity to the field and enable research efforts directed towards specifying developmental ante-
ecedents and facilitating factors for both work role salience and choice of untraditional occupations for women, and on the interactive effects of these two aspects of female development in specific career patterns. For example, a critical level of work role salience would appear essential to successful implementation of innovative occupational choices.

The results of both studies provide no support for the contention that role conflict is a significant factor affecting the relationship between vocational maturity and the career orientation variables. Nor does role conflict appear to be related, as one might expect, to either work role salience or occupational role innovation variables. However, the results of the second study suggest that expectations for extensive involvement in the work role are more likely to be related to innovative occupational choices among women reporting lower levels of anticipated conflict between work and family roles. It may be that such conflict operates as a factor affecting the interaction between innovative occupational choices and commitment to the work role in that it makes it more difficult for women to be work role salient and choose untraditional occupational roles. Clearly needed are more sophisticated measures of role conflict for women both preparing for and engaged in major life roles, and research designs capable of exploring subtle causal relationships. The results of the present study on effects of role conflict in women's career development can only be considered suggestive given limitations of the measure used.
Reference Notes

References


### Table 1

Correlations Between Vocational Maturity and Career Orientation Variables for Each Age Group and Combined Group

<table>
<thead>
<tr>
<th>Career Orientation Variables</th>
<th>Vocational Maturity</th>
<th>Work role salience (DWS)</th>
<th>Level of occ. choice</th>
<th>Traditionality of occ. choice</th>
<th>Educational aspiration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age group 17-19 (N=90)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CMAS</td>
<td>.20*</td>
<td>-.10</td>
<td>-.04</td>
<td>-.04</td>
<td></td>
</tr>
<tr>
<td>Age group 20-24 (N=55)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CMAS</td>
<td>.26*</td>
<td>.05</td>
<td>-.15</td>
<td>.15</td>
<td></td>
</tr>
<tr>
<td>Combined group (N=145)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CMAS</td>
<td>.23*</td>
<td>-.03</td>
<td>-.09</td>
<td>.05</td>
<td></td>
</tr>
</tbody>
</table>

* p < .05  
** p < .01
Table 2

Correlation Matrix of Career Orientation Variables
for Each Age Group and Combined Group

**Age group 17-19 (N=90)**

<table>
<thead>
<tr>
<th></th>
<th>Wk. role salience (DWS)</th>
<th>Level of occ. choice</th>
<th>Traditionality of occ. choice</th>
<th>Educational aspiration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wk. role salience (DWS)</td>
<td>---</td>
<td>.07</td>
<td>.13</td>
<td>.04</td>
</tr>
<tr>
<td>Level of occ. choice</td>
<td>---</td>
<td>---</td>
<td>.53**</td>
<td>.57**</td>
</tr>
<tr>
<td>Traditionality of occ. choice</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>.32**</td>
</tr>
<tr>
<td>Educational aspiration</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Age group 20-24 (N=55)**

<table>
<thead>
<tr>
<th></th>
<th>Wk. role salience (DWS)</th>
<th>Level of occ. choice</th>
<th>Traditionality of occ. choice</th>
<th>Educational aspiration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wk. role salience (DWS)</td>
<td>---</td>
<td>.22</td>
<td>.20</td>
<td>.23*</td>
</tr>
<tr>
<td>Level of occ. choice</td>
<td>---</td>
<td>---</td>
<td>.54**</td>
<td>.58**</td>
</tr>
<tr>
<td>Traditionality of occ. choice</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>.37**</td>
</tr>
<tr>
<td>Educational aspiration</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Combined group (N=145)**

<table>
<thead>
<tr>
<th></th>
<th>Wk. role salience (DWS)</th>
<th>Level of occ. choice</th>
<th>Traditionality of occ. choice</th>
<th>Educational aspiration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wk. role salience (DWS)</td>
<td>---</td>
<td>.12</td>
<td>.14</td>
<td>.11</td>
</tr>
<tr>
<td>Level of occ. choice</td>
<td>---</td>
<td>---</td>
<td>.53**</td>
<td>.57**</td>
</tr>
<tr>
<td>Traditionality of occ. choice</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>.34**</td>
</tr>
<tr>
<td>Educational aspiration</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*p < .05  
**p < .01
Table 3

Correlation Matrix of Career Orientation Variables for Subjects Categorized by Level of Role Conflict

<table>
<thead>
<tr>
<th></th>
<th>High role conflict (N=57)</th>
<th>Low role conflict (N=78)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Work role salience (DWS)</td>
<td>Work role salience (DWS)</td>
</tr>
<tr>
<td></td>
<td>Level of occ. choice</td>
<td>Level of occ. choice</td>
</tr>
<tr>
<td></td>
<td>Traditionality of occ. choice</td>
<td>Traditionality of occ. choice</td>
</tr>
<tr>
<td></td>
<td>Educational aspiration</td>
<td>Educational aspiration</td>
</tr>
<tr>
<td>Work role salience (DWS)</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Level of occ. choice</td>
<td>.02</td>
<td>.23*</td>
</tr>
<tr>
<td>Traditionality of occ. choice</td>
<td>.05**</td>
<td>.22*</td>
</tr>
<tr>
<td>Educational aspiration</td>
<td>.13</td>
<td>.18</td>
</tr>
<tr>
<td></td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td></td>
<td>.60**</td>
<td>.47**</td>
</tr>
<tr>
<td></td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td></td>
<td>.63**</td>
<td>.55**</td>
</tr>
<tr>
<td></td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td></td>
<td>.48**</td>
<td>.30**</td>
</tr>
</tbody>
</table>

*p<.05  **p<.01