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AUTHOR Haemmerlie, Frances M.; Montgomery, Robert L.
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ABSTRACT

Interest in the problems and concerns of dual career couples has increased markedly in the last decade. However, little research has been done with dual career couples in such traditionally non-female professions as engineering. To examine work, home, personal, and interpersonal characteristics and concerns, married female engineering graduates and their spouses completed a questionnaire. Results revealed that financial benefits were cited most often as an advantage, while concern for time problems was cited most often as a disadvantage. The average age of the respondents was under 30 years old, reflecting the relative recency of dual career engineering couples. Most couples did not work at the same facility, and most worked for private organizations. Most took jobs by choice, although more females took jobs by availability. Both partners expressed a similar degree of satisfaction with their jobs, but tended to emphasize the male partner's career when making decisions about a job change. The findings suggest that engineering couples experience many similar concerns of dual career couples in other fields. (JAC)

A Survey of Dual Career Couples in Engineering

Frances M. Haemmerlie
and
Robert L. Montgomery

University of Missouri-Rolla

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Interest in the problems and concerns of dual career couples has increased markedly in the last decade since the term was first used by Rappaport and Rappaport in 1969. Although a number of studies have been conducted on dual career couples in such fields as psychology (Bryson, Bryson, Licht & Licht, 1976), sociology (Martin, Berry, & Jacobsen, 1975), and law (Epstein, 1971), little research has been done on dual career couples in such traditionally non-female professions as engineering. Due to the growing number of females in such fields, a survey of female graduates in engineering and their husbands was conducted to examine their work, home, personal and interpersonal characteristics and concerns.

A three page questionnaire based on the questionnaire developed by Mathews & Mathews (1980) was sent to all married females in the history of the University of Missouri-Rolla who had graduated with a degree in engineering (total number of females = 68). One page consisted of general questions covering basic information about the couple that was to be answered jointly or by either partner. A separate page for the male and female partner, respectively, included specific questions about a variety of possible job related concerns and also open ended questions about the advantages, disadvantages and unusual experiences associated with being a dual career couple.

A total of 36 or approximately 53% of the couples returned completed questionnaires. The couples resided in 14 different states throughout all parts of the country with most living in the midwest (46%). Although only one couple lived in a rural setting, 60% of the respondents lived in cities with a population of less than 250,000 people.

The relative recency of significant numbers of dual career engineering couples is reflected by the average ages and years of marriage reported by the couples in this survey. The average ages of the female and male respondents, respectively, were 26 and 27. Half of the individuals had been married 1-3

years with 39% having been married between 4 and 9 years. Only 28% had children; however, 83% of all of the couples indicated that they planned to have them, and/or have more of them in the future. Although the majority indicated the decision to have (more) children was not related to being a dual career couple, 41% of the couples reported that such a decision would be related to their dual career status.

The majority of both partners of the couples surveyed had bachelor's degrees (86% of the females and 71% of the males). However, more males than females had higher than bachelor's degrees (29% of the males and 14% of the females). In terms of employment, the vast majority of both partners were employed full time (89% of the females and 97% of the males). Two females were working part-time and two females were not presently working but had worked in the past. One male indicated that he was not currently working and had never been employed.

Most of the couples did not work in the same facility (70%) with only 4 of the 10 that did work at the same location actually working in the same department. The vast majority of both partners worked for private organizations (78% of the females and 92% of the males) with the rest working for federal or state organizations except for one female who was self employed. Unlike psychologists, few held academic positions. Additionally, few couples had ever worked together on any research or other projects (only 3 couples).

Statistics on hiring indicated that 47% of the males had been hired first, 28% of the females had been hired first, and a quarter of the couples had been hired at the same time. Although the vast majority of both partners obtained their job by choice (81% of the females and 92% of the males), more females than males took their jobs on the basis of availability (females = 19% and males = 8%).

Areas of specialization within engineering differed somewhat for the male and female respondents. The most frequently mentioned specialization for the female engineers were chemical (22%), civil (17%), mechanical (17%) and petroleum engineering (11%). The most frequently mentioned engineering specialties for the male engineers were mechanical (31%), electrical (17%) and chemical, mining, geological and petroleum (all 8%).

The couples in the survey were also asked to respond to a series of specific job related questions using a 5 point rating scale (with 1 = strongly disagree to 5 = strongly agree). Table 1 shows the average ratings given by both male and female respondents to these questions. It appears both partners are about the same with respect to degree of satisfaction with, and personal involvement in, their jobs. Responses to item 12 also indicates that both males and females think that their spouse's job does not interfere with their home life. However, the females do not appear to disagree as strongly as do the males that their own job does not interfere with their home life (see item 11). This finding is consistent with other research results which have shown that women generally have more difficulty compartmentalizing their various roles (Johnson & Johnson, 1980). Responses to items 5 and 6 suggests that most social contacts are likely to be made with people associated with the husband's job setting.

The males and females in this survey were also asked to rank the importance of eight factors that might affect a decision to make a job change (see table 2). The nature of the differences between males and females in their ranking of these factors suggest an emphasis on the male partner's career. One's own job offer was on the average ranked higher by the males than by the females and one's spouse's job offer was ranked lower by the males than by the females. Further, the need for both partners to have jobs was ranked higher on the average by the

females. Again, this finding agrees with a number of other research efforts (Bryson and Bryson, 1980; Epstein, 1971; Holstrom, 1972; Poloma, 1972). Both partners seem to agree in de-emphasizing the need to obtain work at the same facility.

The couples in the survey were also asked to indicate the frequency with which they encountered the problems listed in Table 3 if they had ever worked together and/or had interviewed for the same jobs. An examination of this table shows the existence of some problems for both partners but a lack of predominance of one sex experiencing more of such problems than the other sex. About a quarter of the males and females, though, reported having experienced problems with nepotism rules. Compared to psychologists (Mathews & Mathews, 1980), however, these engineering couples appear to have had much less experience with any of these issues including nepotism rules.

The questionnaires also contained opened questions about the major advantages, disadvantages and unusual experiences associated with being a dual career engineering couple. Clearly the most frequently mentioned positive factor by both females and males was money or financial benefit (mentioned spontaneously by over 80% of both females and males in the survey). This emphasis on money may be reflective of the present excellent job market for engineers. About a third of the females mentioned the specific advantage of having a spouse who understands her work pressures compared with only about 12% of the males mentioning this factor. The rest of the advantages were noted by 5 or less of the males or the females and included such factors as good communication, a sense of accomplishment, respect for self and/or spouse, and common values and interests.

The major disadvantage listed by both partners concerned time problems with over half of the males and females noting lack of time for housework,

hobbies, friends, and/or each other. Approximately 28% of the females and 15% of the males mentioned actual or anticipated problems with issues over having or caring for children. Obtaining vacations at the same time, finding jobs in the same location and taxes were also mentioned by several of the males and females.

Relatively few of the individuals reported having any unusual experiences related to being a dual career couple. However, three males commented on feeling uneasy about the fact that their wife appeared to be advancing faster financially than they were. Two other indivduals (one a male and one a female*) reported being interviewed together but that only the female was ultimately offered a job. Both additionally commented that the experience was so aversive that they had decided never to be interviewed as a couple again.

* not married to each other

CONCLUSIONS

The results of this survey suggest that engineering couples appear to experience most of the same work, home, personal and interpersonal characteristics and concerns that dual career couples in other fields experience. They appear to enjoy the advantages of extra income and experience the disadvantages of limited time for many activities including child care. There also appears to be a tendency for the male partner to be hired first, have higher degrees, for the couple to form social contacts based on his job and for his job concerns to be more important when considering a job change. In general, however, there were not many instances of job discrimination reported by these engineering couples. This latter factor, along with the overwhelming extent to which couples reported the financial benefits of being a dual career engineering couple, may be reflective of the current good position that engineers are enjoying in the job market.

TABLE 1

Mean Ratings for Job Related Issues

(1=strongly disagree; 5=strongly agree)

		MALE	FEMALE
1.	Job satisfaction	3.89	3.94
2.	Keeping work and home life separate	3.75	3.41
3.	Personal involvement with job	3.69	3.58
4.	Geographical location	3.03	2.86
5.	Social contacts are with people from my job	3.33	2.67
6.	Social contacts are with people from spouse's job	2.28	2.83
7.	I do not have a social life	2.53	2.56
8.	I will change jobs in the next 3 years	2.94	3.31
9.	My spouse will change jobs in the next 3 years	3.08	2.86
10.	I experienced job discrimination when interviewing as a result of my spouse's career	1.89	1.81
11.	My job interferes with my home life	2.03	2.67
12.	My spouse's job interferes with our home life.	2.11	2.19

TABLE 2

Average Ranks of 8 Factors To Be Considered by Individuals for a Job Change

	MALE	FEMALE
My job offer	2.4	3.4
Spouse's job offer	3.7	2.8
Both have job offers	3.1	2.6
Geographical location	3.5	3.3
My salary	5.1	6.0
Spouse's salary	6.1	5.9
Our combined salary	4.9	4.6
Both work at the same place	7.1	7.3

TABLE 3

Number of Individuals Encountering Specific Problems When Working or Interviewing at the Same Place

	MALES	FEMALES
Nepotism rules	9	11
Lower joint pay	1	1
Not treated as independent professionals	4	5
Employer acts as if he's doing you a favor	1	2
One member gets ignored during the interview	3	2
You are offered a job below your qualifications	6	5

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