DOCUMENT RESUME

ED 479 387 HE 036 117

AUTHOR	Engle, Jennifer
TITLE	"Fear of Success" Revisited: A Replication of Matina Horner's Study 30 Years Later.
PUB DATE	2003-00-00
NOTE	20p.; Paper presented at the Annual Meeting of the American Educational Research Association (Chicago, IL, April 21-25, 2003).
PUB TYPE	Reports - Research (143) -- Speeches/Meeting Papers (150)
EDRS PRICE	EDRS Price MF01/PC01 Plus Postage.
DESCRIPTORS	*College Students; *Fear of Success; Higher Education; *Nontraditional Occupations; *Sex Stereotypes; Student Attitudes
IDENTIFIERS	*Horner (Matina)

ABSTRACT

This study updated and extended the classic "fear of success" study conducted by Matina Horner more than 30 years ago. Horner (1970) asked college students to respond to a scenario in which "Anne" or "John" is at the top of her/his medical school class. Based on the negative responses of students to "Anne," Horner concluded that women have a motive to avoid success, or a "fear of success" such that they anticipate negative consequences for their participation or success in male domains. Other research also found that students respond negatively to men who succeed in a traditionally "male" domain. This study replicated Horner's protocol to examine stereotypes about the success of women and men in traditional and nontraditional fields: medicine, nursing, and engineering. The researcher also developed an original protocol to examine stereotypes about occupational options and choices available to women and men, which asked students to respond to Anne or John's decision to change majors in these fields. Because of recent research findings by Yoder and Schleicher (1996), it was not expected that student responses would contain stereotypes about the success or ability of women or men in gender typed occupations, not were such stereotypes found. Participants were 14 female and 117 male college students in general education courses. It was found, however, that students' responses contained or identified stereotypes about the options and choices available to women and men in gender-typed occupations, as indicated by their responses on the protocol developed for this study. Students were particularly concerned with the barriers to women and the obstacles they have to overcome, psychological and social, to succeed in nontraditional fields and the pressures faced by men, social and economic, to choose and succeed in traditionally male fields. (Contains 4 tables and 19 references.) (Author/SLD)

'Fear of Success' Revisited:
A Replication of Matina Horner's Study 30 Years Later

Jennifer Engle
School of Education
American University

Paper presented at the annual meeting of the American Educational Research Association in Chicago, IL, April 21-25, 2003.

Abstract

This study updates and extends the classic 'fear of success' study conducted by Matina Horner more than 30 years ago. Horner (1970) asked college students to respond to a scenario in which 'Anne' or 'John' is at the top of her/his medical school class. Based on students' negative responses to Anne, Horner concluded that women have a 'motive to avoid success' or a 'fear of success' such that they anticipate negative consequences - such as social rejection or unsuitability for dating or marriage - for their participation and/or success in male domains. Studies in the 1970s and 1980s also found that students respond negatively to men who succeed in a traditionally female field, such as nursing (Bremer & Wittig, 1980; Cherry & Deaux, 1978; Janda, O'Grady, & Capps, 1978; Monahan, Kuhn, & Shaver, 1974).

This study replicates the protocol used by Horner to examine stereotypes about the success of women and men in traditional and non-traditional fields – medicine, nursing, and engineering. The researcher also developed an original protocol to examine stereotypes about the occupational options and choices available to women and men, which asked students to respond to Anne or John's decision to change majors in these fields. Based on a recent study (Yoder & Schleicher, 1996), it was not expected nor found that students' responses contained stereotypes about the *success* or *ability* of women or men in gender-typed occupations, as indicated by their responses on the replication protocol. It was found, however, that students' responses contained or identified stereotypes about the *options* and *choices* available to women and men in gender-typed occupations, as indicated by their responses on the protocol developed for this study. Students were particularly concerned with the barriers to women and the obstacles they have to overcome – psychological and social – to succeed in non-traditional fields as well as the pressures faced by men – social and economic – to choose and succeed in traditionally male fields.

Author Note

Jennifer Engle is a doctoral candidate in the School of Education at American University.

I would like to acknowledge the contributions of several of my professors and colleagues at American University on this project. I would like foremost to acknowledge Professor David Sadker and Dean Lynn Fox for their assistance with the design and development of this project. Professor Sadker conceived of a replication study and provided assistance to me in its design, particularly in the development of the research protocols. Dean Fox provided technical assistance to me with the statistical design of the study. I would also like to acknowledge Phyllis Lerner, who reviewed drafts of the research protocols, as well as Karen Zittleman, a doctoral student, who provided information from a source that was used in the design of the research protocols. I greatly appreciate all of their efforts.

This paper was based on an Independent Study project I completed with Professor David Sadker for course credit as a doctoral student at American University.

Correspondence should be addressed to Jennifer Engle, School of Education, American University, 4400 Massachusetts Avenue, NW, Washington, DC 20016. Email: jengle@american.edu.

Introduction

Many changes have taken place in American education and society over the last thirty years. In the 1960s and 1970s, civil rights legislation was passed that prohibited sex discrimination in education and employment with the Civil Rights Act in 1964 and Title IX in 1972. Affirmative action was also enacted during this time period to increase women's access to educational and employment opportunities. As a result, women have increasingly participated in higher education. Since 1960, the percentage of bachelor's degrees awarded to women has increased from 38% to over 57% today. Women now earn more than 55% of master's degrees and more than 40% of doctorate degrees. In 1970, women received only 8% of medical degrees and 5% of law degrees; today, they receive 43% of medical degrees and 46% of law degrees (National Center for Education Statistics (NCES), 2001).

Despite women's considerable gains, there continue to be barriers to their participation in education and the workforce. Women in higher education continue to be segregated into traditionally female fields such as education and psychology and to be underrepresented in traditionally male fields such as science and engineering. While women earn 75% of undergraduate degrees in education and psychology, they earn less than 28% of undergraduate degrees in computer science and only 16% of degrees in engineering. At the graduate level, women earn only 16% of degrees in computer science and less than 13% of degrees in engineering (NCES, 2000; National Science Foundation (NSF), 2000). Although women represent nearly 50% of the labor force in the United States, they represent only 25% of scientists and merely 10% of engineers (NSF, 2000). Women are more than 50% of psychologists, more than 70% of social workers, and more than 90% of nurses, but they are only 9% of physicists and 10% of engineers (NCES, 2000; NSF, 1996). The segregation of women into traditionally female

occupations in the workforce is such that more than 50% of women would have to change occupations to achieve gender parity in employment (Reskin & Padavic, 1994).

While the legal barriers to women's participation in education and employment have been removed, there are social barriers that remain. The segregation of women and men in education and employment reflects and reinforces stereotypes about gender-typed occupations (Yoder & Schleicher, 1996). This study updates the work of Matina Horner to examine the stereotypes and biases that may continue to discourage women and men from pursuing careers in non-traditional fields.

In her study more than 30 years ago, Horner (1970) examined the stereotypes that were discouraging women from pursuing careers in medicine, a traditionally male field. At the time of her study, less than 10% of doctors were women (U.S. Bureau of Labor Statistics, 1972) and the number of women admitted to medical school was limited by quotas of 10-15 per entering class (National Coalition for Women and Girls in Education, 1997). To study this problem, she asked college students to respond to this scenario:

> After first-term finals, Anne (John) finds herself (himself) at the top of her (his) medical school class.

Female students responded to Anne's situation and male students responded to the situation involving John. Male students responded by describing John as a "hard working and dedicated" medical student who will "be successful" as a doctor:

> "John is a conscientious young man who worked hard. He is pleased with himself. John has always wanted to go into medicine and he is very dedicated. His hard work has paid off. John continues working hard and eventually graduates at the top of his class" (Horner, 1970, p. 64).

Female students responded negatively to Anne's success in medical school, though. They feared that Anne would suffer negative consequences for her success from social rejection to unsuitability for dating and marriage:

> "Anne doesn't want to be number one in her class. She feels she shouldn't rank so high because of social reasons. She drops down to ninth in the class and then marries the boy who graduates number one."
>
> "Anne has a boyfriend, Carl, in the same class, and they are quite serious. Anne met Carl at college, and they started dating in their sophomore year of undergraduate school. Anne is rather upset and so is Carl. She wants him to be higher scholastically than she is. Anne will deliberately lower her academic standing the next term, while trying to help Carl. His grades come up and Anne soon drops out of medical school. They marry and he goes on in school while she raises their family" (Horner, 1970, p. 60).

There were female students in Horner's study who could not even consider the possibility of Anne attending medical school. They thought that Anne was a nursing student:

> "Anne was talking to her counselor. The counselor says she will make a fine nurse. She will continue her med school courses. She will study very hard and find she can and will become a good nurse" (Horner, 1970, p. 62).

Horner (1970, 1972) concluded that women have a "motive to avoid success" or a "fear of success" such that they fear negative consequences for their success in male domains based on societal expectations. Horner identified fear of success as a psychological barrier to women's participation and advancement in the workforce and in society (Horner, 1970, 1972).

In 1970, Horner's findings were considered as a psychological explanation for women's failure to achieve success at the same level as men in society. The studies that resulted from Horner's work in the 1970s and 1980s, however, concluded that "fear of success" is a social rather than a psychological barrier for women. These studies found that women *and* men respond negatively to a women who succeeds in a nontraditional field such as medicine (Bremer & Wittig, 1980; Cherry & Deaux, 1978; Janda, O'Grady, & Capps, 1978; Monahan, Kuhn, & Shaver, 1974) and to a man who succeeds in a nontraditional field such as nursing (Cherry & Deaux, 1978; Janda, O'Grady, & Capps, 1978). These studies also found that men react even more negatively than women to a female who succeeds in a male-dominated field (Monahan, Kuhn, & Shaver, 1974).

This study updates and extends Horner's study to examine the extent to which occupational gender stereotypes have changed and the extent to which they remain, thus limiting progress towards gender equity in education and employment.

Method

Protocol

This study replicated the protocol developed by Horner to examine the stereotypes about women's and men's success in traditional and non-traditional fields:

> After first-term finals, Anne (John) is at the top of her (his) medical school class (engineering class, and nursing class). *(Replication protocol)*

There have been trends towards gender parity in the field of medicine, although, nursing has remained a female-dominated field. The participation of women in the field of engineering today is at the level at which women were represented in medicine when Horner conducted her study.

The researcher also developed an original protocol for this study to examine the stereotypes about women's and men's occupational options and choices in traditional and nontraditional fields:

> When Anne (John) started college she (he) was a pre-med major, but by the end of her (his) sophomore year, she (he) decided to change her (his) major to nursing (nursing to pre-med, pre-med to engineering, engineering to pre-med). *(Original protocol)*

This protocol was developed to examine gender stereotypes and biases in the reasons given for education and work-related choices made by women and men. The fields of study used in this protocol reflect current trends in bachelor's degrees and fields of employment by gender. These fields also represent a continuum of participation by females in science-related fields from female-dominated (nursing) to male-dominated

fields (engineering), with a traditionally-male field that has achieved a measure of gender parity (medicine).

Percentage of Bachelor's Degrees Awarded to Women

Field of Study	% of Degrees Awarded to Women
Biology/Life Sciences	53%
Engineering	16%
Nursing/Health Professions	82%

Source: National Center for Education Statistics (2000). *Trends in Educational Equity of Girls and Women.* Washington, DC: U.S. Department of Education.

Percent of Women in Occupations by Year

Occupation	1972	2000
Engineer	1%	11%
Medical Doctor	10%	31%
Nurse	98%	91%

Source: Bureau of Labor Statistics. Labor Force Statistics from the Current Population Survey 1972-1990. Washington, DC: U.S. Department of Labor.

Participants

The participants in this study were a sample of 261 undergraduate students – 144 female students and 117 male students - in general education courses at a private university. The difference in the number of responses from male and female students reflects the gender ratio – 60% female to 40%male - among undergraduates at this university, although an attempt was made by the researcher to over-sample male students from the undergraduate population. The gender ratio of the sample is 55% female to 45% male students.

Procedure

Students were given 10 minutes to respond to the scenario presented in the protocol. After completing the protocol, students were asked to provide demographic information regarding age, gender, race/ethnicity, college year, and college major. Prior to administering the protocols, students were asked to provide their consent to participate in the study. Students who may have been concerned that they could be

identified by their responses or demographic information were assured their anonymity.

Results

Students' responses were scored based on a system developed by Matina Horner. In her initial study, Horner (1970) coded student responses for the presence or absence of negative content related to success. A negative response contains:

a) negative consequences because of the success,
b) anticipation of negative consequences because of the success,
c) negative affect because of the success,
d) instrumental activity away from present or future success, including leaving the field for work in a traditional area,
e) direct expression of conflict about success,
f) denial of effort in attaining the success (including cheating or other attempts to deny responsibility or reject credit for the success),
g) denial of the situation described in the scenario, *or*
h) inappropriate, unrealistic, or nonadaptive responses to the situation described in the scenario.

This coding system has been used in most of the Horner replication studies (see Cherry & Deaux, 1978; Monahan, Kuhn, & Shaver, 1974; Yoder & Schleicher, 1996). In this study, Horner's coding system was used to score the replication protocols and a modified version of the coding system was used to score the original protocols developed for this study.

a) negative consequences because of the choice/decision,
b) anticipation of negative consequences because of the choice/decision,
c) negative affect because of the choice/decision,
d) instrumental activity away from present or future success, as a result of the choice/decision,
e) direct expression of conflict about the choice/decision,
f) denial of effort, credit, or responsibility in making the choice/decision,
g) denial of the situation described in the scenario, *or*
h) inappropriate, unrealistic, or nonadaptive responses to the situation described in the scenario.

The coding system operates on a nominal scale (presence/absence of negative content). Frequency analysis, chi-square, and Fisher's exact test were used to make comparisons by gender of respondent and by gender of target in cue by field of study.

Quantitative Results

Traditionally-Male Dominated Field - Medical School

	Female		Male		Total	
	-	+	-	+	-	+
Anne	5 50%	5	2 20%	8	7 35%	13
John	6 60%	4	4 40%	6	10 50%	10

Female-Dominated Field - Nursing

	Female		Male		Total	
	-	+	-	+	-	+
Anne	4 40%	6	2 20%	8	6 30%	14
John	2 20%	8	3 30%	7	5 25%	15

Male-Dominated Field - Engineering

	Female		Male		Total	
	-	+	-	+	-	+
Anne	4 40%	6	3 30%	7	7 35%	13
John	2 20%	8	4 40%	6	6 30%	14

Traditionally-Male to Male-Dominated Field
Pre-Med – Engineering

	Female		Male		Total	
	-	+	-	+	-	+
Anne	1 10%	9	2 33%	4	3 19%	13
John	3 30%	7	1 17%	5	4 25%	12

Traditionally-Male to Female-Dominated Field
Pre-Med – Nursing

	Female		Male		Total	
	-	+	-	+	-	+
Anne	4 40%	6	3 30%	7	7 35%	13
John	5 42%	7	1 13%	7	6 30%	14

Male-Dominated to Traditionally-Male Field
Engineering – Pre-Med

	Female		Male		Total	
	-	+	-	+	-	+
Anne	0 0%	10	1 20%	4	1 7%	14
John	2 20%	8	1 20%	4	3 20%	12

Female-Dominated to Traditionally-Male Field
Nursing – Pre-Med

	Female		Male		Total	
	-	+	-	+	-	+
Anne	0 0%	10	1 10%	9	1 5%	19
John	4 33%	8	1 14%	6	5 26%	14

The statistical analyses did not demonstrate any relationships between gender of the respondent, gender of the target in the cue, and field of study. On the replication protocols, the percentage of negative responses ranged from 30-35% for Anne and from 25-50% for John. On the original protocols developed for this study, the percentage of negative responses ranged from 5-35% for Anne and 20-30% for John. None of these findings were statistically significant.

Qualitative Results

Despite not generating significant quantitative findings, there were important qualitative findings in this study that merit further discussion and suggest the need for further study into the gender stereotypes that influence the education and work-related choices made by women and men.

Students' responses to the original protocols developed for this study were *gendered* or contained gender-related issues about occupational options and choices for women and men in traditional and nontraditional fields. Students' responses to Anne and John reflected the lack of prestige and pay in female-dominated fields such as nursing:

> Anne believes that being a doctor will make her more successful and gain [her] more money (female student).
>
> Anne thought that she would be underpaid and unappreciated as a nurse (female student).
>
> [Anne] decided that the real money is being a doctor and not a nurse (male student).
>
> [John] decided that nursing was not a profession with enough prestige. Also, it was associated with women and doctors make all the money (female student).
>
> John came to his senses and realized that he could make a lot more money as a doctor (male student).
>
> Anne realized the stigma tied with nursing and [wanted] the greater distinction and challenge that would give her a great name and have a greater impact to help society [by being a doctor] (female student).

Some students also expressed concerns that about whether John could "provide for a family" on a salary in a female-dominated profession:

> [John decided to be a doctor because] he began thinking about starting a family and supporting them on [his] salary may not be as easy (female student).

There were no students who expressed concern over whether Anne could financially "provide for a family."

Students' responses to Anne discussed the barriers to women and the obstacles they have to overcome – psychological and social - to succeed in male-dominated fields:

> Anne feels greatly rewarded [for being at the top of her medical school class], but now also more burdened than before. After the first tests, Anne had done miserably. Her low scores in her male-dominated class provoked a drastic response in Anne. She worked profusely to prove that she could do the work as well as anyone else. Anne felt vulnerable. Before she could only improve and now she felt she had everything to lose. This feeling was made worse by the fact that the teacher insisted on announcing class standings and scores out loud. When her score is announced, she feels the patronizing stares of her [male] classmates (female student).
>
> Anne is unsure about what she is capable of doing. She doesn't have confidence in her skills. She wants to do something with medicine so she decides on nursing, thinking she

> cannot do pre-med. However, she realizes what she is capable of doing. She realized her potential and decided to put in the extra years of hard work studying to become a doctor (female student).
>
> In recent years, women have been accepted into many different roles they previously would not have been accepted in. There are many female doctors and they do just as good a job as their male counterparts. Anne probably feels up to the challenge of medicine. She will certainly be successful if she works hard (male student).
>
> [Anne] probably really wanted to go pre-med from the beginning and was told that women weren't doctors, they were nurses. Once she saw that women could go pre-med she was probably relieved that she can pursue what she really wanted and in the future will be a good doctor (female student).
>
> Anne was probably hindered by society saying that she couldn't be a doctor because she was a [woman]. She realized that she is just as capable as anyone else to become a doctor. She became more independent and self-sufficient. Anne is likely to succeed in becoming a doctor and maybe become an advocate for women's rights or a mentor for young girls (female student).

Students also recognized in their responses to Anne, however, that women are not always able to surmount the challenges – in the form of discrimination – to succeed in male-dominated fields.

> In the past, there was much sex discrimination in particular occupations. It was thought that becoming a doctor was a man's territory and that women did not belong there. Since nursing was mostly women, Anne probably felt that she'd be in a more comfortable environment, instead of getting spite from the men who are doctors (female student).
>
> [Anne may have changed her major from pre-med to nursing] as a result of societal pressure. While there are a growing number of female doctors, the 'boys club' nature of the field can be daunting, especially when planning to deal with it [in school] for six more years and career-wise for the rest of [her] life. She will probably continue with nursing, perhaps later regretting her decision (male student).
>
> Anne probably still wants to be a doctor. She will most likely become a nurse, but always wonder if she could have been a doctor (female student).

Students also considered other reasons – such as relational concerns - that may women may decide not to pursue a career in a male-dominated field:

> [Anne decided to become a nurse because doctors] do not deal with patients as much as they deal with their illness. Anne wants to be helpful with the patients themselves, and more involved personally with them (female student).
>
> [Anne] wants to work more with people on a regular basis. She feels that in order to achieve her true goal of working with and helping others on a regular basis, she can be more effective as a nurse rather than a doctor (male student).
> Anne liked working with people, but was also mathematically oriented. She realized that she could foster all of her talents and loves if she [changed her major] to pre-med. This way she would not have to give up her [interest in] mathematics, but still be able to help people (female student).

Anne had found her calling. She wanted to be able to help people the same way that one doctor had helped her. Therefore, she gave up engineering to do pre-med. In the future, Anne is likely to become a doctor and enhance the lives of others just as hers was (female student).

Anne wanted her studies to help people and contribute to their world, and she found engineering did not provide enough social interaction for her. She became pre-med because medicine also uses her skills, but in a people-based, constantly changing way that will give her an enriching career (female student).

In their responses to John, students often discussed the pressures faced by men – social and economic – to choose and to succeed in male-dominated fields:

John always wanted to pursue a career in nursing, but everyone around him, parents and friends, made fun of him. John wanted to major in nursing, but because of all the jokes people made about it to him, he started college saying he was a pre-med major. His parents and friends wanted to hear he was aspiring to be a doctor, not a nurse (female student).

[After changing his major to nursing, John] may be worrying about letting down his family who always wanted him to be a doctor and he may be worried about being ridiculed for having a "female" profession. He may decide to go to med school in a few years (female student).

John experienced some embarrassment when telling people about his major, since nursing is though to be a mostly female, very feminine field. He decided to switch [to pre-med]. He will join the more male-dominated field [of medicine] and be put in a position of power over the feminine field [of nursing] (female student).

Nursing is traditionally thought of as a female profession. There are very few male nurses, and those who are in the nursing profession are often looked down upon. It is as if they couldn't make it being a doctor, so they had to take a step down to a nurse, a more subordinate position. Nurses are not at all in charge. Most males aren't used to being in a subordinate position; they are used to being in charge – like doctors (female student).

John felt like he was making a bad choice since by choosing nursing as a major, he was engaging in a gender identity crisis from his feminine choice. Now he feels his new major will allow his masculinity to come through. In the future, he will become a successful doctor and marry a nurse (female student).

John felt threatened by the fact that nursing is a woman-dominated career and decided to become a doctor. John probably felt somewhat obligated to become a doctor instead of a nurse because of his gender. John is likely to become a doctor, but still wonder what nursing would be like (female student).

John was ridiculed for being in a woman's profession. He felt the pressure to switch into a major that he was 'supposed to' [as a man]. He will probably become a doctor, but regret not becoming a nurse (male student).

[John] probably made this decision because nursing is considered a woman's occupation and he probably got a lot of pressure from friends or family to just go pre-med. He is probably unhappy because he still wants to be a nurse, but feels pressure to become a doctor. He probably will become a nurse anyway because that is what he wanted to do (female student).

In response to John's decision to become a nurse, students often commented that he would be an exceptional nurse or eventually become a doctor:

> John will most likely be a great nurse with more of an interest in what he does than most other nurses due to his medical interest (male student).
>
> [John] will be an ER nurse or work in the cancer ward – somewhere really good nurses are needed (female student).
>
> [John] will be able to have a successful career in nursing. By reaching this rank, he would probably be able to specialize in any particular area. John would even consider furthering his education to receive his MD (female student).

These students seemed to resolve John's gender-related conflict by aspiring to high levels of success as a nurse or by furthering his medical career by becoming a doctor, thus achieving a level of success considered appropriate for men.

The results of this study raise concerns about the extent to which gender stereotypes about occupations remain and how they limit women's and men's options and choices in education and employment.

Discussion

Based on a recent study, it was not expected that the results of the Horner study would be replicated (Yoder & Schleicher, 1996). In the Horner study, 65% of women responded negatively to Anne's success in medical school while 10% of men responded negatively to John's success (Horner, 1970). In studies by Horner and others, 50-75% of women and men responded negatively to Anne's success in medical school (Horner, 1972; Monahan, Kuhn, & Shaver, 1974) and 60% of women and men responded negatively to John's success in nursing school (Cherry & Deaux, 1978). In the study by Yoder & Schleicher (1996), 25-40% of women and men responded negatively to Anne's and John's success in both traditional and non-traditional fields. The results of this study were consistent with the results of the Yoder and Schleicher study. It was *not*

expected that students' responses would contain stereotypes about the *success* or the *ability* of women and men to succeed in gender-typed occupations as indicated on the Horner replication protocol. It was expected that students would consider women and men as likely to succeed in an occupation regardless of gender. This was confirmed by the findings in this study.

It was expected, however, that students' responses would contain or identify stereotypes about the *options* and *choices* available to women in men in gender-typed occupations as indicated on the original protocol developed for this study. Research has demonstrated that college students expect that women will have difficulties attempting to combine career and family. Lips (1992) and Morgan (1992) found that male students were even more likely than female students to anticipate difficulties for women attempting to combine a career with marriage and family. Arnold (1995) found that college women take a contingency approach to future career planning, particularly women in nontraditional fields. College women who expect that their careers will be interrupted for childrearing are more likely to change career goals, often pursuing careers in traditionally female fields. In this study, students' responses did not discuss contingency planning – making career decisions based on concerns about marriage and childrearing - by women; rather students' responses recognized a type of contingency planning by men who must consider "supporting a family" when making educational and career decisions.

Research has also considered how women's relational values and concerns affect their educational and occupational choices. Research has shown that women are more interested in careers that provide the opportunity to work with people and to help others (Arnold, 1995), and as a result, they often leave fields such as engineering to pursue careers such as medicine or nursing. Hollenshead and her colleagues report that

40% of female engineering seniors do not attend graduate school in engineering because they want to pursue more people-oriented fields and 22%want to do more socially meaningful work (Hollenshead, Wenzerl, Lazarus, & Nair, 1996). This research was confirmed by the results of this study in students' response to Anne deciding to pursue a career that was "enriching" due to the personal relationships with others.

Research has also shown that college students expect women to face discrimination in male-dominated fields such as science and engineering (Morgan, 1992). In this study, students' responses discussed the barriers to women and the obstacles they have to overcome – psychological and social - to succeed in nontraditional fields as well as the pressures faced by men – social and economic – to choose and to succeed in traditionally male fields.

Confirming and extending the research in this field, students' responses in this study identified stereotypes and biases about the options and choices available to women in men in traditional and non-traditional occupations.

References

Arnold, K. (1995). *Lives of promise: What becomes of high school valedictorians.* San Francisco: Jossey-Bass Publishers.

Bremer, T.H., & Wittig, M.A. (1980). Fear of Success: A Personality Trait or a Response to Occupational Deviance and Role Overload? *Sex Roles, 6(1),* 27-46.

Bureau of Labor Statistics (1972). *Labor Force Statistics from the Current Publication Survey.* Washington, DC: U.S. Department of Labor.

Cherry, F., & Deaux, K. (1978). Fear of Success Versus Fear of Gender-Inappropriate Behavior. *Sex Roles, 4(1),* 97-101.

Hollenshead, C.S., Wenzel, S.A., Lazarus, B.B., & Nair, I. (1996). The graduate experience in the sciences and engineering: Rethinking a gendered institution. In C. Davis, A.B. Ginorio, C.S. Hollenshead, B.B. Lazarus, & P. Rayman (Eds.), *The equity equation: Fostering the advancement of women in the sciences, mathematics, and engineering* (pp. 122-162). San Francisco: Jossey-Bass Publishers.

Horner, M.S. (1970). Femininity and Successful Achievement: A Basic Inconsistency. In J.M. Bardwick, E. Douvan, M.S. Horner, & D. Gutmann (Eds.), *Feminine Personality and Conflict.* Belmont, CA: Brooks/Cole Publishing Company.

Horner, M.S. (1972). Toward an Understanding of Achievement-Related Conflicts in Women. *Journal of Social Issues, 28(2),* 157-175.

Horner, M.S., & Fleming, J. (1977). *Revised Scoring Manual for An Empirically Derived Scoring System for the Motive to Avoid Success.* Cambridge, MA: Radcliffe College.

Janda, L.H., O'Grady, K.E., & Capps, C.F. (1978). Fear of Success in Males and Females in Sex-Linked Occupations. *Sex Roles, 4(1),* 43-50.

Lips, H.M. (1992). Gender and science-related attitudes as predictors of college students' academic choices. *Journal of Vocational Behavior, 40,* 62-81.

Monahan, L., Kuhn, D., & Shaver, P. (1974). Intrapsychic versus Cultural Explanations for the "Fear of Success" Motive. *Journal of Personality and Social Psychology, 29(1),* 60-64.

Morgan, C.S. (1992). College students' perceptions of barriers to women in science and engineering. *Youth & Society, 24(2),* 228-236.

National Center for Education Statistics (2000). *Trends in Educational Equity of Girls and Women.* Washington, DC: U.S. Department of Education.

National Center for Education Statistics (2001). *Digest of Education Statistics, 2001.* Washington, DC: U.S. Department of Education.

National Coalition of Girls and Women in Education (1997). *Title IX at 25: Report Card on Gender Equity.* Washington, DC: National Women's Law Center.

National Science Foundation (1996). *Women, Minorities, and Persons with Disabilities in Science and Engineering.* Arlington, VA: National Science Foundation.

National Science Foundation (2000). *Women, Minorities, and Persons with Disabilities in Science and Engineering.* Arlington, VA: National Science Foundation.

Reskin, B., & Padavic, I. (1994). *Women and Men at Work.* Thousand Oaks, CA: Sage Publications.

Yoder, J. D., & Schleicher, T. L. (1996). Undergraduates Regard Deviation from Gender Stereotypes as Costly for Women. *Sex Roles, 34(3/4),* 171-188.

HE036117

U.S. Department of Education
Office of Educational Research and Improvement (OERI)
National Library of Education (NLE)
Educational Resources Information Center (ERIC)

ERIC Educational Resources Information Center

REPRODUCTION RELEASE

(Specific Document)

I. DOCUMENT IDENTIFICATION:

Title: 'Fear of Success' Revisited: A Replication of Matina Horner's Study 30 Years Later	
Author(s): Engle, Jennifer L.	
Corporate Source:	Publication Date:

II. REPRODUCTION RELEASE:

In order to disseminate as widely as possible timely and significant materials of interest to the educational community, documents announced in the monthly abstract journal of the ERIC system, *Resources in Education* (RIE), are usually made available to users in microfiche, reproduced paper copy, and electronic media, and sold through the ERIC Document Reproduction Service (EDRS). Credit is given to the source of each document, and, if reproduction release is granted, one of the following notices is affixed to the document.

If permission is granted to reproduce and disseminate the identified document, please CHECK ONE of the following three options and sign at the bottom of the page.

The sample sticker shown below will be affixed to all Level 1 documents

PERMISSION TO REPRODUCE AND DISSEMINATE THIS MATERIAL HAS BEEN GRANTED BY

Sample

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

1

Level 1

☑

Check here for Level 1 release, permitting reproduction and dissemination in microfiche or other ERIC archival media (e.g., electronic) *and* paper copy.

The sample sticker shown below will be affixed to all Level 2A documents

PERMISSION TO REPRODUCE AND DISSEMINATE THIS MATERIAL IN MICROFICHE, AND IN ELECTRONIC MEDIA FOR ERIC COLLECTION SUBSCRIBERS ONLY, HAS BEEN GRANTED BY

Sample

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

2A

Level 2A

☐

Check here for Level 2A release, permitting reproduction and dissemination in microfiche and in electronic media for ERIC archival collection subscribers only

The sample sticker shown below will be affixed to all Level 2B documents

PERMISSION TO REPRODUCE AND DISSEMINATE THIS MATERIAL IN MICROFICHE ONLY HAS BEEN GRANTED BY

Sample

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

2B

Level 2B

☐

Check here for Level 2B release, permitting reproduction and dissemination in microfiche only

Documents will be processed as indicated provided reproduction quality permits.
If permission to reproduce is granted, but no box is checked, documents will be processed at Level 1.

I hereby grant to the Educational Resources Information Center (ERIC) nonexclusive permission to reproduce and disseminate this document as indicated above. Reproduction from the ERIC microfiche or electronic media by persons other than ERIC employees and its system contractors requires permission from the copyright holder. Exception is made for non-profit reproduction by libraries and other service agencies to satisfy information needs of educators in response to discrete inquiries.

Sign here, → please

Signature: Jennifer Engle	Printed Name/Position/Title: Jennifer Engle
Organization/Address: School of Education, American University 4400 Mass. Ave. NW Washington DC 20016	Telephone: (202) 965 1584 FAX:
	E-Mail Address: jengle@american.edu Date: 6/9/03

(Over)

III. DOCUMENT AVAILABILITY INFORMATION (FROM NON-ERIC SOURCE):

If permission to reproduce is not granted to ERIC, *or*, if you wish ERIC to cite the availability of the document from another source, please provide the following information regarding the availability of the document. (ERIC will not announce a document unless it is publicly available, and a dependable source can be specified. Contributors should also be aware that ERIC selection criteria are significantly more stringent for documents that cannot be made available through EDRS.)

Publisher/Distributor:
Address:
Price:

IV. REFERRAL OF ERIC TO COPYRIGHT/REPRODUCTION RIGHTS HOLDER:

If the right to grant this reproduction release is held by someone other than the addressee, please provide the appropriate name and address:

Name:
Address:

V. WHERE TO SEND THIS FORM:

Send this form to the following ERIC Clearinghouse:

ERIC CLEARINGHOUSE ON ASSESSMENT AND EVALUATION
UNIVERSITY OF MARYLAND
1129 SHRIVER LAB
COLLEGE PARK, MD 20742-5701
ATTN: ACQUISITIONS

However, if solicited by the ERIC Facility, or if making an unsolicited contribution to ERIC, return this form (and the document being contributed) to:

ERIC Processing and Reference Facility
4483-A Forbes Boulevard
Lanham, Maryland 20706

Telephone: 301-552-4200
Toll Free: 800-799-3742
FAX: 301-552-4700
e-mail: ericfac@inet.ed.gov
WWW: http://ericfacility.org