ABSTRACT
        Although sex differences in achievement-related
behaviors have been well documented, recent attempts to account for
these differences have focused on either goal orientation or
standards. To compare varying explanations for sex differences in
achievement and to examine the standards men and women use to define
success, two studies were conducted. In the first study, 123 college
students (57 females, 66 males) completed two questionnaires
assessing self-reported accomplishments, sex roles, and achievement
motivation. An analysis of the results showed that masculinity was
related to extrinsic performance evaluations and femininity was
related to social-affiliative achievement attempts. In the second
study, 50 college students (30 females, 20 males) responded to
open-ended questions assessing accomplishments, achievement
orientations, and performance evaluation standards. An analysis of
the results showed that, as in the first study, extrinsic standards
were used more by males than by females, and that females and males
did not differ in the domains of accomplishments they considered to
be important. Researchers are encouraged to examine the self-selected
accomplishments of women and men to determine the effects of
performance evaluation styles and striving for status on achievement
behavior. (BL)

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Sex and sex role effects on achievement strivings:

An examination of four explanations

Abstract

Explanations for sex differences in achievement were compared using
content analyses of college students' descriptions of accomplishments
and failures. Women more than men relied on internalized standards
and sex roles predicted the types of activities described. These
findings were extended to self-reports of achievement strivings
instead of content analyses.

Sex and sex role effects on achievement strivings:

An examination of four explanations

Sex differences in achievement-related behaviors are well documented
(cf. Alper, 1974; Horner, 1972; Lenny, 1977; McClelland et al., 1953).
Although systematic research concerning women's achievement has been on-
going for only about a decade (cf. Alper, 1974), sex differences in
achievement strivings were evident in the earliest contemporary research
on achievement (McClelland et al., 1953). McClelland and colleagues found
that men's achievement motivation was aroused by task oriented instructions,
whereas women's achievement motivation was more responsive to social
acceptability concerns. More recent research on sex differences in
achievement show that men attain greater occupational pay and status than
do women (cf. Kreps, 1971), men's expectancies for success are higher than
women's in academic settings (cf. Crandall, 1975) and on laboratory tasks
(cf. Lenny, 1977), and men outperform women in competitive settings (cf.
Horner, 1972).

Recent attempts to account for these types of differences have focused
either on proposed differences in women's and men's achievement goals (Bakan,
1966; Stein & Bailey, 1973), or on differences in their standards for
accomplishment (Kipnis, 1974; Veroff, 1977). This paper is focused on the
ability of four explanations of sex differences to accurately predict the
goals of women and men, and the standards that men and women use to define
successful accomplishments.

Domain Differences Models

Two explanations suggest that women and men choose different domains
of activities for their achievement attempts. Bakan (1966) hypothesized
that the life principles of agency and communion typify men's and women's
achievement strivings. He proposed that men's achievement strivings are

directed at the agentic concerns of self-enhancement, attainment of eminance, and mastery of the environment. Women's communal nature leads them to strive for accomplishments that are based on noncontractual cooperation, and which bring them into a state of harmony with others.

Although Bakan's (1966) agency-communion duality has been widely used to describe gender differences (e.g., Block, 1973; Buss, 1981; Spence & Helmreich, 1978) there have been few direct tests of his ideas. Carlson (1971) studied men's and women's descriptions of life experiences (not necessarily achievement related) and found that women's reports were more communal (experiences expressed in subjective and interpersonal terms) than men's. Men's descriptions were more agentic (experiences expressed in objective, individualistic, and personally distant terms) than were women's. Hagen (1975) developed a measure of agency-communion and found it useful in predicting affiliative behavior. In another study (Gaeddert, 1979) this measure was used to predict achievement behavior in competitive (agentic) and cooperative (communal) settings; however, no differences in performance due to the agentic or communal orientation of females or males was observed.

In another domain differences view, Stein and Bailey (1973) suggested that sex role stereotypes are the carriers of the influence of different socialization for girls and boys (cf. Kagan & Moss, 1962; Hetherington, 1967). They reasoned that women adhere to the feminine role and direct their achievement strivings towards social or affiliative goals, whereas men follow the masculine stereotype and strive for excellence on objectively defined tasks or the mastery of tasks.

Although Stein and Bailey called for an emphasis on "...females' achievement strivings in self-selected activities..." (1973, p. 345), very little research has directly examined their hypothesis. Travis, Burnett-Doering, and Reid (1982) categorized reports of success and failure events in college students' lives and found mild support for the prediction that

women's achievements would be directed at social-affiliative goals. Travis
et al. found that descriptions of achievements were focused on the mastery
of objective tasks for all subjects; however, women were more likely than
men to report affiliative accomplishments.

Performance Evaluation Models

Two explanations propose that women and men evaluate their performances
differently. Kipnis (1974) assumed that the socialization of girls and
boys leads them to define accomplishment differently. Reliance on peer
groups for socialization and relatively loose parental supervision of boys
(cf. Bronfenbrenner, 1970) leads them to use other people's performances as
standards for determining their own success or failure (other-directed;
Kipnis, 1974). Women's reliance on parental approval for achievement efforts
(Crandall, Dewey, Katkovsky, & Preston, 1964) was taken as evidence of
socialization that leads them to use internalized standards as guides in
achievement (inner-directed; Kipnis, 1974).

In developing a taxonomy of achievement motivation types, Veroff (1977)
argued that men emphasize the effects, or impact, of their accomplishments
using what was actually accomplished as a measure to define feelings of
success. Women, according to Veroff, emphasize the process of accomplishment
by reflecting on the effort expended or feelings of competence gained during
the course of an achievement attempt in determining whether or not they
feel successful.

The process vs. impact distinction was also used by Travis et al.
(1982) to describe subjects' self-reports of successes and failures. They
found evidence for greater impact orientation in males than in females, and
greater process orientation in females than in males. In past research,
I (Gaeddert, 1979) used the process vs. impact dimension to describe types
of achievement situations and found that while most people preferred

process oriented situations (e.g., a cooperative effort), they were preferred more by women than by men; however, no sex differences in performance in the different situations were found.

Four models of sex differences in achievement strivings have been proposed. Although each of the models is empirically based, and some have been widely used as descriptions of achievement behavior, they have generated little research to directly test the accuracy of their predictions about achievement behavior. Furthermore, no previous study has compared these models to determine which is most accurate. Study 1 was aimed at providing these tests; Study 2 was a replication and extension of Study 1. In addition, the extent to which the models are independent or redundant in depicting sex differences in achievement was determined. To accomplish these goals, self-reports of actual success and failure experiences were obtained from female and male subjects. This type of investigation allowed women and men to freely express their preferences for different domains of achievement and their definitions of success and failure, without being restricted to manipulated tasks and outcomes as is typical of most achievement research.

Study 1

Method

Materials. A pilot study was conducted in order to: 1) insure that the questions used would elicit detailed responses, and 2) provide protocols to be used in content-rater training.

Data were collected in Study 1 using two questionnaires. The first questionnaire contained the questions that elicited subjects' reports of important accomplishments. For success experiences, subjects read the following instructions:

> We are interested in the ways that people view accomplishment.
> Please think back over experiences you have had, and determine

one instance in which you accomplished something important to
you. You may describe any important experience that made you
feel successful. Please respond to the following questions
about your experience.

Subjects then responded to four questions in an open-ended fashion: "What
did you accomplish?"; "Why did you want to succeed at that activity?"; "How
did you know that you had succeeded?"; and "What was it about this experience
that made you feel successful?".

Failure essays were elicited using the following instructions:

We are interested in the ways that people view experiences
in which they do not accomplish something they set out to
do. Please think back over experiences you have had and
determine one instance in which you did not accomplish
something important to you. You may describe any important
experience in which you fell far short of achieving your
goal. Please answer the following questions about your
experience.

The second questionnaire contained the Personal Attributes Questionnaire
(Spence et al., 1974) and the Work and Family Orientation Questionnaire
(Helmreich & Spence, 1978). The Personal Attributes Questionnaire (PAQ)
was used as a measure of the instrumental and expressive aspects of the
masculine and feminine sex roles. The Work and Family Orientation
Questionnaire (WOFO) was used as a measure of the competitive, work, and
mastery components of achievement motivation.

Procedure. A total of 135 male and female undergraduates responded
to the questionnaires in groups of 5 to 20 persons. Useable data were
obtained from 57 females and 66 males.

The primary dependent variable for this study was scores derived from
the content analyses of subjects' responses to the achievement experience

stereotypically masculine than were mal is' essays. Females and males did not differ in the domains (task-social; agentic-communal) of their achievements. Furthermore, examination of the types of activities they described as accomplishments and failures did not differ (i.e. as many males wrote about relationships as did females). The only other notable effects were that androgynous persons wrote more impact oriented essays than did other groups of subjects, and undifferentiated subjects wrote the least impact oriented failure essays of any other group.

Table 2 summarizes the results of factor analyses using achievement focus dimensions, PAQ scores, WOFO scores and attributions as variables. As is indicated in the table, the two strongest factors that emerged were a domain factor and a performance evaluation factor. Oblique rotation was used for these factors, and the intercorrelations among factors showed that masculinity was related to extrinsic performance evaluation and negatively related to social-affiliative concerns. Femininity was related to social-affiliative achievement attempts. Thus, stereotypic sex roles were related to achievement domains, but not with the locus of performance evaluation.

The results of Study 1 suggest that the performance evaluation models are more accurate in predicting sex differences in achievement, and that only two, rather than eight dimensions are needed to describe the domains and performance evaluations of achievement.

Study 2

A second study was conducted in order to replicate and extend the findings just reported. As in the first study, subjects were allowed to freely express their preferences for different goals and ways of defining success by responding to open-ended questions about important accomplishments in their lives. In this study, however, measures of subjects' achievement orientations--emphasis on task vs. social domains, and use

of intrinsic vs. extrinsic performance evaluation standards--were obtained by having subjects respond to questionnaire items designed to assess each orientation. Furthermore, subjects described five instances in which they had accomplished something important to them and ranked these experiences in order of importance.

It is possible that no difference in domains of attempts were evident in Study 1 because only one sample of behavior was taken. It may be that women are more socially oriented than men, but that this difference will appear only in more important accomplishments.

A second reason for conducting Study 2 was to begin the development of a more objective method for measuring subjects' achievement orientations. That is, to obtain subjects' responses to questionnaire items about their accomplishments in order to determine the extent to which they relied on intrinsic or extrinsic standards, and the extent to which their goals were socially or task oriented.

Method

Thirty female and 20 male subjects were run in mixed sex groups and responded to the question:

> Please think back over experiences you have had. Think
> of five (5) instances in which you accomplished something
> important to you. For each experience, please indicate
> what you accomplished and why you wanted to accomplish
> that goal.

Subjects wrote their descriptions, then were asked to rank them in order of importance and to respond to questionnaire items about each experience in turn.

Results

Table 3 contains summary information for the significant effects obtained in this study. Men were more likely than women to endorse the competitive-extrinsic orientation that their feelings of success were derived from beating someone, and surprisingly, women reported that they derived feelings of success from affecting others more than did men. The only effect for importance was that for all subjects, their least important accomplishment was reported to be directed at affecting someone less than their more important accomplishments.

Factor analyses showed that subjects perceived an other directed factor, and items designed to be task domain items and items designed to be intrinsic items loaded with each other to form a task-inner directed factor. These factor analyses are summarized in Table 4.

General Discussion

In Study 2, as in Study 1, extrinsic standards were used more by males than by females, and females and males did not differ in the domains of accomplishments they considered to be important. The factor analyses from Study 2 confirmed the importance of performance evaluation dimensions, and suggest the need for more scale development.

Taken together, the results of these studies allow conclusions about the four explanations for sex differences, and have implications for the study of sex differences in achievement.

Conclusions About the Domain Dimension

The models of Bakan (1966) and Stein and Bailey (1973) predict gender differences in the activities undertaken as achievement. The current research shows that although achievement experiences differed in the domains of activities attempted (task vs. social) and in Study 1 that sex role stereotypes were intimately related to these domains (masculine-task;

feminine-social), women's and men's achievements in these studies did not differ in the domains or activities attempted.

Research used to develop the domain hypothesis of gender differences in achievement consisted largely of laboratory studies which linked achievement-related behaviors of girls and women with social or feminine activities (e.g., Crandall, et, al,, 1964; Stein, Pohly, & Mueller, 1971), or the arousal of achievement imagery in women due to socially oriented TAT instructions (e.g., McClelland, et, al,, 1953).

It appears that although women are able to perceive and react to demands for sex role appropriate behavior in structured (laboratory) settings, when given a choice they are not in fact more likely than men to choose social relationships as achievement goals.

Conclusions About the Performance Evaluation Dimension

The models of Kipnis (1974) and Veroff (1977) constitute performance evaluation hypotheses concerning gender differences in achievement. In Study 1 it was found that achievement experiences could be described by an intrinsic vs. extrinsic performance evaluation dimension, and in both studies men were more likely than women to define their successes in terms of external referents (gaining prestige through accomplishment; beating another person). Women, especially those in Study 1, were more likely than men to define success by referring to internal standards ("I did what I set out to do"). In Study 1, performance evaluation styles were not highly related to measures of sex role stereotypes.

The performance evaluation hypothesis has received support from research using experimenter controlled tasks (e.g., Deci, 1972), survey research (Veroff, McClelland, & Marquis, 1971), and studies of subjects' self-selected accomplishments (Travis et. al., 1982). It appears that women's and men's achievement strivings differ in the standards of

performance evaluation that are used.

Implications for the Study of Sex and Sex Role Effects on Achievement

In Study 1, sex role stereotypes (measured both as personality characteristics and as characteristics of essays) were strongly related to those aspects of achievement strivings that revealed no sex differences.

This observation contrasts with the research used to support Domain Hypotheses of sex differences in achievement. An important difference between this study and other studies is that in the present study subjects were free to report activities and orientations that were important to them. In most studies used as support for the domain hypothesis, sex linkage of tasks has been manipulated using instructions which evoke subjects' expectations about the sex or sex role appropriateness of their behavior. These types of investigations show the importance of expectancies in determining achievement: they do not show what women and men want to accomplish, nor what women and men can accomplish, nor what women and men do accomplish. Researchers interested in men's and women's achievement behavior must heed arguments such as Lott's (1975) which strive to dissociate gender from sex role stereotypes. Lott (and others, cf. Garnetts & Pleck, 1979) has argued that equating learned behaviors (sex role appropriate behavior) with personality characteristics (Masculinity-femininity) or gender obscures the malleability of the learned behavior. This argument and the results of the current studies should lead researchers to discover when and if sex role stereotypes affect women's and men's behavior, and to be explicit in separating sex differences from sex role differences.

Subjects in both studies 1 and 2 differed in their use of intrinsic vs. extrinsic performance evaluation standards: women were more likely than men to use internal standards, whereas men were more likely than women to use external standards. It may be that men's use of extrinsic

or competitive performance evaluation standards is related to a striving for dominance or status. Men use touching in interpersonal situations to display dominance and status (Henley, 1973), men's use of personal space connotes high status (cf. Sommer, 1969), and men perceive dominant acts (such as having others perform menial tasks) as more socially desirable than do women (Buss, 1981, Experiment 1). Men's greater use of extrinsic definitions of success and failure seems consistent with the view that men's behavior is often directed at the expression and use of status and power (cf, Unger, 1979; Kahn & Gaeddert, 1982). Researchers are encouraged to examine the self-selected accomplishments of women and men to determine the effects of performance evaluation styles and striving for status on achievement behavior.

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Table 1

Summary of Sex Differences on Achievement Dimensions

Dimension	F values	Means females	males
Impact emphasis	$F(1,82)=8.48, p<.005$	-0.188	0.215
Inner-directed	$F(1,82)=6.36, p<.02$	0.227	-0.156
Masculine	$F(1,82)=5.49, p<.03$	-0.182	0.161
Feminine	$F(1,82)=6.14, p<.02$	0.173	-0.164

Note: F values are derived from 2 (sex) X 2 (order of response - success
or failure first) X 4 (masculine, feminine, androgynous, undifferen-
tiated subjects) X 2 (success or failure experience) ANOVAs with
repeated measures on the last factor. A few effects for variables
other than sex were evident in these analyses. Since they did not
qualify the sex differences they were not shown here, but are
available from the author. Means are derived from the average of
two rater's content analyses, which were standardized on each
dimension for each rater separately.

Table 2

Summary of Factor Analyses of Achievement Dimensions

Success Experiences:

Domain Factor (38% of s^2)   Performance Evaluation Factor (21% of s^2)

dimension	loading		dimension	loading
agency	- .42		other-directed	.77
task	- .77		inner-directed	-.81
communion	.56		impact	.43
social	.93			

Failure Experiences:

Domain Factor (32% of s^2)   Performance Evaluation Factor (19% of s^2)

dimension	loading		dimension	loading
agency	- .63		other-directed	.85
task	- .73		inner-directed	- .91
communion	.60		process	- .34
social	.78			

Note: Measures of Masculinity-femininity, achievement motivation,
and attributions were included in these Factor Analyses. None
of these other variables loaded on the factors reported above.
They formed other factors, none of which accounted for as much
variance as the Domain or Performance Evaluation Factors.

Table 3

Summary of Sex Differences on Achievement Orientation Items

Item	F	Means	
		females	males
beat someone	$F(1,47)=4.15$, $p<.05$	0.97	1.57
affect someone	$F(1,47)=5.22$, $p<.05$	2.56	1.87

Note: F values are based on 2 (sex of subject) X 5 (importance of achievement) ANOVAs with repeated measures on the last factor. Means based on subjects' responses to items using five point scales (anchored at scale point 4 by "describes very well" and at scale point 0 by "does not describe at all").

Table 4

Summary of Factor Analyses of Achievement Orientation Items

<u>Competitive-other directed (72% of s^2):</u>

Items	loadings
win respect	.52
beat someone	.40
affect someone	.51
others would look up to me	.44
played by the rules	.42

<u>Task-inner directed (28% of s^2):</u>

Items	loadings
accomplish task	.31
self-set goal	.34
played by rules	.43

Note: Loadings reported are averages of loadings for each item across

five accomplishments. Only those items that loaded consistently

and substantially are reported.