This study examines attributions (ability, effort, task, and luck) for success and failure in both achievement and affiliation domains across cultures as a means of evaluating whether gender differences are associated with cultural variations. Participants included 684 university students (314 males; 370 females) from India, Japan, South Africa, the United States, and Yugoslavia currently enrolled in teacher training, physicial science, and social science. While there were statistically significant differences between males and females across all five countries for achievement attributions to task and for the internal/external dimension, the differences of attributions to ability, effort, and luck, as well as for the stable/unstable dimension, were not significant.

GENDER DIFFERENCES IN ACHIEVEMENT AND AFFILIATION ATTRIBUTIONS
A Five-Nation Study

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Changes are taking place in the status of women (Frieze, Parsons, Johnson, Ruble, & Zellman, 1978; Mednick, Tangri, & Hoffman, 1975). No doubt the perceived degree of personal potency experienced by women may play a decisive role in this change. Traditionally, women have not attributed their success to internal factors that are perceived to be changeable, such as effort or skills acquisition (Crandall, Katkovsky, & Crandall, 1965; Dweck & Repucci, 1973; McMahan, 1972; Nicholls, 1975). Rather, women tend to see luck as the major causal attribution for success. Since luck is external and uncontrol-

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lable, it offers no consistent predictability for future successes. Conversely, failures have been attributed by women to lack of ability, which is not likely to be changeable and therefore cannot be controlled by the individual.

More recent studies have not found this differential attributional pattern for success and failure in women. Frieze and associates (1978) suggested that a more general attributional pattern of externality for women seems to be emerging. In studies by Bar-Tal and Frieze (1977) and McMahan (1972), women rated tasks in both success and failure conditions as easier than men rated them. Other studies suggested that females made greater use of luck in both success and failure conditions (Feather, 1969; Simon & Feather, 1973). If women are successful but the task is rated as easy or success attributed to luck, then one might expect women to undervalue success, take less responsibility for it, and experience little pride when they are successful. Support for this view is found in Maccoby and Jacklin's synthesis (1974). In contrast to college-age men, college-age women perceived less control over their destinies. Similarly, Duke and Nowicki (1974) found that an external locus of control predicted achievement for females in contrast to internality, which predicted achievement for males. Typically, women's achievement has either been associated with an internal locus of control, or no association is found (Stipek & Weisz, 1981). Recently, Strickland and Haley (1980) found that males and females expressed personal control expectancies on different items and in different ways as assessed by Rotter's (1966) Internal-External (I-E) scale. For example, males more strongly endorsed external items relating to luck, whereas females tended to be more external on items relating to personal influence, which is probably related to affiliation.

Studying attributions for success and failure across cultures provides a means of evaluating whether gender differences are associated with cultural variations. Different societies at different stages of economic, industrial, and political development, and with varying degrees of prevailing ideologies con-

cerning men and women, may endorse different social models in order to cope with the changes taking place in the status of women (Mednick et al., 1975). No specific gender differences in perceived locus of control were found in the previously reported studies in Nigeria (Reimanis, 1977), Greece (Malikiosi & Ryckman, 1977), the United States (Gregory, 1978; Lefcourt, Hogg, Struthers, & Holmes, 1975; McGinnies, Nordholm, Ward, & Bhanthumnavin, 1974; Malikiosi & Ryckman, 1977; Reimanis, 1977), South Africa (Barling & Fincham, 1978), New Zealand, or Japan (McGinnies et al., 1974). Although Parsons and Schneider (1974) reported females expressed significantly higher beliefs in luck and fate than did males, as well as in their inability to influence their own success in leadership situations, no differences were found in academic ability, personal respect, and political beliefs. The one surprising finding was that Swedish women, who were thought to be in the forefront of the female emancipation movement, were found to report higher beliefs in external control than Swedish males (McGinnies et al., 1974). This, however, may be an artifact of their younger age (i.e., secondary school) and the fact they still lived at home and were thus under familial influence.

Most of these cited cross-cultural/national studies of gender differences have employed Rotter's (1966) I-E scale or a variant of it. As Weiner, Heckhausen, Meyer, and Cook (1972) have shown, the locus of control and stability dimensions have been confounded in the locus of control literature. Internality has been linked with a stable cause (ability) as well as with an unstable cause (effort). Similarly, externality is linked with a stable (task difficulty/context) and unstable cause (luck). Attribution to an unstable (variable, altering) cause can lead to behavioral predictions that are in opposition to those of a stable attribution even though both the unstable and stable attributions could be to an internal ascription (Weiner, 1979).

Both Munro (1979) and Lefcourt (1978) have criticized the use of generalized locus of control scales and have argued for

goal-specific multiattributional assessment in which differentiations are made for various stiuations, different agents of action, and different consequences. Lefcourt, Von Baeyer, Ware, & Cox (1979) have developed the Multidimensional-Multiattributional Causality Scale (MMCS) in part to answer the criticism of the generalized locus of control scales, which fail to differentiate achievement and affiliation contexts and are not balanced across success and failure situations.

The purpose of this study was to expand the previous limited locus of control focus of gender differences across selected nations by shifting to an attributional model for both successes and failures in both achievement and affiliation domains. Our purpose was to identify gender differences in attributional patterns for success/failure outcomes across various attributional factors (ability, effort, task, luck). We believe the university samples we used represent conservative populations in which to study cultural variations in gender differences because university populations might reasonably be expected to be more homogeneous across cultures than other behavioral or institutional environments, and to be a context in which gender differences would be more likely to be minimized.

METHOD

An attempt was made to diveide countries into a 2 (developing versus developed) × 3 (Eastern, Western, Third World) matrix, based primarily upon one conventional way of categorizing. It was hoped that political ideology might be variable, but this was not entirely feasible. Usable data were obtained from the following countries: India, Japan, South Africa, the United States, and Yugoslavia. These five countires represent varying social/political outlooks. The United States represents a locus of conflict over women's rights. One would expect more marked gender differences in attributional assignment than in other countries and possibly more pronounced differences in

affiliation than in achievement. India has a history of women's emanicipation and participation in education and political areas. One would expect little difference in attributional assignments of the genders. One might have a similar expectation for a Communist country like Yugoslavia. However, since women have not gained leadership positions in the Communist party but only in certain spheres, one could expect differential attributions in affiliation and achievement domains. Since the state is an uncontrollable, unchanging external agent in Communist ideology, this could have a moderating effect on gender differences. Japan represents an extremely recent social transformation that should reflect little gender differences in the achievement area but lingering differences in affiliation. South Africa illustrates an ideology that differentiates people based upon unchangeable characteristics, which may be reflected in differential gender patterns for attributional assignment.

Where English was not a common language, the MMCS was translated into the native language. To validate the authenticity of the original, the back translation method was used (Brislin, 1980). Differences in translation were resolved by a third bilingual. Where there was no conceptual equivalence, the decentering method was used (Werner & Campbell, 1970). This approach involved changing the language when necessary to produce a smooth, natural-sounding version of the second language. Prior correspondence with potential collaborators helped to determine if the definitions of achievement and affiliation and the various attributions had a similar meaning. Data from one country were eliminated through this process.

PARTICIPANTS

The participants consisted of 684 (314 males; 370 females) university students (age range 19 to 24) currently enrolled in teacher training (125 males, 188 females), physical science (93 males, 86 females), and social science (96 males, 96 females). Students were administered the scale as a part of their regularly assigned class participation.

MULTIDIMENSIONAL-MULTIATTRIBUTIONAL CAUSALITY SCALE (MMCS)

The 48-item MMCS consisted of 24 items tapping the achievement domain and 24 items tapping the affiliation domain. Within each domain there were 6 items for each of the four attributions (ability, effort, task, and luck) randomized across success and failure items. Here are a few items randomly chosen from the MMCS; in parentheses are the attributional assignment, success/failure condition, and dimension: "The most important ingredient in getting good grades is my academic ability" (ability, success, achievement). "In my experience, loneliness comes from not trying to be friendly" (effort, failure, affiliation). "My academic low points sometimes make me think I was just unlucky" (luck, failure, achievement). The scale permits separate measurement of internality and externality, unlike typical I-E scales, on the assumption that scores on internality and externality may be independent (Collins, Martin, Ashmore, & Ross, 1973). According to Lefcourt (1978), test-retest correlations ranged from .51 to .62. He also found that items discriminated between acievement and affiliation dimensions. Four separate experimental studies establishing predictive validity were reported by Lefcourt (1978).

PROCEDURE

The introduction and procedure were the same for all countries involved and followed Lefcourt's procedures. The respondents indicated on a separate answer sheet the degree to which they agreed or disagreed with each statement, using a Likert format where A indicated, "I agree," B, "I mildly agree," C, "I agree and disagree equally," D, "I mildly disagree," E, "I disagree." The answer sheets were collected by the collaborators in the various countries and sent to the authors.

RESULTS

A set of six unweighted four-way analyses of variance with one repeated measure were performed for achievement and again for affiliation. Each 5 × 2 × 3 × 2 analysis of variance assessed the effects of five countries, both genders, and three academic majors repeated across both success and failure situations. Only results relating to gender are reported; more detailed country and success/failure results are summarized elsewhere (Chandler, Shama, Wolf, & Planchard, 1981). Each of the four causal attributions—ability, effort, task, and luck—served as dependent variables. Item responses were scores from 1 (disagree) to 5 (agree), with scores ranging from 3 to 15 for each attrubution. In addition, two composite indices were also used as dependent measures. An index of overall internality was obtained by summing the attributions for ability and effort (both internal) and subtracting those for task and luck (both external). Similarly, both stable attributions (ability, task) were summed and both unstable attributions (effort and luck) wer subtracted to provide an overall stability index. Scores for these dimensional indices have a possible range from -20 to +20, with negative scores indicating external or unstable attributions and positive scores internal or stable attributions.

Scheffé multiple comparisons were performed following significant analysis of variance effects to assess the singificance of differences among individual means. Simple effects (Winer, 1971) were assessed for signficant interaction affects.

ACHIEVEMENT ATTRIBUTIONS

There was a significant difference between males and females for attributions to task [$F(1, 654) = 6.98$, $p < .01$]. Females ($M = 8.20$) attributed their achievement significantly less than males ($M = 8.73$) to task factors. This contributed to

the finding the females (M = 5.20) were significantly more internal overall than males (M = 4.12).

A signifcant three-way (country × gender × success/failure) interaction for task was found [$F(4, 654) = 2.86$, $p < .05$], indicating that Indian females attributed their achievement successes, but not their failures, significantly less to task factors ($p < .01$). Thus, the significant gender differences for both the task attributions and overall interality can be attributed largely to Indian women's perceptions of less task influence on their achievement successes. Additionally, South African males and Yugoslavian females attributed their failures significantly more than their success to task factors ($p < .05$).

A significant gender × success/failure interaction for ability attributions [$F(1, 654) = 5.65$, $p < .05$] indicated that both males and females attributed their successes to ability (Male, M = 11.52; Female, M = 11.42) significantly more than failures to lack of ability (Male, M = 7.20; Female, M = 7.86).

There was also a significant gender × success/failure interaction on the stability dimension [$F(1, 654) = 7.27$, $p < .01$], as well as a significant country × gender × success/failure three-way interaction [$F(4, 654) = 2.69$, $p < .05$]. Both genders believed the attributional causes were significantly more subject to change (i.e., unstable) for their failures than for their successes. However, females (M = –2.96) attributed their achievement successes to unstable causes significantly more ($p < .01$) than males (M = –2.00). Just the opposite was found for failures, with males (M = –4.03) attributing significantly more to unstable causes ($p < .05$) than did females (M = –3.60). Scheffé a posteriori comparisons for a three-way interaction once again indicated that this difference was primarily due to the strong gender differential for Indian subjects consistent with the pattern for the two-way interaction. Japanese and American men also indicated a significantly stronger belief in changeable (i.e., unstable) causes for failures than for successes ($p < .05$).

TABLE 1
Mean Attributions for Males and Females for Affiliation

Attribution	Males	Females	p<
Ability	9.57	10.06	.02
Effort	9.76	10.18	.05
Task	9.83	9.66	NS
Luck	7.99	7.69	NS
Internality	1.51	2.89	.001
Stability	1.65	1.86	NS

AFFILIATION ATTRIBUTIONS

Females attributed social affiliation significantly more to ability [$F(1, 635) = 5.61$, $p < .05$], effort ($F = 3.99$; $p < .05$), and overall internal causes ($F = 11.45$, $p < .001$), than did males. Means are reported in Table 1 for both genders.

There were signifcant country × gender and country × gender × success/failure interactions on the internality composite. These results are summarized in Table 2. Tests of simple main effects for each country for the country × gender interactions indicated significant differences for Indians ($F = 4.60$; $df = 1, 635$; $p < .05$) and Japanese ($F = 689$; $df = 1, 635$; $p < .01$), with females on the average making higher internal attributions. An analysis of the simple interaction effects for the three-way country × gender × success/failure interaction revealed significant gender success/failure effects for subjects from each country (F 3, 635) = 9.69, $p < .01$. Scheffé a posteriori comparisons indicated that Indian males' attributions for

TABLE 2
Means for Internal Attributions for Country x Gender and Country x Gender Success/Failure Interactions for Affiliation

Country	Success		Failure		Total	
	Male	Female	Male	Female	Male	Female
India	2.93	4.20	-.23	4.44	1.35	4.32
Japan	-1.03	.95	.74	2.67	-.14	1.81
S. Africa	1.83	3.40	2.04	.95	1.94	2.18
USA	4.50	5.10	2.46	.90	3.48	3.00
Yugoslavia	1.24	2.87	.61	3.41	.92	3.14
Total	1.89	3.30	1.12	2.48	1.51	2.89

social failures were significantly less internal ($p < .05$) than were females for both successes and failures. Both Japanese males and females believed they were more responsible for their social failures than successes ($p < .05$). Females, however, believed they were more reponsible for both their successes and failures than did males ($p < .05$). The only significant difference for South Africans was a stronger belief by females in more personal responsibility for their successes than failures ($p < .05$). Among Americans, both genders were more internal for success than were females for failure ($p < .01$). In addition, females were more internal for success than males were for failure ($p < .05$).

ATTRIBUTIONAL PREDICTORS OF GENDER

To further substantiate the differences in attributional patterns for men and women and to control statistically for the interdependence among attributions, step-wise multiple regression analyses were performed on gender with the 16 subscales of both the achievement and affiliation domains as predictors. To further ascertain differences in these patterns across the represented countries, each country was analyzed separately.

Results indicated that attributions predicted gender in three of the five countries: India, the United States, and Japan. However, both the number and the pattern of significant attributions for predicting gender differ across these countries.

For India, it was found that attribution of achievement success to task ($\beta = -.43$) and achievement failure to effort ($\beta = .23$) discriminated between genders (Multiple R = .52; F = 12.40; df = 2, 66): males in India were more likely than females to attribute success in achievement to task, and less likely to attribute faliure in achievement to effort.

For the United States, the only significant discriminator between genders was in attributing achievement success to luck (Multiple R = .19; F = 4.52, df = 1, 116): females in the United

States were more apt than males to attribute success in achievement to luck.

For Japan, it was found that attribution of affiliation success to effort (β = .18), achievement failure to luck (β = -23), and achievement success to luck (β = .17) significantly discriminated between genders (Multiple R = .32; F = 9.16; df = 3, 244). Thus, similar to females in the United States, females in Japan were more likely to attribute success in achievement to luck. Furthermore, males in Japan were more likely to attribute failure in achievement to luck, and females were more likely to attribute success in affiliation to effort.

Classification analyses to compare predicted gender with actual gender showed that the proportion of correctly classified cases based on the functions derived from the subscales of the MMCS were above chance for all countries. According to the classification results, the discrimination was the most successful for India, with 85.51% of the cases correctly classified. The second most successful classification was with the United States, with 72.03% of the cases correctly classified. In descending order by proportion of successful classifications, the next countries were Japan (64.92%), South Africa (64.23%), and finally Yugoslavia (62.11%). The classification results supported the findings of the regression analyses that the best discriminations and most accurate predictions and classifications based on the subscales of the MMCS were for India, the United States, and Japan.

DISCUSSION

While there were statistically significant differences between males and females across all five countries for achievement attributions to task and for the internal/external dimension, the differences for attributions to ability, effort, and luck, as

well as for the stable/unstable dimension, were not significant. Consistent with previous findings (Parsons & Schneider, 1974), even these significant differences were small in magnitude. While there were some significant differences between the genders in individual countries, particularly India, there were many more similarities than differences. Still the differences do call into question the assertion of McGinnies and associates (1974) of a transsocietal belief by females in greater external control. In fact, females in the present study were slightly, although significantly, more internal than males. The fact that the differences reported here and in the Parsons and Schneider (1974) study were generally small leads one to question the meaningfulness of these differences, except perhaps in selected instances.

Gender differences appear to be stronger in the affiliation than in the achievement domain. In comparison with gender differences in the achievement sphere, one can see an interesting trend. Earlier studies (Crandall et al., 1965; Dweck & Reppucci, 1973) predicted that women would attribute achievement success to luck and failure to lack of ability. However, more recent research (Bar-Tal & Frieze, 1977) has found a general pattern of externality, especially luck attributions for both success and failure. If one examined only the early research on gender differences in social orientation/affiliation that favored women as being more socially oriented and nurturant, these findings could be interpreted within that stereotypic framework. Since the recent research is inconclusive (either no differences or complex differences), a more parsimonious interpretation is in order (Feieze et al., 1978).

We have found statistically significant but not large gender differences in attributions cross-nationally in the university population. The relationship of the gender differences within this population to other institutional settings and roles within the nations of our samples is an important area for further exploration.

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