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The Differential Role of Instrumentality, Expressivity, and Social Support in Predicting Problem-Solving Appraisal in Men and Women

P. Paul Heppner[1]
University of Missouri—Columbia

Debra J. Walther
Catholic University of America

Glenn E. Good
University of Missouri—Columbia

This study examined the role of instrumentality, expressivity, satisfaction with social support, and size of the social network in predicting problem-solving appraisal in both male and female college students. Two-hundred fifteen primarily white undergraduates (137 female, 78 male) completed the Problem Solving Inventory, Social Support Inventory, Personal Attribute Questionnaire, and Social Network. Simultaneous regression analyses revealed that for both men and women, instrumentality was related to all three factors of the PSI, and expressivity was related to approaching problems. Satisfaction with social support, however, was related to different PSI factors for men and women. As more information is acquired about how men and women each learn gender-related traits and obtain various problem-solving skills, we will be able to assist people in acquiring new perspectives and adaptive problem-solving activities.

Problem solving has been implicated as playing an important role in psychological well-being for some time (e.g., D'Zurilla & Goldfried, 1971; Mahoney, 1974; Mechanic, 1968, 1970, 1974). For example, one line of research has shown that the degree of adaptive thinking ability differentiates between various adjusted and maladjusted groups (e.g., Spivack &

[1]To whom reprint requests should be addressed at 210 McAlester Hall, Psychology Department, University of Missouri, Columbia, MO 65211.

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Levine, 1963). Indeed, within the last decade, it has become increasingly apparent that problem solving or coping plays an important role in adaptational responses to stress and psychological well-being in general (see Billings & Moos, 1981, 1984; Carver, 1989; Coyne, Aldwin, & Lazarus, 1981; Dixon, Heppner, & Anderson, 1991; Endler & Parker, 1989, 1990; Heppner, 1988; Lazarus & Folkman, 1984; Snyder & Ford, 1987). As Durlak (1983) has noted, it is easy to accept the utility of effective problem-solving skills; it makes intuitive sense that "good problem solvers . . . are flexible and adaptable in different social circumstances, able to deal effectively with stress, and able to develop suitable methods to attain personal goals and satisfy their needs" (p. 31).

One problem-solving variable that has received considerable attention is people's assessment of their problem-solving abilities (Heppner, 1988). Problem-solving appraisal is measured by the Problem Solving Inventory (PSI: Heppner, 1988), and consists of three factors: problem-solving confidence, approach-avoidance, and personal control. These factors were empirically derived and initially conceptualized to correspond to elements of a positive problem-solving orientation, or set, within a social learning perspective (see D'Zurilla, 1986; D'Zurilla & Goldfried, 1971). (For a slightly different conceptualization see Nezu and Perri, 1989.) Butler and Meichenbaum (1981) initially suggested that appraisal of one's problem solving may be an important variable in the problem-solving process. Subsequent research has confirmed that problem-solving appraisal is associated with a wide range of cognitive, behavioral, and affective variables related to problem solving, as well as to various indices of psychological adjustment (e.g., Heppner & Anderson, 1985; Heppner, Baumgardner, & Jackson, 1985; Heppner, Hibel, Neal, Weinstein, & Rabinowitz, 1982; Heppner & Petersen, 1982; Heppner, Reeder, & Larson, 1983; Larson, Piersel, Imao, & Allen, 1990; Nezu, 1985; Nezu, Nezu, Saraydarian, Kalmar, & Ronan, 1986).

The question remains, however, how one becomes an effective problem solver, and to what extent problem solving is affected by various individual difference variables. Larson et al. (1990) found that problem-solving appraisal was related to some individual difference variables, and seemed to reflect a problem-solving self-efficacy component. One issue that has been particularly difficult to understand is whether men and women cope with stress in different ways (Ptacek, Smith, & Zamas, 1992). Differential coping activities have been implicated to account for different frequencies that men and women experience specific psychological and physical disorders (e.g., Billings & Moos, 1981, 1984; Miller & Kirsch, 1987; Pearlin & Schooler, 1978). Thus, the purpose of this study was to examine problem-solving appraisal in greater detail within men and women.

In the past, there have been few gender differences found in the literature on problem-solving appraisal (e.g., Heppner, Cook, Strozier, & Heppner, 1991; Larson, Allen, Imao, & Piersel, 1993). Surprisingly, relatively little is known about gender differences in applied problem solving or coping in general. "Many studies have addressed gender differences in coping, but a consistent pattern of results is yet to emerge" (Ptacek et al., 1992, p. 747). Studies have typically reported no differences between men and women in coping (e.g., MacNair & Elliott, 1992), or have reported contradictory findings. For example, one study found that women utilized more support seeking and emotion-focused coping, and men used more problem-focused coping activities (Ptacek et al., 1992). Conversely, another study found that women used more problem-focused coping than men, as well as noted a number of other differences in the coping activities of men and women (Heppner et al., 1991). One interpretation is that there are more similarities than differences between the sexes in coping; conversely, perhaps investigators have not appropriately examined the complexity in differential coping differences between the sexes. Thus, questions remain about the existence of gender differences in the coping and problem-solving literature.

Gender differences in coping may be related to gender socialization and how young girls and boys learn "appropriate" behaviors for solving problems. However, relatively little is known about how gender-related variables are related to problem solving and coping with stressful life events. Given the pervasiveness of gender socialization in most cultures, it seems highly plausible that gender-related variables might be related to a wide range of problem-solving activities. Cook (1990) reached a similar conclusion stating that gender roles "may affect what psychological problems people develop, associated symptoms, and how people respond to problems" (p. 371). Two gender-related constructs that have received a lot of attention are what have come to be called instrumentality and expressiveness, typically measured by the Bem Sex Role Inventory (BSRI: Bem, 1974) and the Personal Attributes Questionnaire (PAQ: Spence & Helmreich, 1978). Although previous research has tended to find that instrumentality correlates more strongly than expressivity with measures of psychological well-being (see Cook, 1987), more recent research has offered more complex interpretations (e.g., Sharpe & Heppner, 1991).

However, research examining the relations between instrumentality, expressiveness, and various problem-solving activities has also revealed less than clear cut patterns. For example, two clinical studies found that agoraphobics, and particularly more avoidant agoraphobic patients, tended to be low on instrumentality (Chambless & Mason, 1986; Haimo & Blitman, 1985), hence indirectly suggesting that people who are low on instrumen-

tality are more likely to avoid problem-solving activities. On the other hand, Butler, Giordano, and Neren (1985) found that expressiveness, rather than instrumentality, was more likely to predict the initiation of another problem solving activity, help-seeking behavior in the form of social support, during a personal stressful event. Another study found that in a group of medical students and resident physicians, the presence of both instrumentality and expressive traits were related to the least amount of reported distress than were any other combination of traits, thus indicating that people possessing both expressive and instrumental traits may be more effective problem solvers and experience less distress. In short, although instrumentality and expressiveness has each been related to different problem-solving activities, there has not been a consistent pattern in the findings.

Two studies directly examined problem-solving appraisal and gender related personality traits, and found that higher levels of instrumentality were associated with more positive problem-solving appraisal, greater confidence, and greater willingness to approach problem-solving situations (Brems & Johnson, 1989; Nezu & Nezu, 1987). Moreover, Nezu and Nezu (1987) provided evidence to suggest that problem-solving appraisal affects the relation between gender roles and psychological distress. More specifically, these researchers found that greater instrumentality was significantly related to less anxiety and depression, but that this relationship was nonsignificant once the variance associated with problem solving was partialed out.

Another variable that might differentiate problem solving in men and women is social support. Social support is a complex and multidimensional construct that has received considerable attention in the last decade (e.g., Brown, Lent, Alpert, Hunt, & Brady, 1988; Cohen, 1988; Cohen & Wills, 1985), and has been related to coping activities and psychological well-being (e.g., Cohen, 1988; Elliott, Herrick, & Witty, 1992). Studies investigating problem-solving appraisal and social support, however, have provided rather mixed results. For example, Neal and Heppner (1986) found that subjects with a positive problem-solving appraisal were more likely to be aware of and to utilize a wide range of campus resources. Conversely, problem-solving appraisal was unrelated to help-seeking among college students (Tracey, Sherry, & Keitel, 1986). Moreover, Elliott et al. (1992) found no support for an interaction between social support an problem-solving appraisal in predicting depression, but did identify an interaction in predicting a more situation specific measure of physical and psychosocial health-related impairment within a 24-hour period. Part of the lack of clarity with regard to social support may be the multiple ways that the construct has been operationalized, such as satisfaction with social support, need for so-

cial support, type of social support received (e.g., instrumental, emotional) and size of the social network.

Perhaps some of the confusion in the literature regarding the relation between social support and problem-solving appraisal is also due to gender-related variables. Dunkel-Schetter and Bennett (1990) cogently concluded that individual differences must be examined in relation to social support, such as level of interpersonal skills, self-esteem, nature of the distressed person's coping behaviors, and characteristics of the social network. Gender-related personality traits are one individual difference dimension that warrants investigation in terms of social support. Numerous authors have hypothesized about the role played by social support in women's socialization (Doherty & Cook, 1993; Gilligan, 1982); indeed it has been stated that women define themselves in relation to others (Jordan, Kaplan, Miller, Stiver, & Surrey, 1991), and routinely take others' well-being into account when seeking to resolve problems (Gilligan, 1982). Thus, perhaps the relations between social support and problem-solving appraisal vary depending on gender or one's degree of adherence to gender-related traits.

Thus, the purpose of this study was to examine whether instrumentality, expressiveness, and social support were related to problem-solving appraisal in college men and women. To provide a broad examination of social support, we utilized two very different types of social support: satisfaction with social support and the size of the social network. We were particularly interested in the amount of unique variance these variables contributed to problem-solving appraisal; thus, we utilized separate simultaneous regression analyses for men and women. Because some researchers have identified differential patterns across the three PSI factors in addition to the total PSI (MacNair & Elliott, 1992; Heppner et al., 1991), we also examined the three factors separately to provide more specific information about the components of problem-solving appraisal. In sum, it was hoped that this study would provide more information about the complex relations between problem-solving appraisal, gender-related traits, and social support for men and women. If relationships are found, such evidence would suggest that it may be important to include gender-related variables, like gender-related traits, in conceptualizations of coping and psychological adjustment for men and women. Moreover, examination of sex differences might clarify coping similarities and differences between the sexes. Such information could be critical to mental health professionals seeking to enhance both problem-solving appraisal and to decrease problems associated with gender-related variables.

METHODS

Participants

Participants for this study were 215 undergraduate students (137 female and 78 male) enrolled in introductory Psychology courses at a large midwestern university who participated to help fulfill a course requirement. Most of these students were freshmen (67.9%) or sophomores (21.9%) with a mean age of 19.5 (SD = 4.6); a very high percentage of the students were white (approximately 95%). Participants received extra course credit for their participation in the study.

Measures

Problem Solving Inventory (PSI, Form A: Heppner & Petersen, 1982). The PSI is composed of 32 6-point Likert-type items ranging from strongly agree (1) to strongly disagree (6) that measures people's perceptions of their problem-solving behaviors and attitudes. Lower scores indicate assessment of oneself as a relatively effective problem solver, whereas higher scores indicate assessment of oneself as a relatively ineffective problem solver. Although PSI scores have been found to correlate significantly with ratings of problem-solving skill (Heppner et al., 1982), the PSI measures an individual's global self-appraisal of his or her problem-solving ability, rather than the individual's actual ability (Heppner, 1988). Factor analysis has revealed that the PSI is composed of three factors: Problem Solving Confidence (11 items), the Approach–Avoidance (16 items), and Personal Control (5 items). The PSI appears to be reliable with coefficient alphas ranging from .72 to .90 and test–retest correlations ranging from .83 to .89 over a two-week period. A variety of estimates of validity have been established (see Heppner, 1988). For example, PSI scores have been related to (a) a wide range of cognitive, affective, and behavioral activities associated with problem solving (e.g., Heppner et al., 1982; Heppner et al., 1983), (b) psychological well-being, such as depression (e.g., Heppner & Anderson, 1985; Nezu, 1985), self-esteem (Heppner et al., 1983), as well as hopelessness and suicidal ideation (e.g., Dixon et al., 1991), and (c) utilizing environmental resources (e.g., Neal & Heppner, 1986; Heppner & Krieshok, 1983).

Social Support Inventory (SSI: Brown, Brady, Lent, Wolfert, & Hall, 1987). The SSI is a self-report inventory that requires respondents to rate 39 interpersonal need items according to 3 separate 7-point Likert-type scales including: (1) Need Strength (how much of the type of support that

was needed during the last month), (2) Perceived Supply (how much support was received), and (3) Satisfaction (satisfaction with support received). Two scales can be computed from these ratings, a measure of predicted levels of satisfaction (a summed score of Need Strength-Perceived Supply, called Perceived Fit), and an actual level of satisfaction (a summed score of satisfaction, called Total Satisfaction Score, SS). Only these 39 items assessing actual level of satisfaction (SS) were used in this study. The multidimensionality of the SSI was supported through factor analysis of the 39 SSI-PF items; a five-factor solution accounted for the greatest amount of variance (Brown et al., 1988). The five factors were labeled: (a) acceptance and belonging, (b) appraisal and coping assistance, (c) behavioral and cognitive guidance, (d) tangible assistance and material aid, and (e) modeling. Split-half reliabilities calculated on odd versus even items were .90 (SSI-PF) and .94 (SSI-SS) and coefficient alpha correlations yielded correlations of .95 (SSI-PF) and .96 (SSI-SS) (Brown et al., 1987). Another study revealed high alpha coefficients for the SSI-PF scales (range from .79 to .91) and SSI-SS scales (range from .78 to .93) (Brown et al., 1988). Concurrent validity was supported by significant correlations between the SSI-PF and SSI-SS scales, as well as significant correlations between the SSI-PF and SSI-SS and a global scale of satisfaction (.77 and .75, respectively: Brown et al., 1987). In addition, the SSI-PF and SSI-SS correlated significantly with measures of depression, anxiety, and psychosomatic symptoms indicating predictive validity (Brown et al., 1987); thus, dissatisfaction with social support as measured by the SSI is related to emotional and physiological strain.

Personal Attribute Questionnaire (PAQ: Spence, Helmreich, & Stapp (1974). The short form of the PAQ is a 16-item self-report instrument designed to assess socially desirable gender-related personality traits (Spence, 1991). The PAQ contain two factors, masculinity and femininity, which have received considerable empirical support through factor analysis (Helmreich, Spence, & Wilhelm, 1981). Items on the Masculinity scale measure characteristics that are socially desirable for both sexes, but are considered more typical of men, such as independence and competitiveness, whereas items on the Femininity scale focus on socially desirable qualities that are considered more typical of women, such as warmth and devotion to others. The Masculinity scale is primarily associated with instrumentality, whereas the Femininity scale is primarily tapping expressivity; higher scores indicate higher levels of instrumentality and expressiveness. Subjects respond to each item on a 5-point scale ranging from 0 to 4; scores on each subscale range from 0 to 32. The PAQ has been shown to possess adequate internal consistency, with Cronbach alphas of .85 and .82 for instrumentality and expressivity, respectively (Wilson & Cook, 1984). Test-retest is approximately .60 over a 2.5 month

period, when averaged across both sexes (Yoder, Rice, Adams, Priest, & Prince, 1982). Several studies have provided estimates of construct validity (e.g., Bem et al., 1976; Schichman & Cooper, 1984; Spence & Helmreich, 1978; Stevens, Pfost, & Ackerman, 1984; Whitley, 1983). For example, instrumentality has been consistently related to self-esteem, lower levels of anxiety, depression, and other indices of emotional distress (e.g., Spence et al., 1975; Whitley, 1983). In addition, Spence and Helmreich (1978) provide additional evidence for the validity of the PAQ with various age groups and socioeconomic groups.

Social Network (SN). Social Network was an author-developed measure which asked participants "How many close friends do you have?" Close friends was defined as persons who in the past have provided any of the types of support described by the SSI. Based on previous piloting, respondents were given 11 choices, none, one, two, three, four, five, six, seven, eight, nine, or 10 or more.

Procedures

Participants completed the four questionnaires during one testing period in groups of approximately 30 students. After the participants arrived in the testing room, the general purpose of the study was explained to them (to investigate social support and problem solving), and formal consent forms were distributed. Participants were also asked to provide the following demographic information: (a) sex, (b) age, and (c) year in school. All subjects completed the questionnaires in approximately 60 minutes.

RESULTS

The means and standard deviations of the PSI, SSI-SS, PAQ and SN are presented by gender in Table I. The means indicate that the sample as a whole reported slightly higher PSI scores than other university undergraduates (M = 89: Heppner, 1988), indicating this group of students appraised themselves more negatively. The means for the SSI-SS are very close to the normative results reported by Brown et al. (1988, M = 189) and suggest that students reported a moderate amount of satisfaction with their relationships. Finally, the SN means indicate that the group of students reported having an average of 6-7 close friends who provide social support. A series of t-tests were conducted to determine if there were any differences between men and women on any of the variables; no statistically significant differences were found ($ps > .05$).

Table I. A Summary of the Means, Standard Deviations, and Intercorrelations by Gender among the PSI, SSI-SS, PAQ, and SN[a]

		PAQ				
	SSI-SS	Instrumentality	Expressivity	SN	M	SD
Women						
PSI Total	−.26[c]	−.44[e]	−.17	−.07	93.7	23.1
PSC	−.16	−.50[e]	.02	−.12	28.2	9.1
AA	−.27[c]	−.32[d]	−.27[c]	−.05	46.8	13.9
PC	−.16	−.26[c]	−.07	.05	18.7	4.5
SSI-SS		.11	.19[b]	.30[d]	191.8	43.8
PAQ						
Instrumentality			−.18[b]	−.00	20.7	4.4
Expressiveness				.02	24.7	4.6
SN					6.7	2.7
Men						
PSI	−.30[c]	−.54[e]	−.25[b]	−.07	91.8	22.6
PSC	−.37[d]	−.55[e]	−.15	−.07	27.1	7.9
AA	−.18	−.41[d]	−.31[c]	−.05	47.4	13.4
PC	−.29[c]	−.53[e]	−.06	−.05	17.2	4.6
SSI-SS		.23[b]	.19	.18	181.3	44.7
PAQ						
Instrumentality			.11	.10	21.2	4.9
Expressiveness				.18	22.6	4.3
SN					7.0	2.8

[a]PSI: Problem Solving Inventory (PSC: Problem Solving Confidence; AA: Approach-Avoidance; PC: Personal Control); SSI-SS: Social Support Inventory-Satisfaction Score; PAQ: Personal Attribute Questionnaire (I: Instrumentality, E: Expressiveness); SN: Social Network. Higher scores indicate, respectively, more perceived ineffective problem-solving ability, less perceived problem-solving confidence, more avoidant problem solving, less personal control, more satisfaction with social support, more instrumentality and expressiveness, and a larger social network of friends.

[b]$p < .05$.

[c]$p < .01$.

[d]$p < .001$.

[e]$p < .0001$.

Tests of Multicollinearity

One set of tests that should be conducted before using a multiple regression analysis is a test of multicollinearity (i.e., tests conducted to rule out problems with measurement errors due to nonorthogonal variables: see Pedhazur, 1982). In order to do this, Pearson product-moment correlations were computed between the various predictor variables separately for men and women. Results indicated that the five SSI factors, SSI-SS, and SSI-PF, were all highly correlated with each other for both genders. For example, appraisal and coping assistance social support was highly correlated with acceptance and belonging social support (r = .73 and .66 for women and

men, respectively, $ps < .0001$). These results suggest a significant degree of multicollinearity; therefore only total satisfaction scores were utilized in all subsequent analyses. None of the other correlation coefficients between the predictors were sufficiently high ($rs < .05$), thus making it unlikely that multicollinearity would pose problems in the regression analyses.

Estimates of Reliability

Results of coefficient alpha correlations for all summed criterion and predictor variables indicated that psychometric properties were within an acceptable range for all variables. The coefficient alphas for women and men are as follows, respectively: SSI-SS (α's = .95 and .96), Instrumentality (α's = .70 and .76), Expressivity (α's = .77 and .79), PSI Total (α's = .93 and .92), PSI Confidence (α's = .88 and .85), PSI Approach–Avoidance (α's = .89 and .80), and PSI Personal Control (α's = .67 and .66). The sample size for computing the alpha coefficients consisted of 137 women and 78 men. In essence, the data supported previously reported reliabilities for the measures utilized.

Regression Analyses Models

In order to identify unique contributions of each predictor variable for men and women, simultaneous regression analyses were computed for the Total PSI and 3 factors (Problem-Solving Confidence, Approach–Avoidance, and Personal Control).

For women, Instrumentality [$F(4,132) = 36.41$, $p < .0001$], Expressiveness [$F(4,132) = 7.88$, $p < .01$], and Satisfaction with Social Support [$F(4,132) = 3.99$, $p < .05$] were significant predictors of the Total PSI. For Problem-Solving Confidence, Instrumentality [$F(4,132) = 41.84$, $p < .0001$] was the only significant predictor. For Approach–Avoidance, Instrumentality [$F(4,132) = 20.08$, $p < .0001$], Expressiveness [$F(4,132) = 14.45$, $p < .001$], and Satisfaction with Social Support [$F(4,132) = 4.60$, $p < .05$] were significant predictors. Finally Instrumentality [$F(4,132) = 7.67$, $p < .01$] was the only significant predictor for Personal Control.

For men, Instrumentality [$F(4,73) = 25.54$, $p < .0001$] and Expressiveness [$F(4,73) = 3.04$, $p < .05$] were significant predictors of the Total PSI. For Problem-Solving Confidence, Instrumentality [$F(4,73) = 26.67$, $p < .0001$] and Satisfaction with Social Support [$F(4,73) = 6.93$, $p < .01$] were significant predictors. For Approach–Avoidance, Instrumentality [$F(4,73) = 12.30$, $p < .001$] and Expressiveness [$F(4,73) = 6.21$, $p < .01$] were significant predictors. Finally, for Personal Control, Instrumentality

Table II. Beta Weights, Partial F, Total R^2, and Omnibus F Values for SSI-SS, Instrumentality, Expressiveness, and SN in Predicting PSI-Total, Problem-Solving Confidence, Approach-Avoidance, and Personal Control for Men and Women

Criterion	Predictor	β	Partial F	R^2	Omnibus F
	Women				
PSI-total	Instrumentality	−.46	36.41[e]		
	Expressiveness	−.22	7.88[c]		
	SSI-SS	−.16	3.99[b]		
	SN	−.02	.04		
	Overall			.28	12.82[e]
Problem solving confidence	Instrumentality	−.50	41.84[e]		
	Expressiveness	−.05	0.34		
	SSI-SS	−.07	0.71		
	SN	−.10	1.73		
	Overall			.26	12.09[e]
Approach–avoidance	Instrumentality	−.35	20.08[e]		
	Expressiveness	−.30	14.45[d]		
	SSI-SS	−.18	4.60[b]		
	SN	.01	0.02		
	Overall			.24	10.43[e]
Personal control	Instrumentality	−0.26	9.58[c]		
	Expressiveness	−.09	1.04		
	SSI-SS	−.14	2.33[b]		
	SN	.09	1.15		
	Overall			.10	3.70[b]
	Men				
PSI-total	Instrumentality	−.49	25.54[e]		
	Expressiveness	−.17	3.04[b]		
	SSI-SS	−.16	2.60		
	SN	.04	0.16		
	Overall			.35	9.94[e]
Problem-solving confidence	Instrumentality	−.49	26.67[e]		
	Expressiveness	−.05	0.27		
	SSI-SS	−.26	6.93[c]		
	SN	.03	0.08		
	Overall			.37	10.93[e]
Approach–avoidance	Instrumentality	−.37	12.30[d]		
	Expressiveness	−.26	6.21[b]		
	SSI-SS	−.06	0.28		
	SN	.04	0.14		
	Overall			.24	5.73[d]
Personal control	Instrumentality	−.50	24.84[e]		
	Expressiveness	.02	0.02		
	SSI-SS	−.18	3.20		
	SN	.03	0.09		
	Overall			.32	8.43[e]

[a]PSI: Problem Solving Inventory; SSI-SS: Social Support Inventory-Satisfaction Score; SN: Social Network.
[b]$p < .05$.
[c]$p < .01$.
[d]$p < .001$.
[e]$p < .001$.

[$F(4,73) = 22.84, p < .0001$] was the only significant predictor. (See Table II.)

DISCUSSION

The results of this study confirm previous research which has indicated that higher levels of instrumentality were associated with a positive problem-solving appraisal, and specifically problem-solving confidence and willingness to approach problem-solving situations (Brems & Johnson, 1989; Nezu & Nezu, 1987). In addition, the results of this study suggest that instrumentality was related to the third factor of the PSI, Personal Control. Moreover, our results indicate that instrumentality is associated with problem-solving appraisal in a similar fashion for both college men and women. Instrumentality is most often conceptualized in terms of independence, assertiveness, and self-confidence (Spence, 1991), or in essence, personal agency. The PSI has been conceptualized as a self-efficacy factor in the problem-solving process (Heppner, 1988); we interpret the factors as most likely being components of a more general, positive problem-solving orientation set (D'Zurilla, 1986; D'Zurilla & Goldfried, 1971) that favorably predispose one to effective problem solving and coping with stressful life events. Thus, the PSI and PAQ probably share a common variance related to personal agency. In short, instrumentality was associated with all three factors of the PSI in this study for both men and women. Our results suggest that it may be helpful to include gender-related personality traits such as instrumentality in conceptualizations of coping and problem solving for both men and women.

Contrary to previous research, our results also suggest that for both men and women, expressivity significantly contributed in predicting problem-solving appraisal overall; in addition for both men and women, expressivity was related to a reported tendency to approach problem-solving situations in particular. Expressivity is typically conceptualized as interpersonally oriented expressive qualities, such as nurturance, caring, and understanding others (Spence, 1991). Expressing oneself and understanding others may be very functional as such activities may provide relevant information for problem solving, either for oneself or others, and thus increase the probability that one would approach versus avoid problems. Such an interpretation is consistent with the data from the Butler et al. (1985) study which indicted expressivity was related to help seeking during a personal stressful event. Thus, expressivity may play an important role in facilitating the manner and extent that one approaches problems; more research is needed that examines possible cause and effect roles of expres-

sivity in the problem-solving process. In sum, although instrumentality accounted for a larger portion of unique variance in all equations for both sexes, our results, nonetheless, suggest that both instrumentality and expressivity are associated with problem-solving appraisal for both sexes. These results are also consistent with more recent investigations that have found expressivity associated with other variables related to psychological well-being (e.g., Sharpe & Heppner, 1991).

Our results suggest different relationships between problem-solving appraisal and satisfaction with social support for men and women. For women, satisfaction with social support was weakly associated (all *ps* < .05) with the total PSI score, approaching problems, and personal control; however, for men, satisfaction was associated with more problem-solving confidence. It is important to note that one previous study which examined differential coping patterns by gender also found that problem-solving confidence was a much better predictor of coping outcomes for men than women farmers (Heppner et al., 1991). Thus, perhaps problem-solving confidence has special valence for men socialized in our culture (perhaps related to the traditional male socialization of being "strong" and "self-reliant"), and is associated with a very broad range of variables including interpersonal relationships and specifically relationship satisfaction. Conversely, Gilligan (1982) hypothesized that when women have a good social support system, the sense of belonging and connectedness provides a base which allows women to be able to face life's challenges more effectively. Consistent with this notion, women's satisfaction with social support may be more directly linked to approaching problems. Thus, our results suggest very different patterns between social support and problem solving for men and women, and raise questions about possible causal relationships between the two variables (e.g., do various problem-solving components have a causal relationship to satisfaction with social support?). Conversely, the size of one's social network was not related to problem-solving appraisal for either sex. The size of one's social network may be a variable that is too general, and does not account for the type of relationships in the network and the type of social support received (see Sarason, Sarason, & Pierce, 1990). Thus, our results confirm previous research which suggests that the relation between indices of social support and coping may be more complex than earlier conceptualized (see Elliott et al., 1992). At this point additional research is needed to examine in greater detail causal and independent relations between various types of social support and problem-solving appraisal; furthermore, more complex theoretical models are needed that include different indices of social support, problem solving, and coping outcomes for both men and women.

There are a number of limitations to this study that are important to note. The data were collected from college students, the generalizability of the results to other populations is unknown. The study also utilized self-report inventories, which might have contained systematic bias; the generalizability of the results to behavioral indicators is unknown. It is also possible that the results are confounded by the presence of other variables, such as social desirability or negative affectivity. For example, it is possible that instrumentality is associated with problem-solving appraisal in part due to a denial of concerns and a tendency to project confidence in one's abilities (e.g., Good & Mintz, 1990; Warren, 1983). Conversely, more expressive individuals, by definition, may be more likely to endorse concerns and acknowledge doubts about their confidence in resolving them. Future research should attempt to examine this area, while seeking to control for the potential method bias associated with self-report measures. Moreover, the number of subjects (especially men) was small, which resulted in reduced statistical power. It is also important to note that the associations between problem-solving appraisal and satisfaction with social support accounted for a small amount of variance; more stringent alpha levels (given our multiple statistical tests) would have eliminated the associations between the PSI and SSI-SS; these relationships merit additional examination with larger samples. Finally, whereas the previous research (Brems & Johnson, 1989; Nezu & Nezu, 1987) utilized the BSRI (Bem, 1974), we utilized the PAQ which might account for some of the discrepant findings with expressiveness (although Spence, 1991, suggests that there is considerable overlap between the BSRI and PAQ).

Nonetheless, the results of this study provide new information about the differential relations between social support, gender-related personality traits, and problem-solving appraisal for men and women college students. Previously, in the coping and problem-solving literature, there has been little attention paid to examining the role of gender and gender issues. Given the pervasiveness of gender-related socialization in most cultures, however, it is difficult to imagine that both gender and gender-related variables would not play a significant role in the process of coping with stressful life events. In essence, our results suggest that gender-related personality traits, instrumentality and expressivity, are related to components of problem-solving appraisal for both men and women, which underscores that both gender-related personality traits have a role in adaptive, functional behavior such as problem solving; these results provide some empirical support for the observation by Cook (1987) that gender-related variables may affect how people respond to problems. However, the results of this study suggest that, at least given the relationships examined in this study, college men and women are more alike than different. In addition, our results suggest

that satisfaction with social support is related to various aspects of problem-solving appraisal, but different patterns exist for men and women; these results suggest additional complexity is needed to conceptualize these constructs. These and related findings (e.g., Heppner et al., 1991; Larson et al., 1993) suggest that additional research is needed to examine the impact of gender issues in the coping process, particularly more sophisticated path analytic research which would examine the potential mediating or moderating effect of gender-related variables within the coping process for both men and women. As more information is acquired about how both men and women learn gender-related traits as well as obtain various problem-solving skills, a social learning perspective on problem solving will be instrumental in assisting different people in acquiring new perspectives and adaptive problem-solving activities.

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