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Sex Differences in Coping Behavior: A Meta-Analytic Review and an Examination of Relative Coping

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We used meta-analysis to examine recent studies of sex differences in coping. Women were more likely than men to engage in most coping strategies. The strongest effects showed that women were more likely to use strategies that involved verbal expressions to others or the self—to seek emotional support, ruminate about problems, and use positive self-talk. These sex differences were consistent across studies, supporting a dispositional level hypothesis. Other sex differences were dependent on the nature of the stressor, supporting role constraint theory. We also examined whether stressor appraisal (i.e., women's tendencies to appraise stressors as more severe) accounted for sex differences in coping. We found some support for this idea. To circumvent this issue, we provide some data on relative coping. These data demonstrate that sex differences in relative coping are more in line with our intuitions about the differences in the ways men and women cope with distress.

Men and women are commonly thought to have different styles of coping. Stereotypes of male coping behavior typically revolve around two seemingly opposite sets of behaviors. Men are believed to be more likely to confront a problem head-on and also are assumed to be more likely to deny a problem exists. Women, on the other hand, are believed to exhibit a more emotional response to problems and are expected to spend more time discussing problems with friends or family. A number of older studies indicate that men are more likely than women to exhibit direct, problem-confronting coping behaviors or alternately to avoid or deny the stressor (Pearlin & Schooler, 1978; Stone & Neale, 1984; Veroff, Kulka, & Douvan, 1981). Studies also show that women are more likely than men to cope with emotion-oriented behaviors and to seek social support (Billings & Moos, 1981; Folkman & Lazarus, 1980; Hamilton & Fagot 1988; Pearlin & Schooler, 1978; Stone & Neale, 1984). It has often been accepted that the problem-oriented coping that men exhibit is adaptive, whereas the emotion-oriented coping that women exhibit is maladaptive (Billings & Moos, 1981; Menaghan, 1982; Pearlin & Schooler, 1978).

In spite of these studies, sex differences in coping have not yet been established conclusively (Porter & Stone 1995; Thoits, 1991). The literature on coping is complex when it comes to evaluating sex differences. First, investigators frequently group several distinct coping behaviors under a single coping category in an effort to simplify the findings either conceptually or empirically. The problem with this approach is that a single coping category is composed of different behaviors. For example, one study (Rosario, Shinn, Morch, & Huckabee, 1988) defined emotion-focused coping as resignation, denial, anger, controlling feelings, humor, taking a break, physical activity, and socializing with others, whereas another study (Folkman & Lazarus, 1985) defined it as wishful thinking, distancing, emphasizing the positive, self-blame, tension reduction, and self-isolation. Because these coping categories are composed of different behaviors, it is difficult to generalize the results from one study to another. In addition, such broadly defined categories might be masking a sex difference that is limited to only one or two of the specific behaviors. A second reason that it is difficult to evaluate sex differences in coping is that the same coping label has been applied to different coping behaviors. This may explain why the findings for a specific coping behavior are not always consistent across

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studies. For example, "acceptance" is a coping strategy that has been used to refer to positive acceptance, in which one accepts the problem so as to move on with one's life (Carver, Scheier, & Weintraub, 1989), and resigned acceptance, in which the individual passively accepts the problem because nothing can be done about it (Anderson & Leslie, 1991; Ebata & Moos, 1991). Although the name for the behavior is the same in each case, the underlying motivation and attitude are quite different. Indeed, positive and resigned acceptance are related to different outcomes (Anderson & Leslie, 1991; Carver et al., 1993). A third reason that the study of sex differences in coping is complicated is that a single coping behavior might be given multiple labels. For example, behavioral disengagement, distraction, and avoidance are all used to describe avoiding one's problems through involvement in competing activities (Carver et al., 1989; Feldman, Fisher, Ransom, & Dimiceli, 1995; Schwab, 1990).

This article evaluates the relatively recent literature (1990 to 2000) that compares men's and women's coping strategies. We begin by providing a brief introduction to coping theory and a theoretical discussion of sex differences in coping. We then define coping behaviors conceptually. We examine the literature to determine whether there are consistent sex differences in specific coping behaviors through meta-analysis. We examine whether the nature of the stressor and stressor appraisal moderate these relations. Where sex differences in coping can be identified, we explore possible explanations for these differences.

Coping Theory

Coping is often defined as cognitive and behavioral efforts made in response to a threat. A common model of coping set forth by Lazarus and Folkman (1984) stresses that coping choices are dependent on both the appraisal of the threat (primary appraisal) and the appraisal of one's resources to address the threat (secondary appraisal). In addition, Lazarus and Folkman's model stresses that coping is dynamic in nature (Cohen & Lazarus, 1973; Folkman & Lazarus, 1980; Lazarus & Folkman, 1984). Specifically, coping is a transaction between the threat, the appraisal, and the response. Therefore, coping behaviors will change over time as these factors interact and also change over time. Thus, it is important to consider factors such as threat appraisal and the nature of the stressor when considering sex differences in coping. Stressor appraisal could explain sex differences in coping behavior if one sex engages in a coping strategy more than the other because one sex finds the event more stressful.

The nature of the stressor itself also might evoke different coping responses from men and women. A complete evaluation of how people typically cope with stress should examine a range of stressors. In this review we take into consideration the nature of the stressor when we examine sex differences in coping. We examine a variety of different stressors. However, we only include studies that identify a specific stressor. We wanted to avoid studies in which participants report how they cope with hypothetical problems or studies in which respondents report how they typically cope with stress in general. Our focus on how people reported that they coped with a specific stressor enables us to understand how men and women cope with specific problems and to see if the nature of the problem influences the pattern of coping.

A wide variety of actions can be classified under the definition of "cognitive and behavioral efforts made in response to threat." In practice, coping behaviors have been placed into categories on either a conceptual or empirical basis. One study might choose several behaviors that conceptually fit a definition of problem-oriented coping and then treat them analytically as one coping behavior. Alternatively, investigators might factor analyze an entire set of discrete coping behaviors and use the factors as coping dimensions. Each of these methods has produced from two to eleven coping factors (Ayers, Sandler, West, & Roosa, 1996; Billings & Moos, 1981; Carver et al., 1989; Folkman, Lazarus, Dunkel-Schetter, DeLongis, & Gruen, 1986; Miller, Kliewer, Hepworth, Sandler, 1994).

One popular classification system described by Lazarus and Folkman, (1984) distinguishes between problem-focused coping and emotion-focused coping. Problem-focused coping behaviors are aimed at altering the stressor. Problem solving and planning are examples. Emotion-focused behaviors are those that are directed at altering the emotional response to the stressor. Examples are venting emotions, ruminating, avoidance, accepting the problem, interpreting the problem in a positive light, and wallowing in blame. Although there are other classification systems of coping (Billings & Moos, 1981; Epstein & Fenz, 1967; Overholser, Hemstreet, Spirito, & Vyse, 1989; Schwarzer & Schwarzer, 1996), the distinction between problem-focused and emotion-focused coping is the one that is most commonly cited when sex comparisons are made.

As useful as the constructs of problem-focused and emotion-focused coping are in conceptualizing coping, this dichotomy may not be useful in comparing men and women. A variety of discrete behaviors are included under each of these two categories. Comparisons of how men and women cope using these global categories may be misleading because sex differences in coping might be confined to only some of the behaviors within the categories rather than the overall categories. Within these broad categories, men may be more likely to exhibit one behavior and women may be

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more likely to exhibit a different behavior; these differences would cancel each other out when all of the behaviors are placed in the same category.

The assumption that problem-focused coping is adaptive and emotion-focused coping is maladaptive also is problematic due to the broadness of these constructs. First, it is possible that some problem-focused and emotion-focused behaviors are adaptive more often than others. For example, acceptance of a problem couched in a positive light ("I accept that the problem exists and go on with my life") and positive reappraisal (i.e., finding the good in the bad) are more likely than denial and rumination to be adaptive emotion-focused strategies. Second, and more important, the adaptiveness of a coping strategy is heavily dependent on the stressor. For example, problem-focused coping might be adaptive if the stressor is controllable, but emotion-focused coping might be more useful when the stressor is less controllable (Folkman, 1984). Even denial is adaptive in some situations but not others (Levine et al., 1987). Problem-focused coping also may not be adaptive if one does not have the personal or social resources required to alter the problem. In this review we examine discrete coping behaviors for different stressors.

Theories of Sex Differences

One theory as to why women might engage in some of the more emotion-focused coping strategies than men is that women are thought to be the more "emotional" sex. Although it is not clear whether women really experience emotion more frequently than men (La France & Banaji, 1992; Larson & Pleck, 1998), women may experience emotion more intensely (Fujita, Diener, & Sandvik, 1991), and women certainly express most emotions more frequently than men (Brody & Hall, 1993; Sprecher & Sedikides, 1993). Sex differences in emotional expression have been detected even among 2-year-olds in which girls were observed to be more emotionally expressive during play than boys (Malatesta, Culver, Tesman, & Shepard, 1989). Women cry more frequently than men, and women are more likely than men to regard crying as a form of coping (De Fruyt, 1997). Even physiological data show greater facial activity in the female than the male face when men and women express emotion (Grossman & Wood, 1993; La France & Banaji, 1992). This line of research suggests that women would be more likely than men to cope with distress by expressing emotions to others.

It is not clear, however, whether these sex differences in emotional expression are innate or learned. Studies that find sex differences in emotional expression among infants and small children would certainly seem to suggest innate differences. However, a large body of research shows parents of toddlers and preschool children behave in ways to elicit more emotion in girls than boys. For example, one study (Dunn, Bretherton, & Munn, 1987) found that mothers of 18-month-olds were more likely to use words that described feeling states (e.g., sad, angry, happy), states of consciousness (e.g., awake, tired), and sensations (e.g., hungry, cold) with girls than with boys. It is also true that sex differences in the expression of emotion are larger among men and women who have stronger stereotypes about gender and emotion (Grossman & Wood, 1993), and the female gender role (psychological femininity or communion) has been associated with the expression of emotion (Brody & Hall, 1993). These studies suggest that gender socialization may play a role in sex differences in emotional expression.

Another theory of sex differences in coping focuses on support-seeking behavior. Taylor and colleagues (Taylor et al., 2000) suggested that the fact that women seek support more than men has biological underpinnings. They suggest that the "fight-or-flight" response to threat postulated by Cannon (1932) is more characteristic of men than women; instead, women are more likely to "tend-and-befriend" when faced with threat. This theory is rooted in evidence from animal studies that have reported female animals demonstrating fewer stereotypical fear responses, such as fleeing, than male animals when subjected to an environmental threat (Klein, Popke, & Grunberg, 1998). This suggests that there is a biological basis for the sex differences in responses to stress. However, gender socialization cannot be ruled out here, either. Women are encouraged to turn to others for support during times of stress, whereas help-seeking behavior is discouraged among men because it signifies weakness. For example, a study (Derlega & Chaikin, 1976) that had college students read vignettes in which a person either did or did not disclose a personal problem found that female disclosers were viewed as better adjusted than female nondisclosers but that male disclosers were regarded as more poorly adjusted than male nondisclosers. A meta-analytic review of the literature shows that self-disclosure increases liking of women but decreases liking for men (Collins & Miller, 1994). People in the social environment also provide more social support to women than men, making it easier for women to turn to others for help (Eagly & Crowley, 1986). Thus, social forces may inhibit men from revealing emotions in particular and seeking support in general.

There are other differences in men's and women's coping that can easily be tied to gender socialization. Gender socialization theory would argue that men might be more likely to cope with stress by denying the problem or avoiding it because men are socialized to conceal their emotions. Because men stereotypically are considered to be action oriented, direct, and assertive, they also might be more likely to engage in problem-focused coping.

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In sum, regardless of whether these differences in coping are innate or learned, the underlying theory is that there are characteristic differences between men and women and these differences are reflected in their coping choices. We refer to this as the *dispositional hypothesis.* Only behavioral genetic studies can determine whether these sex differences are innate or learned. Although we cannot distinguish biological from socialization reasons for these apparent sex differences in coping behaviors, the referenced literature suggests the character of the difference resides in gender rather than the environment.

By contrast, the *situational hypothesis* states that situations drive coping behaviors. Rosario et al. (1988) referred to this as *role constraint theory.* Sex differences in coping behaviors are due less to underlying personality differences between men and women than to the different roles that men and women assume in society and the different stressors men and women face. If the nature of the stressor were held constant, sex differences in coping would disappear. For example, work stressors might be more conducive to problem-focused coping than emotion-focused coping. A problem such as work overload or a difficult assignment might be best served by a direct, action-oriented approach. To the extent that men spend more time in the work environment than women, men might show greater tendencies toward problem-focused coping. Perhaps family stressors are more conducive to emotion-focused coping, especially when the problem is interpersonal. It might be difficult to change another person's behavior and easier to manage one's own emotions through acceptance or trying to find the positive in the situation. To the extent that women face more interpersonal stressors than men, women might show greater tendencies toward emotion-focused coping. Thus, to the extent that previous research has not considered the nature of the stressor, sex differences in coping could be due to the fact men and women face different sources of stress in their lives.

Although women have joined the workforce in greater numbers than ever before, there are still a number of role differences between men and women. For example, even in dual-career families, women spend more time on housework than men and are more likely to be the primary caretakers of children than men (Blair & Lichter, 1991). Discrepancies remain in the workplace as well, with women having lower status jobs than men and lower pay for comparable work (U.S. Bureau of Labor Statistics, 1998). Thus, work stressors may be perceived differently by men and women. Women may feel that they have little control over their work situation and that problem-focused coping is risky, useless, or even impossible. Thus, there still may be sex differences in coping within a given stressor such as work because this stressor is perceived differently by men and women. Men may engage in more problem-focused coping than women with respect to work-related stressors because those stressors are more amenable to personal control for men than women. If this were the case, role constraint theory rather than dispositional reasons would explain the sex difference in coping. Relationship stressors constitute another stressor domain that men and women may perceive differently. When the stressor concerns an interpersonal issue, it is women who may confront the problem and men who may withdraw either because relationships and relationship functioning are more central to the lives of women than men or because men and women hold unequal statuses in relationships with one another.

In this review, we attempt to evaluate the evidence for the dispositional versus situational (role constraint theory) hypothesis by (a) examining whether there are sex differences in coping behaviors averaged across all kinds of stressors and (b) examining whether sex differences in coping are influenced by the nature of the stressor. The dispositional hypothesis would predict that if men and women were faced with the same stressor and had the same appraisals of that stressor, they would still behave in different ways. Role constraint theory would predict that when men and women confront similar stressors and have similar threat appraisals, they would cope similarly.

There are at least two ways that coping might be different for men and women. First, it is possible that one sex might be more likely to exhibit a certain coping behavior than the other sex. This has been the focus of our discussion thus far. Second, the same coping behavior might show different relations to well-being for men and women. For example, venting through crying could leave a woman feeling relieved and less distressed but might leave a man feeling uncomfortable and more distressed. In this review we primarily examine the former question, namely whether the two sexes use the same coping behaviors given the same stressor. The second question, whether coping is associated with differential outcomes for men and women, is also important to address because the outcome of a coping action could affect the likelihood of it being used again. Unfortunately, relatively few studies examine this issue. We provide an overview of the limited findings.

Questions to Be Addressed

Our goal in this article was to evaluate whether there are sex differences in coping in the relatively recent literature. We used meta-analysis to address this question. We examined sex differences in 17 specific coping behaviors, each of which was evaluated by at least six studies. We also evaluated whether sex differences in coping were moderated by the type of stressor and

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stressor appraisal. If sex differences in coping hold across stressors, the dispositional hypothesis is supported. If sex differences in coping vary as a function of the nature of the stressor, role constraint theory might be supported. Men's and women's different roles expose them to different stressors, which produce sex differences in coping. However, it is also possible that sex differences in coping are influenced by the nature of the stressor because men and women appraise stressors differently. If sex differences in coping are limited to those stressors appraised as more severe by one sex than the other, stressor appraisal rather than gender may be driving sex differences in coping.

Study 1: Meta-Analysis

Method

Reference articles were located through key-word searches using PsycINFO, PsycLIT, and Social Science Abstracts databases. The key word *coping* was used in combination with the terms *gender* and *sex,* and with the phrase *human sex differences.* In separate searches, *coping* was replaced with the key phrase *stress management.* These searches were supplemented by scanning reference lists from papers and through scanning titles from several pertinent journals including *Sex Roles, Journal of Personality and Social Psychology,* and *Health Psychology.*

Review Constraints

This review is limited to empirical studies reported between 1990 and 2000. We chose to limit the studies to English-speaking samples because there are indications of cross-cultural sex differences in coping (Copeland & Hess, 1995; Gerdes & Ping, 1994; Jung, 1995). Thus, studies from the United States, Canada (except French-Canadian), England, Australia, Ireland, and New Zealand were included in this review. We examined "normal" populations, meaning studies of coping in clinical or psychopathological populations were excluded. For example, we excluded studies of populations with clinical depression, alcoholism, and borderline personality disorder. Our interest is in describing men's and women's coping among a normal population. In this review we include studies that set out to compare men and women as well as studies that compared men and women as a secondary analysis. Studies either viewed coping as an outcome or tested coping as a mediator or moderator of the relation between another variable and an outcome.

We also required that studies evaluated responses to specific stressors rather than hypothetical stressors or a combination of daily hassles that were undefined. This criterion was important because (a) we wanted to examine the nature of the stressor as a moderator of sex differences or similarities in coping and (b) we believe that people are describing different behaviors when they report how they "typically" cope with stress versus how they cope with a specific stressor. Inventories of daily hassles were used if there was a clearly defined stressor, such as caring for a family member with dementia. The stressors examined in this study were placed into four categories: (a) personal health (e.g., injury or illness), (b) relationship (e.g., family conflicts, marital problems), (c) achievement (e.g., work or school stress), and (d) others' health (e.g., injury, illness, or death).

Studies were excluded if they classified a conglomeration of several different behaviors into one general coping scale without (a) defining the distinct behaviors that comprised the general scale or (b) comparing men's and women's responses to the distinct behaviors. For example, studies that examined a composite factor called *problem-focused coping* or *emotion-focused coping* without a clear explanation of what behaviors were included in these categories were excluded from this review (e.g., Brunswick, Lewis, & Messeri, 1992; Cummings, Davies, & Simpson, 1994). In cases in which studies used some broad, ill-defined coping categories and some discrete coping behaviors, only the data from the discrete behaviors were examined.

Finally, for inclusion in the meta-analysis, studies needed to provide some raw data on men's and women's coping scores. We accepted either means and standard deviations for men and women, statistical tests of means differences (t tests or F statistics), or in a few cases statistical significance tests (p values) with sample sizes from which we inferred effect sizes.

In summary, studies were included if they were reported between 1990 and 2000, involved normal populations from the United States and other English-speaking countries, examined a specific stressor, and provided analyzable data on specific coping behaviors. We eliminated about half of the articles we located because they did not fit all of these criteria. The primary reasons for exclusion had to do with unacceptable definitions or measures of coping behaviors or the failure to compare men and women on adopted coping strategies. We identified 50 eligible studies for meta-analysis. Each of these studies provided data on a single sample. However, three studies evaluated coping strategies with respect to two distinct stressors. The studies and their characteristics are shown in Table 1. The coping behaviors we evaluated are discussed in the following section.

Definitions of Coping Behaviors

Because of the problems identified in the introduction—the same label applying to different coping be-

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Table 1. *Studies Included in Meta-Analysis*

Author	Sample Size	Stressor	Stressor Category	Sample	Age Range[a]	Coping Variables	Effect Size *r*	Measure
Abbey, Andrews & Helman (1991)	184 couples 184 men 184 women	Infertility	PH	Infertile couples	22–44	Wishful thinking General problem focus	–.56 –.42	WOC[b]
Abraham & Hansson (1996)	224 120 men 104 women	Work	A	Employed adults	40–69	Active	.00	PUB
Affleck et al. (1999)	147 48 men 99 women	Joint pain	PH	Volunteers with arthritis	*M* = 62.8	Avoidance Seek SS-E Religion Active Positive reappraisal Venting	–.22 –.21 –.20 –.16 –.18 –.23	PUB[b]
Anderson & Leslie (1991)	164 82 men 82 women	Family stress	R	Married couples with at-home child	22–63	Seek SS-non Seek SS-I Religion Positive reappraisal	–.12 .09 –.71 .09	PUB
Archer, Keever, Gordon, & Archer (1991)	165 101 men 64 women	Demands of residency	A	Medical school residents	23–45	Seek SS-non Positive reappraisal Avoidance	–.11 –.11 .00	WOC
Armstrong-Stassen (1998)	92 53 men 39 women	Company downsizing	A	Employees of large company	?	Positive self-talk Active Seek SS-non	–.04 –.12 –.13	LATACK
Arthur & Hiebert (1996)	94 ? men ? women	Educational transition	A	Students at polytechnical institute	18–25+	Avoidance Denial Seek SS-I Seek SS-E Religion Active Planning Positive reappraisal Venting	.00 .00 .00 –.14 .00 .00 .00 .00 .00	COPE
Borden & Berlin (1990)	61 27 men 34 women	Caregiving	OH	Spouses of persons with chronic dementia	36–89	Seek SS-non Positive reappraisal Wishful thinking Self-blame Isolation General problem focus	–.26 .00 .00 .00 .00 .00	WOC nPUB

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Table 1. *(Continued)*

Author	Sample Size	Stressor	Stressor Category	Sample	Age Range[a]	Coping Variables	Effect Size *r*	Measure
Broderick (1998)	174 74 boys 100 girls	Academics	A	4th and 5th graders	9–12	Avoidance Rumination	–.04 –.20	nPUB
	174 74 boys 100 girls	Relationship	R	4th and 5th graders	9–12	Avoidance Rumination	.12 –.15	nPUB
Butler & Nolen-Hoeksema (1994)	199 125 men 74 women	Dysphoric mood	PH	College participant pool	18–22	Avoidance Rumination	–.01 –.14	PUB
Carroll & Shaefer (1994)	68 34 men 34 women	Death of child	OH	Couples bereaved by SIDS	21–45	Seek SS-non Seek SS-E	–.46 –.34	PUB
Causey & Dubow (1992)	481 248 boys 233 girls	Academics	A	4th–6th graders	?	Avoidance Seek SS-non General problem focus Venting Rumination	.12 –.17 –.12 .13 –.02	nPUB
	481 248 boys 233 girls	Relationship	R	4th–6th graders	?	Avoidance Seek SS-non General problems focus Venting Rumination	.10 –.22 –.19 .15 –.20	
Choo, Levine, & Hatfield (1996)	250 77 men 173 women	Relationship break up	R	College students	*M* = 23.1	Avoidance Self-blame	.18 .00	PUB
Christie & Shultz (1998)	181 56 men 125 women	Work	A	Employed adults attending night school	18–58	Seek SS-I Seek SS-E General problem focus Exercise Avoidance	.06 –.13 –.19 .14 –.04	LATACK
Crocker & Graham (1995)	235 123 male athletes 112 female athletes	Inability to reach sports goal	A	Competitive athletes	15–30	Seek SS-I Seek SS-E Active Planning Self-blame Venting Wishful thinking	.06 –.24 .01 .04 .12 .01 .06	COPE

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DeVries, Hamilton, Lovett, & Gallagher-Thompson (1997)	170 31 men 139 women	Caregiving	OH	Adult caregivers of elderly relatives	*M* = 59.4	Active Planning Seek SS-non Seek SS-I Religion Positive reappraisal Positive self-talk Rumination Exercise Avoidance Venting	–.05 –.09 –.16 –.06 –.21 –.09 –.29 –.26 –.11 –.14 –.19	PUB
Encarnacion, Meyers, Ryan, & Pease (2000)	135 21 men 114 women	Pain	PH	Ballet dancers	*M* = 19.2	Rumination	–.66	PUB
Feldman, Fisher, Ransom, & Dimiceli (1995)	166 82 men 84 women	Family demands during adolescence	R	Random sample of adults of semi rural community	19–26	Seek SS-E Religion Avoidance Isolation	–.30 –.06 .06 –.28	A-COPE
Ferguson & Drotar (1994)	191 105 men 86 women	Demands of residency	A	Medical residents	?	Avoidance	–.13	COPE
Fife, Kennedy, & Robinson (1994)	250 125 men 125 women	Cancer	PH	Adults with cancer	?	Active Seek SS-non Denial Positive reappraisal Avoidance Religion	–.23 –.14 –.10 –.22 .15 –.23	WOC
Franzini & Johnson (1991)	100 47 men 53 women	Dysphoric mood	PH	College participant pool	*M* = 19.1	Seek SS-non Seek SS-I Positive reappraisal Exercise	–.16 –.16 .00 .00	nPUB
Gadzella, Ginther, Tomcala, & Bryant (1991)	401 158 men 243 women	Work	A	Community men and women	?	Seek SS-non Exercise Self-blame	.18 –.17 –.13	PUB
Gianakos (2000)	176 46 men 130 women	Work	A	Employed college students	*M* = 24.2	Avoidance Seek SS-non Active Positive self-talk	–.02 .05 –.24 .05	LATACK
Heppner, Cook, Strozier, & Heppner (1991)	79 44 men 35 women	Career transitions	A	Farmers attending career options workshop	*M* = 40.4	Seek SS-non General problem focus Wishful thinking Self-blame General problem focus	.14 .06 .07 .09 –.09	WOC

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Table 1. *(Continued)*

Author	Sample Size	Stressor	Stressor Category	Sample	Age Range[a]	Coping Variables	Effect Size *r*	Measure
Hoffner (1995)	228 134 boys 94 girls	Scenes from horror	PH	9th and 10th graders	*M* = 15.1	Avoidance Seek SS-E Positive reappraisal	–.11 –.11 .00	PUB[b]
Kahn & Cooper (1996)	225 21 men 114 women	Work	A	Foreign exchange dealers	?	Active Seek SS-non	.00 –.29	PUB
Klimes-Dougan & Bolger (1998)	63 29 boys 34 girls	Depressed mother	OH	Children	*M* = 13.9	Active Seek SS-I Denial Venting Rumination	–.04 –.26 .04 .05 –.22	PUB[b]
Kolt, Kirkby, & Lindner (1995)	115 32 male adolescents 83 female adolescents	Sports performance	A	Adolescent gymnasts	13–20	Denial Seek SS-non Isolation Active Planning Positive reappraisal Venting Wishful thinking	–.09 –.25 –.04 .02 .01 –.05 –.11 .04	WOC[b]
Korabik & Van Kampen (1992)	35 17 men 18 women	Work	A	Managers	*M* = 40.3	Avoidance Seek SS-non Seek SS-I Seek SS-E Self-blame Wishful thinking	.00 .00 .00 .00 –.24 .00	WOC
Kramen-Kahn & Hansen (1998)	208 73 men 135 women	Work	A	Psychotherapists	*M* = 49.5	Active Seek SS-non Seek SS-I Avoidance Positive self-talk	–.29 .00 –.24 –.18 –.37	PUB[b]
Leana & Feldman (1991)	157 94 men 63 women	Laid off work	A	Employees of space industry	21–60	Active Seek SS-I Seek SS-E	.16 .07 –.25	nPUB
Little & Hamby (1996)	501 207 men 294 women	Work	A	Therapists	31–50	Active Seek SS-I Seek SS-E Exercise Avoidance	–.10 –.09 –.19 .00 –.13	nPUB

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Lutzky & Knight (1994)	92 40 men 52 women	Caregiving	OH	Spouses of persons with chronic dementia	M = 69.9	Seek SS-non Avoidance General problem focus	–.27 –.38 .00	WOC
Martin et al. (1992)	165 63 men 102 women	Old age	PH	Older adults	60–100+	Active Planning Isolation	.00 .00 .00	PUB
	165 63 men 102 women	Relationship	R	Older adults	60–100+	Active Planning Isolation	.00 .00 .00	
McDougall (1998)	169 41 men 128 women	Old-age memory	PH	Elderly adults	55–83	Seek SS-non Religion General problem focus Positive reappraisal Self-blame Wishful thinking	–.15 –.30 –.05 –.09 .06 .00	PUB
McLeod, Kirkby, & Madden (1994)	206 127 males 79 females	Sports performance	A	Basketball players	15–44	Denial Seek SS-non General problem focus Active Positive reappraisal Wishful thinking	.06 –.20 .10 .04 –.02 –.06	WOC[b]
Morrow, Thoreson, & Penney (1995)	206 86 men 120 women	Infertility	PH	Infertility clinic patients	M = 32.8	Positive reappraisal	–.17	WOC
Nolen-Hoeksema, Parker, & Larson (1994)	253 73 men 180 women	Death of close other	OH	Bereaved adults	20–86	Rumination	–.10	PUB
Parks & Pilisuk (1991)	176 51 men 125 women	Caregiving	OH	Adult caregivers of parents with Alzheimer's disease	?	Planning Wishful thinking Isolation	.00 –.22 .26	PUB
Prattke & Gass-Sternas (1992)	75 35 men 40 women	Artificial insemination	PH	Couples and women receiving artificial insemination	23–55	Denial Seek SS-non Isolation Active Positive reappraisal Self-blame Wishful thinking	.03 –.17 –.13 –.23 –.21 –.16 –.28	WOC
Ptacek, Smith, & Dodge (1994)	114 55 men 59 women	Public speaking laboratory task	A	College participant pool	17–39	Seek SS-non Avoidance Positive reappraisal Self-blame General problem focus	–.23 .00 .00 .00 .00	nPUB

(continued)

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Table 1. *(Continued)*

Author	Sample Size	Stressor	Stressor Category	Sample	Age Range[a]	Coping Variables	Effect Size *r*	Measure
Rokach & Brock (1998)	633 295 males 338 females	Loneliness	R	College students; community group	13–79	Avoidance Seek SS-non Religion General problem focus Positive reappraisal	–.11 .03 .09 –.17 .11	nPUB
Rose, Strauss, Neundorfer, Smyth, & Stuckey (1997)	78 29 men 49 women	Caregiving	OH	Spouses of persons with Alzheimer's disease	53–88	Active Wishful thinking	.00 –.24	PUB
Schnittger & Bird (1990)	329 158 men 171 women	Work/family	R	Full-time employed married adults	*M* = 40	Avoidance Seek SS-non Active Positive reappraisal	.00 –.27 –.16 –.19	PUB[b]
Schwab (1990)	50 25 men 25 women	Deceased child	OH	Married couples	27–60	Active Seek SS-I Seek SS-E Avoidance Isolation Venting Religion Exercise	–.54 –.20 –.29 –.03 –.31 –.33 –.13 .07	nPUB
Sigmon, Hotovy, & Trask (1996)	82 43 men 39 women	Laboratory-induced dysphoria	PH	College participant pool	?	Avoidance Rumination	.00 –.28	COPE

Spirito, Stark, Gil, & Tyc (1995)	177 93 boys 84 girls	Chronic illness	PH	Children with chronic illnesses	7–18	Avoidance	.00	PUB
						Seek SS-non	–.12	
						Isolation	.00	
						General problem focus	.00	
						Positive reappraisal	.12	
						Self-blame	.12	
						Wishful thinking	.00	
Stockdale (1998)	2,335 553 men 1,782 women	Sexual harassment	R	U.S. federal employees	Mode = 35–44	Active	–.19	nPUB
Sullivan, Tripp, & Santor (2000)	80 38 men 42 women	Induced pain	PH	College students	19–28	Avoidance	.00	nPUB
						Positive reappraisal	.00	
						Rumination	–.18	
						Positive self-talk	.00	
Unruh, Ritchie, & Merskey (1999)	309 152 men 157 women	Pain	PH	Community volunteers	18–65	Avoidance	.02	PUB
						Seek SS-E	–.20	
						Planning	–.14	
						Active	–.17	
						Venting	–.09	
						Rumination	–.03	
						Positive self-talk	–.17	

Note: PH = personal health; A = achievement; R = relationship; OH = others' health; SS-E = emotional social support; SS-non = nonspecific support; SS-I = instrumental social support; WOC = Ways of Coping Checklist (Lazarus & Folkman, 1984); PUB = other published measure; LATACK = Latack Coping scales (Latack, 1986); COPE = COPE (Carver, Scheier, & Weintraub, 1989); nPUB = nonpublished measure; A-COPE = Adolescent Coping Orientation for Problem Experience (Patterson & McCubbin, 1987).

[a]? indicates no information on age is provided. [b]Adaptation of published measure.

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haviors and the same coping behavior being assigned different labels—it was important that we carefully define the coping behaviors we examined. We relied on authors' descriptions of coping behaviors to determine the appropriate category. We defined 17 specific coping strategies, each of which was evaluated by a minimum of six studies. We had two independent raters place each of the coping styles into one of the following 17 categories. Interrater reliability was 85%. Disagreements were resolved by a third independent rater. A list of the definitions that guided our interpretation of the data follows.

Problem-focused behaviors. Problem-focused coping involves behaviors that are aimed at altering the stressor. It should be noted that this type of coping contains effectively two components: preparation (information seeking, planning) and action (problem solving, active coping). The two components share the property of attempts to alter the stressor. Three individual problem-focused behaviors, plus a fourth category of general problem-focused coping, are examined in this meta-analysis:

1. *Active coping.* Active coping involves efforts to change or remove the stressor. Taking action that is directed at the stressor is the key component.
2. *Planning.* This strategy includes gathering information, reviewing possible solutions to a problem, and other efforts that involve planning with the intent to take action about a problem.
3. *Seek social support (instrumental).* Seeking instrumental social support refers to seeking specific, generally concrete help from friends and family. The support is directed toward solving problems. Examples of instrumental social support that people could receive are money, baby-sitting services, advice, and offers to run errands.
4. *Problem-focused coping (general).* We included a general problem-focused category of coping because many studies grouped several of the previously mentioned behaviors into a single variable. These studies combined more than one problem-focused coping strategy into a general category that did not contain any of the emotion-focused behaviors discussed following.

Emotion-focused behaviors. Emotion-focused behaviors are aimed at altering one's response to a stressor. The behaviors classified under this category are quite different from one another, making a broad emotion-focused category difficult to interpret. For example, one study (Sigmon, Hotovy, & Trask, 1996) classified emotion-focused coping as a combination of seeking support and venting, whereas another study (Rosario et al., 1988) used a combination of cognitive and emotional strategies, focusing on activities outside of work and taking breaks. Instead of examining a broad emotion-focused category of coping per se, we evaluated 11 discrete emotion-focused coping behaviors:

1. *Seek social support (emotional).* Seeking social support for emotional reasons refers to seeking out comfort or emotional support from others.
2. *Avoidance.* Avoidance is defined as efforts to distract from or avoid the stressor. This includes both behavioral and mental efforts to keep one's mind off the stressor. Individuals may keep busy with alternate activities such as work, television, or leisure activities in an attempt to think of more pleasant things. The goal is to try not to think about the stressor, to avoid reminders of the stressor, and to avoid the stressor itself.
3. *Denial.* Denial includes denying the stressor exists, distancing oneself cognitively from the stressor, and minimizing the importance of the stressor. Denial is distinct from avoidance in that the former entails the failure to acknowledge a problem exists, whereas the latter entails avoiding a known problem.
4. *Positive reappraisal.* Positive reappraisal involves trying to find the good in the situation, for example by trying to grow, learn, or derive some benefit from the stressor. The terms *cognitive restructuring* or *cognitive reframing* are classified as positive reappraisal—unless they involve denying the stressor exists, in which case they are classified as denial (e.g., Bird & Harris, 1990).
5. *Isolation.* Isolation is the removal of oneself from social activities. It includes not talking about the stressor and possibly avoiding other people in general.
6. *Venting.* Venting is the outward, sometimes public, release of emotions. Acting out, recklessness, and crying are included here. Acting out can include behaviors such as getting angry, yelling at others, swearing, making sarcastic comments, breaking things, or using drugs (Feldman et al., 1995; Franzini & Johnson, 1991).
7. *Rumination.* Rumination is focusing on one's problems and their implications. Individuals who ruminate dwell on their problems. It may be viewed in opposition to avoidance or other attempts to turn attention away from one's problems. Although people may believe that thinking about a problem will lead to better problem solving, there is evidence that rumination interferes with problem solving (Nolen-Hoeksema, 1991).
8. *Wishful thinking.* Wishful thinking refers to wishing that the stressor were not there or imagining that the stressor will disappear on its own. Although much mental effort may be expended in thinking about these wishes, nothing is ultimately gained. Escape coping is included in this class of coping when it refers to escapist strategies such as fantasizing, wishing, or hoping for miracles (e.g., Abbey, Andrews, & Halman, 1991).
9. *Self-blame.* When the individual focuses on his or her own responsibility for the stressor, the coping

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strategy used is self-blame. It is a self-critical, self-denigrating way of thinking. Like rumination, self-blame lacks the solution-oriented aspect that self-analysis might otherwise imply.

10. *Positive self-talk.* Positive self-talk describes making self-statements that encourage oneself to feel better (e.g., reminding oneself of the good things in life) or that reassure oneself that he or she is capable of handling the stressor.

11. *Exercise.* Exercise can be used to provide a physical outlet for distress or as a way to distract oneself from the stressor. The underlying motivation is not clear. In either case, it is an emotion-focused activity.

Other coping behaviors. Two coping behaviors were not readily classifiable as either problem-focused or emotion-focused coping:

1. *Seek social support (nonspecific).* Several studies combined items into one general support-seeking category that may have included seeking instrumental support, emotional support, or both. Underlying each of these coping behaviors is the effort to seek help, comfort, or assistance from others. This nonspecific support-seeking category combines both problem-focused and emotion-focused support-seeking behaviors.

2. *Religion.* Praying, involvement in religious activities, speaking to religious authorities, and expressions of spirituality are classified as religious coping. This is not a clearly emotion-focused or problem-focused form of coping. Individuals may view this method of coping as solution seeking (i.e., praying for guidance, praying for a solution) or as a way to manage distress (i.e., comfort from religion). Religion can be a source of instrumental as well as emotional support.

Overview of the Meta-Analysis

Meta-analytic procedures are statistical methods for combining and comparing findings from multiple studies. The procedure effectively treats each study as a respondent. We used meta-analysis to compare men's and women's use of the previously described coping behaviors. When data were available, we also used meta-analysis to examine whether stressor type and stressor appraisal moderated sex differences in coping.

The product–moment correlation coefficient (r) was used as the effect size estimate. Effect sizes for individual studies were calculated either from means and standard deviations, if provided, or from t tests or F statistics. Fourteen studies reported that there were no sex differences on some of the coping behaviors but did not provide the means or statistical tests. In these cases the effect sizes were assumed to be zero. Four studies reported significant sex differences in coping but did not provide means or statistical tests. In these cases, a significance level of $p = .05$ was assumed, and an effect size was calculated accordingly. This is a conservative approach to detecting differences as the significance levels were likely to be somewhat less than $p = .05$.

Because meta-analysis assumes independence of effect sizes, each study could only contribute one effect size to a given analysis. In cases in which a study provided data on two or more measures of the same coping strategy, a combined effect size was computed by transforming each r into a Fisher's z coefficient, averaging the Fisher zs and converting the resulting z back into an r (Rosenthal, 1991).

The meta-analysis results are the weighted mean effect sizes based on the random effects model (Hedges & Olkin, 1985; Schwarzer, 1989). Each effect size is weighted by the number of participants in each study. This analysis is useful because the correlations become more stable as the sample size increases. We also examined whether the effect was homogeneous across studies. We used the chi-square statistic as a measure of sample homogeneity. If the studies have similar effect sizes (homogeneous), the mean effect size is considered to be robust. If the effect sizes are highly variable (heterogeneous), the mean effect size is less informative. In these cases, it is likely that other variables moderate the effect size. We also examined the more conservative residual standard deviation measure of homogeneity. Cases in which the conclusions of the two tests of homogeneity differ are noted.

Results

Overview. First we use meta-analysis to determine if there are sex differences in coping. Second, we examine if sex differences in coping are moderated by the type of stressor. Third, we explore whether stressor appraisal is associated with sex differences in coping. Finally, we review the few studies that test whether coping behaviors are differentially related to outcomes for men and women.

Sex differences in coping. Table 2 shows the results of the meta-analyses for each of the 17 coping behaviors. In general, women report greater use of the majority of coping behaviors compared to men. All of the effect sizes except for one have a negative sign, indicating that women use the strategy more than men. In 11 of those cases, the effect was statistically significant. In no case did men engage in a coping strategy more than women.

Of the problem-focused coping strategies, women were significantly more likely than men to use active coping, to seek social support for instrumental reasons, and to engage in general problem-focused coping. There also was a trend for women to engage in more planning than men. Of the emotion-focused coping strategies, women were significantly more likely than

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Table 2. *Meta-Analysis of Sex Differences in Coping Behaviors*

Coping Behaviors	No. of Studies	Total *N*	Mean Effect Size *r*	*SD*	*p*	95% CI	Chi-Square	Interpretation
Problem Focused								
Active	22	6,036	–.13	.11	.000	–.16 to –.11	Heterogeneous	Women more
Planning	7	1,264	–.04	.07	.087	–.09 to .02	Homogeneous[a]	Marginal women
Seek SS-I	12	1,958	–.07	.10	.002	–.11 to –.02	Heterogeneous	Women more
General Problem Focus	11	2,378	–.12	.13	.000	–.16 to –.08	Heterogeneous	Women more
Emotion Focused								
Seek SS-E	12	2,171	–.20	.06	.000	–.24 to –.16	Homogeneous	Women more
Avoidance	26	5,383	–.03	.11	.005	–.06 to –.01	Heterogeneous	Women more
Denial	6	635	.00	.06	.477	–.08 to .08	Homogeneous[a]	No sex difference
Positive Reappraisal	19	3,315	–.03	.11	.026	–.07 to .00	Heterogeneous	Women more
Isolation	8	985	–.03	.15	.159	–.09 to .03	Heterogeneous	No sex difference
Venting	9	1,664	–.03	.14	.103	–.08 to .02	Heterogeneous	Marginal women
Rumination	10	2,014	–.19	.15	.000	–.23 to –.15	Heterogeneous	Women more
Wishful Thinking	11	1,512	–.13	.20	.000	–.18 to –.08	Heterogeneous	Women more
Self-Blame	9	1,517	–.01	.11	.335	–.06 to .04	Heterogeneous	No sex difference
Positive Self-Talk	6	1,035	–.17	.15	.000	–.23 to –.11	Heterogeneous	Women more
Exercise	6	1,403	–.04	.10	.059	–.09 to .01	Heterogeneous	Marginal women
Other								
Seek SS-non	24	4,417	–.10	.15	.000	–.13 to –.07	Heterogeneous	Women more
Religion	9	1,675	–.07	.14	.004	–.11 to –.02	Heterogeneous	Women more

Note: CI = confidence interval; SS-I = instrumental social support; SS-E = emotional social support; SS-non = nonspecific support.
[a]Alternate test of homogeneity (residual standard deviation) is heterogeneous.

men to seek social support for emotional reasons, to use avoidance, to engage in positive reappraisal, to ruminate, to engage in wishful thinking, and to employ positive self-talk. Women also were significantly more likely than men to engage in the two coping strategies that were ambiguous with respect to the problem-focused or emotion-focused distinction: to seek nonspecific social support and to use religion. There were no sex differences in denial, isolation, venting, or self-blame.

Although there were significant sex differences for 11 of the 17 coping strategies (all in the direction of women), the effect sizes were quite small. Only three effect sizes exceeded –.15: seeking social support for emotional reasons, rumination, and positive self-talk. Notice that these 3 coping strategies all involve contemplation, expression of emotion, or both—either independently or with others. The one sex difference that should be taken most seriously is seeking social support for emotional reasons because these data are homogenous across studies (see Table 2).

The effect sizes for the majority of the coping behaviors were heterogeneous, suggesting that the effect sizes vary across the individual studies. It may be that the effect of a single study is inconsistent with the other studies and is an outlier. Alternatively, there may be other variables that discriminate different effect sizes, such as the nature of the stressor.

Each of the heterogeneous effects was examined for outlier studies. Although outliers could occasionally be identified, we could not detect any unusual characteristics of outlier studies that distinguished them from the other studies. In addition, removal of outlier studies did not alter any conclusions. There was one exception. The effect size for religious coping increased from –.07 to –.16 ($p < .001$) when an outlier study was removed, and the effect became homogeneous. The authors (Rokach & Brock, 1998) of the outlier study that showed no sex difference in religious coping employed their own scale.

Stressor type. We examined whether the effect sizes for each of the coping strategies were influenced by the nature of the stressor. Interrater reliability for two persons' classification of the stressor into one of the four categories was .90. Discrepancies were resolved by discussions with a third independent rater. The results are presented in Table 3. We examined the effect size for each of the four different kinds of stressors: personal health, relationship, achievement, and others' health. (Refer to Table 2 for the overall effect size for each coping behavior.) Three of the four stressors were examined for all of the coping behaviors. Relationship stressors were not represented in studies of denial, wishful thinking, positive self-talk, or exercise. When only one study examined a stressor, we indicated the effect size for that study but placed it in parentheses to reduce its impact from the overall conclusions.

A number of the coping strategies showed variability in effect sizes across the different stressors. For three emotion-focused coping strategies—venting, wishful thinking, and religion—the sex difference in favor of women was only significant for stressors that reflected problems with personal health and others'

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Table 3. *Meta-Analysis of Sex Differences in Coping Behaviors by Stressor Types*

Coping Behavior	Stressor	No. of Studies	Total *N*	Mean Effect Size *r*	*SD*	*p*	95% CI	Chi-square	Interpretation
Active[a]									
	Personal health	5	778	–.15	.08	.000	–.21 to –.07	Homogeneous[b]	Women more
	Relationship	3	2,829	–.18	.04	.000	–.21 to –.14	Heterogeneous	Women more
	Achievement	11	2,233	–.06	.12	.002	–.10 to –.02	Heterogeneous	Women more
	Others' health	4	361	–.11	.18	.015	–.22 to –.01	Heterogeneous	Women more
Planning[a]									
	Personal health	2	474	–.09	.07	.023	–.18 to .00	Homogeneous[b]	Women more
	Relationship	1	165	(.00)					No sex differences
	Achievement	3	444	.02	.02	.309	–.07 to .12	Homogeneous	No sex differences
	Others' health	2	346	–.04	.04	.206	–.15 to .06	Homogeneous[b]	No sex differences
Seek SS-I									
	Personal health	1	100	(–.16)					Women more
	Relationship	1	164	(–.09)					No sex difference
	Achievement	7	1,411	–.04	.11	.055	–.09 to .01	Heterogeneous	Marginal women
	Others' health	3	283	–.13	.09	.014	–.24 to –.01	Homogeneous[b]	Women more
General Problem Focus[a]									
	Personal health	3	531	–.17	.19	.000	–.25 to –.09	Heterogeneous	Women more
	Relationship	2	1,114	–.17	.01	.000	–.23 to –.12	Homogeneous[b]	Women more
	Achievement	5	1,061	–.06	.10	.019	–.12 to .00	Heterogeneous	Women more
	Others' health	2	153	(.00)					No sex differences
Seek SS-E									
	Personal health	3	684	–.17	.04	.000	–.24 to –.10	Homogeneous[b]	Women more
	Relationship	1	240	(–.30)					Women more
	Achievement	6	1,203	–.16	.05	.000	–.21 to –.10	Homogeneous[b]	Women more
	Others' health	2	118	–.32	.02	.000	–.48 to –.15	Homogeneous[b]	Women more
Avoidance[a]									
	Personal health	9	1,527	–.04	.09	.044	–.09 to .01	Homogeneous[b]	Women more
	Relationship	6	2,107	.03	.10	.099	–.01 to .07	Heterogeneous	Marginal men
	Achievement	11	2,320	–.04	.10	.033	–.08 to –.00	Heterogeneous	Women more
	Others' health	3	312	–.19	.13	.000	–.30 to –.08	Homogeneous[b]	Women more
Denial									
	Personal health	2	157	–.04	.06	.318	–.20 to .12	Homogeneous[b]	No sex differences
	Achievement	3	415	.00	.06	.461	–.09 to .10	Homogeneous	No sex differences
	Others' health	1	63	(.04)					No sex differences
Positive Reappraisal									
	Personal health	9	1,264	–.05	.12	.046	–.10 to .01	Heterogeneous	Women more
	Relationship	3	1,126	.02	.13	.262	–.04 to .08	Heterogeneous	No sex differences
	Achievement	5	694	–.04	.04	.143	–.12 to .03	Homogeneous[b]	No sex differences
	Others' health	2	231	–.07	.04	.158	–.19 to .06	Homogeneous[b]	No sex differences
Isolation[a]									
	Personal health	3	417	–.02	.05	.316	–.12 to .07	Homogeneous[b]	No sex differences
	Relationship	2	405	–.17	.14	.000	–.26 to –.07	Heterogeneous	Women more
	Achievement	1	115	(–.04)					No sex differences
	Others' health	3	287	.11	.22	.035	–.01 to .22	Heterogeneous	Men more
Venting[a]									
	Personal health	2	456	–.14	.07	.002	–.23 to –.04	Homogeneous[b]	Women more
	Relationship	1	481	(.14)					Men more
	Achievement	4	925	.06	.08	.042	–.01 to .12	Homogeneous[b]	Men more
	Others' health	3	283	–.16	.12	.003	–.28 to –.05	Homogeneous[b]	Women more
Rumination[a]									
	Personal health	5	800	–.22	.22	.000	–.29 to –.16	Heterogeneous	Women more
	Relationship	2	655	–.19	.02	.000	–.26 to –.11	Homogeneous[b]	Women more
	Achievement	2	655	–.07	.08	.040	–.14 to .01	Heterogeneous	Women more
	Others' health	3	486	–.17	.08	.000	–.26 to –.08	Homogeneous[b]	Women more
Wishful Thinking									
	Personal health	4	606	–.22	.25	.000	–.30 to –.15	Heterogeneous	Women more
	Achievement	4	591	.01	.05	.397	–.07 to .09	Homogeneous[b]	No sex differences
	Others' health	3	315	–.18	.09	.000	–.29 to –.07	Homogeneous[b]	Women more

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Table 3. *(Continued)*

Coping Behavior	Stressor	No. of Studies	Total *N*	Mean Effect Size *r*	*SD*	*p*	95% CI	Chi-square	Interpretation
Self-Blame									
	Personal health	3	421	.05	.10	.173	–.05 to .14	Homogeneous	No sex differences
	Relationship	1	250	(.00)					No sex differences
	Achievement	4	785	–.05	.13	.100	–.12 to .02	Heterogeneous	Marginal women
	Others' health	1	61		.00				No sex differences
Positive Self-Talk									
	Personal health	2	389	–.14	.07	.004	–.23 to –.04	Homogeneous[b]	Women more
	Achievement	3	476	–.16	.20	.000	–.24 to –.07	Heterogeneous	Women more
	Others' health	1	170	(–.29)					Women more
Exercise									
	Personal health	1	100	(.00)					No sex differences
	Achievement	3	1,083	–.04	.11	.094	–.10 to .02	Heterogeneous	Marginal women
	Others' health	2	220	–.07	.08	.153	–.20 to .06	Homogeneous[b]	No sex differences
Seek SS-non[a]									
	Personal health	5	603	–.14	.02	.000	–.22 to –.06	Homogeneous[b]	Women more
	Relationship	4	1,607	–.10	.15	.000	–.15 to –.05	Heterogeneous	Women more
	Achievement	12	2,297	–.08	.16	.000	–.12 to –.04	Heterogeneous	Women more
	Others' health	4	391	–.26	.11	.000	–.35 to –.16	Homogeneous[b]	Women more
Religion									
	Personal health	3	398	–.25	.05	.000	–.34 to –.15	Homogeneous[b]	Women more
	Relationship	3	1,037	.03	.08	.180	–.03 to .09	Heterogeneous	No sex differences
	Achievement	1	94	(.00)					No sex differences
	Others' health	2	220	–.19	.03	.002	–.32 to –.06	Homogeneous[b]	Women more

Note: CI = confidence interval; SS-I = instrumental social support; SS-E = emotional social support; SS-non = nonspecific support.
[a]These coping styles were included in studies that assessed more than one stressor. Thus, sum of total *N*s for individual stressors is not equal to the total *N* for all stressors. [b]Alternate test of homogeneity (residual standard deviation) is heterogeneous.

health. Most of these sex differences were homogeneous. In the case of venting, men were more likely than women to use this strategy to cope with achievement and relationship stressors. Avoidance partly fit this pattern of findings. The largest sex difference (women more than men) in avoidance occurred for others' health stressors; there was a trend for men to use avoidance more than women to cope with relationship stressors. For two coping strategies, planning and positive reappraisal, the sex difference was only significant for personal health stressors, but these effects were very small.

One coping strategy revealed no sex differences averaging across all of the studies but showed sex differences for particular stressors. Women were more likely than men to use isolation for relationship stressors, whereas men were more likely than women to use isolation to cope with others' health stressors.

The one significant effect that was homogenous in the overall meta-analysis remained consistent when the nature of the stressor was examined. Women were more likely than men to seek social support for emotional reasons for each of the four stressors. Women also were more likely than men to seek instrumental support for three of the four stressors and to seek nonspecific support for all four stressors. (Note the effect sizes for nonspecific support were larger and homogeneous for personal health and others' health stressors.) Other effects that were not homogenous in the overall meta-analysis still appear to hold across the different stressors. Women were more likely than men to engage in active coping, to ruminate, and to engage in positive self-talk for each of the four stressors. These are the coping strategies that revealed the largest effect sizes in the overall meta-analysis. Women also were more likely than men to use general problem-focused coping for three of the four stressors (all but others' health). The nonsignificant effects for denial, self-blame, and exercise also held across the four different stressors.

One claim of previous researchers is that men use more problem-focused coping and more avoidance than women. There is no evidence that men use more problem-focused coping than women for any of the stressors. However, there is some evidence that men use more avoidant or withdrawal strategies for relationship and others' health stressors. Both of these stressors involve other people and may be perceived as less personally controllable than personal health and achievement stressors. Perhaps men are more likely to use avoidant and withdrawal behavior when they perceive the stressor as uncontrollable. These ideas are highly speculative.

Another way to examine the influence of stressor type on sex differences in coping is to examine the pattern of sex differences across the coping strategies for each of the four stressors separately. For personal

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health stressors, women were more likely than men to engage in 13 of the 17 coping strategies, and the majority of these effects were homogeneous across studies. Seven of the effects were –.15 or greater. There is no strategy that men used more than women in the case of personal health stressors. One wonders if women engage in more coping strategies than men because women are more distressed about personal health problems than men. We know that women, on average, are less healthy than men as indicated by women's reports of poorer general health, more illness, more physician visits, and greater use of medication compared to men (Macintyre, Hunt, & Sweeting, 1996; Verbrugge, 1989).

We found the fewest sex differences in coping for relationship stressors. For only 6 of the 13 strategies examined did women engage in the behavior more than men (active coping, general problem-focused coping, seek emotional support, isolation, rumination, and seek nonspecific support). For relationship stressors, men were more likely than women to use avoidance and venting. For achievement stressors, 9 of 17 effects were significant in the direction of women, but nearly all of these effects were quite small. Only two effect sizes exceeded –.15: seek emotional support and positive self-talk. For others' health, 9 of 17 effect sizes were significant in the direction of women. Nearly all of these (7) were more substantive, greater than –.15. Thus, there are two stressors, personal and others' health, that clearly indicate more coping on the part of women compared to men.

Stressor appraisal. When comparing men's and women's coping behavior, it is also important to determine whether men and women perceive the same stressor as equally severe. If men and women appraise a stressor differently, sex differences in coping may be due to appraisal rather than to preferred coping strategies. Research has shown that women use a wider variety of coping strategies or expend more coping efforts than men (Thoits, 1991, 1994). The implication is that women perceive greater threat than men and consequently expend more effort by using more coping strategies. Our review has shown that women are more likely than men to engage in most coping strategies. It is important to determine whether women are engaging in more coping than men because they view the stressors as more severe.

The best way to determine if stressor appraisal accounts for sex differences in coping is to see if sex differences disappear when stressor appraisal is controlled in a statistical analysis. In other words, does stressor severity mediate the relation between sex and coping? Only two of the reviewed studies have employed this analytic strategy. Ptacek, Smith, and Dodge (1994) examined college students' ways of coping with an achievement-oriented stressor—delivering a lecture. In that study, there were no sex differences in stressor appraisal, and stressor appraisal did not account for women seeking social support more than men or men using problem-focused coping more than women. However, in a study of caregivers of spouses with Alzheimer's disease (Rose, Strauss, Neundorfer, Symth, & Stuckey, 1997), women appraised the stressor as more severe than men, and women were more likely than men to engage in wishful thinking. The sex difference in wishful thinking became nonsignificant when distress was statistically controlled in a series of regression analyses. Rose et al. tested and showed that stressor appraisal accounted for women's greater use of a coping strategy compared to men.

A more indirect way to address whether stressor appraisal could account for sex differences in coping is to examine stressor appraisal as a moderator variable in the meta-analysis. If women engage in more of a coping strategy than men only among studies in which women appraise the stressor as more severe than men, one would certainly be concerned that appraisal rather than sex was driving coping. Testing moderation is not the same as testing mediation, but we can at least use moderation in meta-analysis to see if the results are consistent with a mediational model. Just over half (26) of the 50 studies in the meta-analysis assessed stressor appraisal. None of the studies reported that men appraised the stressor as more severe than women. Of the 26 studies, 17 revealed that women reported the stressor as more severe, and 9 showed no sex differences in stressor appraisal. These findings, in and of themselves, cause us to be concerned that stressor appraisal is driving sex differences in coping. Table 4 displays the number of studies finding a sex difference in stressor appraisal for each coping behavior. We used meta-analysis to determine if the effect size of studies in which women appraised the stressor as more severe differed from the effect size of studies in which there was no sex difference in stressor appraisal. To do this, we examined the seven coping behaviors in which at least 2 studies showed women were more distressed than men, and at least 2 studies showed no sex difference in distress.

The results of the meta-analysis with stressor appraisal as a moderator variable are shown in Table 5. A number of findings suggest that stressor appraisal may be responsible for the finding that women engage in most of the coping strategies more than men. For four of the seven coping strategies (active coping, avoidance, positive reappraisal, and self-blame), women used the coping behavior more than men only in studies in which women appraised the stressor as more severe; in studies in which there was no sex difference in stressor appraisal, the effect size was not significant.

The other three coping strategies did not fit this pattern of findings. The sex difference in rumina-

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Table 4. *Number of Studies Evaluating Stressor Appraisal and Coping Behavior*

	Stressor Appraisal		
Coping Behavior	**Women More Stressed**	**Men More Stressed**	**No Sex Difference**
Active	7	0	2
Planning	2	0	1
Seek SS-I	3	0	0
General Problem Focus	1	0	4
Seek SS-E	5	0	0
Avoidance	8	0	5
Denial	1	0	1
Positive Reappraisal	7	0	3
Isolation	2	0	2
Venting	2	0	0
Rumination	3	0	2
Wishful Thinking	5	0	1
Self-Blame	3	0	2
Positive Self-Talk	3	0	0
Exercise	2	0	0
Seek SS-Non	6	0	5
Religion	2	0	1

Note: SS-I = instrumental social support; SS-E = emotional social support; SS-non = nonspecific support.

tion held across studies in which women appraised the stressor as more severe and studies in which there was no sex difference in stressor appraisal; in fact, the effect size was larger in the latter case. For seeking nonspecific support, men were more likely to use the strategy than women when women appraised the stressor as more severe, and women were more likely than men to use the strategy when there was no sex difference in stressor appraisal. Thus, it is unlikely that stressor appraisal is driving the sex difference in rumination or nonspecific support seeking. For isolation, men were more likely than women to use the strategy when women appraised the stressor as more severe, and there was no sex difference in the use of isolation when men and women appraised the stressor as equally severe. We were unable to test stressor severity as a moderator of sex differences in seeking support for emotional or instrumental reasons because all of the studies that assessed these coping strategies as well as stressor appraisal found that women were more distressed than men.

We also explored whether sex differences in stressor appraisal were more likely to occur for certain stressor domains. Sex differences in stressor appraisal were more likely to occur for personal health and achievement stressors. For personal health stressors, 7 of the 10 studies showed that women appraised the stressor as more severe. This adds further support to the idea that one reason women engaged in more coping strategies compared to men for personal health stressors is that women were more distressed than men. For achievement stressors, six of the eight studies showed that women appraised the stressor as more severe. However, this is the stressor domain that showed extremely small effect sizes for sex differences in cop-

Table 5. *Meta-Analysis of Sex Differences in Coping Behaviors by Stressor Appraisal*

Coping	**Stressor**	**No. of Studies**	**Total *N***	**Mean Effect Size *r***	***SD***	***p***	**95% CI**	**Chi-square**	**Interpretation**
Active									
	Women more	7	3,537	–.17	.04	.000	–.20 to –.14	Homogeneous[a]	Women more
	No sex difference	2	247	–.08	.11	.112	–.20 to .05	Homogeneous[a]	No sex difference
Avoidance									
	Women more	8	1,656	–.09	.08	.000	–.13 to –.04	Homogeneous[a]	Women more
	No sex difference	5	661	–.02	.15	.291	–.10 to .06	Heterogeneous	No sex difference
Positive Reappraisal									
	Women more	7	1,065	–.08	.10	.006	–.14 to –.02	Homogeneous[a]	Women more
	No sex difference	3	257	–.07	.10	.128	–.19 to .05	Homogeneous[a]	No sex difference
Isolation									
	Women more	2	251	.15	.18	.010	.02 to .27	Heterogeneous	Men more
	No sex difference	2	226	(.00)					No sex difference
Rumination									
	Women more	3	642	–.08	.05	.026	–.15 to .00	Homogeneous[a]	Women more
	No sex difference	2	373	–.15	.02	.001	–.25 to –.05	Homogeneous[a]	Women more
Self-Blame									
	Women more	3	511	–.15	.02	.000	–.23 to –.06	Homogeneous[a]	Women more
	No sex difference	2	175	(.00)					No sex difference
Seek SS-non									
	Women more	6	932	.05	.14	.052	–.01 to .12	Heterogeneous	Men more
	No sex difference	5	428	–.16	.15	.000	–.25 to –.06	Heterogeneous	Women more

Note: CI = confidence interval; SS-non = nonspecific support.
[a]Alternate test of homogeneity (residual standard deviation) is heterogeneous.

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ing. Of the four studies that assessed stressor appraisal for relationship stressors, two showed women appraised the stressor as more severe and two showed no sex difference. For others' health stressors, two showed women appraised the stressor as more severe and three showed no sex difference.

Sex differences in the relation of coping to outcomes. As noted earlier, there are two ways in which coping might differ for men and women. The first is that men or women might choose certain coping strategies over others. This was the subject of our meta-analysis. The second is that certain coping strategies might be more or less adaptive for men or women. Ten of the studies we reviewed examined whether there were sex differences in the relation of coping behaviors to outcomes. Seven of these found a sex difference in the relation of at least one coping strategy to an outcome.

In a study of college students dealing with school stress (Hovanitz & Kozora, 1989), men were buffered from elevated dysfunction by problem-directed coping, whereas women were buffered by seeking social support. In a longitudinal study of adolescents coping with family stress (Feldman et al., 1995), men who sought more social support had poorer adaptation 6 years later, whereas women who sought more social support had better adaptation. In Abraham and Hansson's (1996) study of coping in the workplace, problem-directed coping was related to increased job satisfaction and decreased stress for men but not for women. These three studies suggest that problem-focused coping is more adaptive for men than women and seeking social support is more adaptive for women than men.

However, other studies do not support this conclusion. A study of farm families in career transitions (Heppner, Cook, Strozier, & Heppner, 1991) indicated that problem-directed coping was related to increased progress and increased perception of control for women but not for men. In a study of men and women coping with organizational downsizing (Armstrong-Stassen, 1998), active coping was associated with a lower perceived threat of job loss among women but not men. One study (Holmbeck et al., 1997) found that positive reinterpretation and growth was related to better outcomes for men, and another study (Anderson & Leslie, 1991) found that positive reinterpretation and growth was related to better outcomes for a subset of men who were in traditional, single wage-earning families. Thus, there is some evidence that problem-focused coping can benefit women and that at least one type of emotion-focused coping, in this case positive reinterpretation, can benefit men. Clearly more research is needed in this area.

The results of these seven studies should be interpreted with caution because none of the investigators actually tested whether the relation of a coping strategy to an outcome significantly differed between men and women. It also is possible that coping was differentially related to outcomes for men and women because there were sex differences in stressor appraisal. This possibility was not examined in any of these studies.

Discussion

We set out to review sex differences in coping with specific stressors in studies published between 1990 and 2000. First, we summarize the results from the overall meta-analysis. Women were found to use more coping strategies than men across a variety of behaviors, including both problem-focused and emotion-focused domains. The conventional wisdom in this area suggests that men engage in more problem-focused and avoidant coping than women. We found no evidence that men engage in more problem-focused coping for any of the stressors. There were some hints that men may engage in more avoidant or withdrawal behavior for some stressors—the stressors having to do with other people (relationships and others' health). These are the two stressor domains that may be perceived as less controllable.

Most of the sex differences in coping were small. The largest effects had to do with behaviors that involved the contemplation or expression of feelings to others (seeking emotional support) and the self (rumination, positive self-talk). There was a single robust effect (i.e., consistent across studies): seeking emotional support. Thus, we are most confident that women are more likely than men to seek emotional support across a range of stressors.

One problem typical of meta-analysis is the "file-drawer" problem. Studies with significant sex differences may be more likely to be published than studies that do not obtain significant differences. However, many of the studies in this review examined sex differences in coping as a secondary rather than a primary analysis, which makes them somewhat less vulnerable to the file-drawer problem.

To evaluate whether sex differences in coping were more supportive of the dispositional or situational hypothesis, we examined whether the nature of the stressor influenced sex differences in coping. Our general conclusion is that there is some evidence for both theories. The dispositional hypothesis is supported for the sex differences in coping behaviors that were robust across stressor type: seeking emotional support, rumination, and positive self-talk. Women were more likely than men to seek emotional support, to ruminate, and to engage in positive self-talk regardless of the nature of the stressor. Gender socialization may explain these findings. Women may be socialized to seek out others for emotional support. Women are encouraged but men are discouraged from expressing feelings to others, especially feelings about problems. Such expressions are thought to foster connections among

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women but may be viewed by men as revealing weaknesses and exposing vulnerabilities. Rumination is a coping strategy that also appears to be encouraged in women. One study found that both male and female college students were more likely to give women than men ruminative advice in response to depression; that is, women were told to figure out why they were depressed (Ali & Toner, 1996). The sex difference in active coping also was consistent across stressor type, but this finding does not support gender socialization theory because it is men rather than women who are expected to engage in problem-focused coping.

The finding that women seek support from others more frequently than men also may be explained by theories that focus on innate differences between men and women. That is, factors associated with the biological category of sex rather than those associated with the social category of gender might influence one's preferred coping strategies. One such factor is the pituitary hormone, oxytocin. Women possess higher levels of oxytocin than men. Release of oxytocin during times of stress is associated with downregulation of the sympathetic nervous system and facilitation of the parasympathetic nervous system. This neuroendocrine activity is expressed by a pattern of tend-and-befriend rather than fight-or-flight (Taylor et al., 2000). According to this theory, women would be more likely than men to seek out the support of others in times of stress. This theory also could be applied to the minor trend for men to engage in avoidant and withdrawal coping behaviors for some stressor domains. Because the mitigating effects of oxytocin on sympathetic activity are not as pronounced for men as they are for women, the flight pattern of behavior might provide the basis for men to engage in a stressor-avoiding coping strategy.

The nature of the stressor clearly influenced some coping behaviors, partly supporting role constraint theory. Women were especially likely to engage in more coping strategies than men for personal health and others' health stressors. These are stressors to which women may be more exposed compared to men. To the extent that women are more likely than men to face personal health problems and more likely than men to be involved in the caretaking of others, it makes sense that women report greater distress than men in response to these stressors and engage in more coping behaviors compared to men.

We found the most mixed results for the domain of relationship stressors. Because women are socialized to focus more on relationships compared to men, one might have expected men and women to cope quite differently with relationship stressors. This is the only domain in which men were found to engage in two coping behaviors more than women. Men were more likely than women to use ventilation and avoidance, two emotion-focused strategies, whereas women were more likely than men to use active coping, use general problem-focused coping, seek social support for emotional and nonspecific reasons, use isolation, and use rumination. Thus, women are using the strategies to cope with relationship stressors that they use to cope with all domains (seek emotional and nonspecific support, rumination) but also using more problem-focused strategies. To the extent that relationships are more central to the lives of women than men, women may be more motivated than men to engage in problem-focused coping. These findings fit with the literature on the demand and withdrawal pattern among couples that shows that women are more likely to confront problems (demand) in their relationships and men are more likely to avoid (withdraw) them (Christensen & Heavey, 1993).

There is one case in which the nature of the stressor influenced coping, but the findings fit with the dispositional hypothesis rather than role constraint theory. Men were more likely than women to use avoidant and withdrawal strategies to cope with relationship and others' health stressors. These are stressors that involve other people and may be less amenable to personal control than personal health and achievement stressors. Men may be more likely to use avoidant strategies for uncontrollable stressors due to gender socialization (i.e., personal control is integral to the male gender role) or due to biological underpinnings (i.e., fight-or-flight response).

It is important to point out that our examination of the effect of stressor type on coping is limited in that our stressor categories may not reflect distinct demands. Although we had two independent raters agree that a stressor fell into one of the four categories, the categories are broad. For example, work-related stressors could be associated with the nature of the work itself or with interpersonal difficulties encountered while at work. It is also possible that a given category of stressor poses different problems for men and women. For example, women may conceive of personal health stressors as relationship stressors if personal health problems interfere with caretaking responsibilities. This could be an additional reason why women appraised this stressor as more severe than men.

It is notable that in all cases in the overall meta-analysis where there was a sex difference, women used the coping strategy more than men. It is also notable that the majority of studies that assessed stressor appraisal found that women appraised the stressor as more severe than men. If stress is driving coping and women are experiencing more stress than men, stress could be responsible for sex differences in coping. This would suggest that men's and women's coping patterns would be more similar if they were equally stressed, supporting role constraint theory. The situation (increased stress) would be driving coping rather than an inherent

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characteristic of men and women. Although we could not determine whether differences in stressor appraisal explained women favoring specific coping behaviors more than men in terms of mediational analyses, we did examine whether stressor appraisal moderated sex differences in coping. We found that for several of the coping strategies, women were more likely to use the strategy when they appraised the stressor as more severe. Thus, the concern that women are more likely to use most of the coping strategies compared to men due to women being more distressed by the stressor than men is a viable explanation for these sex differences in coping. Future research in this area ought to test whether stressor severity accounts for sex differences in coping using mediational analyses.

An alternative way to evaluate sex differences in coping that would circumvent the stressor appraisal issue is to examine relative coping. *Relative coping* involves comparing how much an individual uses one strategy compared to other strategies (Vitaliano, Maiuro, Russo, & Becker, 1987). Whereas raw coping scores do not take into consideration base rates of coping, relative coping scores do (Vitaliano et al., 1987). Using raw coping scores, we found that women engaged in many coping strategies more frequently than men. However, men and women may still differentially favor certain coping strategies, which would be reflected in relative coping scores.

Four studies in our review examined sex differences in relative coping. Grant and Compas's (1995) study of adolescents who had a parent diagnosed with cancer found that girls were relatively more likely than boys to use rumination, but there were no sex differences in use of distraction. The findings for rumination are consistent with our review and the large body of work by Nolen-Hoeksema (1987, 1990). The findings for distraction are in contrast to our finding that women engage in more avoidance than men, as well as previous research that has shown that men engage in more avoidance than women (Nolen-Hoeksema, 1987, 1990). Hurst and Hurst (1997) also used relative coping scores in their study of occupational stress among correctional officers. They found that women were relatively more likely than men to seek social support, and there was a trend for men to be relatively more likely than women to use "planful" problem solving. There were no sex differences in avoidance, denial, or positive reappraisal. A third study (Ptacek et al., 1994) reported both relative and raw coping scores. We used the raw coping scores in our analysis. The results using relative scores differed both from the results based on raw scores in Ptacek et al.'s (1994) study as well as this meta-analysis. Using raw scores, Ptacek et al. showed that women seek more social support than men and there was no sex difference in problem-focused coping. Relative scores showed men reporting more problem-focused coping than women and no sex difference in seeking social support. A fourth study (Stanton, Tennen, Affleck & Mendola, 1992) examined relative coping among infertile couples. Men were relatively more likely than women to use problem-focused coping and isolation, whereas women were relatively more likely than men to seek social support and to use avoidance. There were no sex differences in self-blame or positive reappraisal. Thus, sex comparisons in coping reveal quite different results depending on whether raw or relative scores are used.

Another issue to address with respect to sex differences in coping, particularly as these differences relate to appraisal issues, is neuroticism. The tendency for women to appraise stressors as more severe than men might not be due to sex per se but to differences in a personality trait that is associated with sex: neuroticism. A study (Lynn & Martin, 1997) of 37 countries found that women tend to score higher on neuroticism than men. Thus, it could be that women's higher levels of neuroticism are responsible for women's tendencies to appraise stressors as more severe and to engage in more coping behavior. In fact, neuroticism has been associated with high stress levels, even after controlling for the effects of gender (Fontana & Abouserie, 1993). Moreover, because neuroticism has been associated with more emotion-focused coping (De Fruyt, 1997; Saklofske & Kelly, 1995), it is plausible that this personality trait might differentially influence men's and women's coping behavior preferences as well as their stressor appraisals.

To further shed light on these issues, we compared absolute (raw scores) versus relative (ipsitized scores) coping in two samples. The first sample consisted of college students coping with a problem at school and coping with a relationship problem. The second sample consisted of adult men and women coping with a heart problem. In the second sample, we measured neuroticism and evaluated its relation to coping as well as whether it accounted for any sex differences in coping.

Study 2: Relative Coping

Method

Participants. Sample 1 consisted of 95 college students (37 men, 58 women) who completed a questionnaire during the first semester of their freshman year. The majority of these students ($n = 93$; 39 men, 54 women) completed a second questionnaire during the first semester of their sophomore year. (Two men in the first wave did not return the initial questionnaire and 4 women in the second wave did not return the second questionnaire.)

Sample 2 consisted of 262 cardiac patients (172 men, 90 women) who were interviewed in the hospital

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shortly after a successful angioplasty and then in their homes 6 months later.

Procedure. The college students completed the eight subscales from the COPE (Carver et al., 1989), shown in Table 6. They were asked to indicate how they were coping with a school-related difficulty in the first semester of their freshman year. They were asked how they were coping with a relationship difficulty in the first semester of their sophomore year. The men and women who underwent an angioplasty completed the Eysenck and Eysenck (1975) Neuroticism scale during the baseline in-hospital interview and nine subscales of the COPE (see Table 6) during the 6-month follow-up interview. Patients were instructed to report how they coped with their heart problem during the past 6 months.

Results

Absolute coping scores were represented by the mean level of coping for a particular scale. Relative coping scores were computed for each individual by subtracting the average coping summed across all scales from the mean level of each coping scale.

Sample 1. Absolute and relative scores are presented in Table 6. For the school-related difficulty, absolute raw scores revealed that women were more likely than men to engage in four strategies: seek instrumental support, $t(93) = 3.10$, $p < .01$; seek emotional support, $t(93) = 4.13$, $p < .001$; venting, $t(93) = 2.41$, $p < .05$; and self-blame, $t(93) = 2.06$, $p < .05$. There were no sex differences in active coping (a problem-focused strategy) or the three kinds of avoidant coping: distraction, denial, and disengagement. Thus, consistent with this review, there was no coping strategy that men engaged in more than women. In addition, when scores were averaged across all of the scales, women were found to engage in more coping overall than men, $t(93) = 2.22$, $p < .05$. When scores were ipsitized to examine relative coping, a different pattern of results emerged. Men were more likely than women to engage in active coping, $t(93) = 2.11$, $p < .05$; distraction, $t(93) = 2.66$, $p < .01$; and denial, $t(93) = 3.71$, $p < .001$. Women were more likely than men to seek instrumental support, $t(93) = 2.47$, $p < .05$, and emotional support, $t(93) = 3.86$, $p < .001$.

Similar findings emerged for the relationship difficulty stressor. Absolute coping scores revealed that women were more likely than men to seek instrumental support, $t(91) = 3.36$, $p < .001$, and emotional support,

Table 6. *Sex Differences in Raw Versus Relative Coping*

	Raw Scores			Relative Scores		
Scale	**Male**	**Female**	***p***	**Male**	**Female**	***p***
School Stressor						
Active	3.26	3.15	*ns*	1.02	.72	.04
Seek SS-I	2.41	2.91	.002	–.16	.49	.000
Seek SS-E	1.97	2.66	.000	–.27	.24	.000
Distraction	2.97	2.73	*ns*	.73	.31	.01
Denial	1.28	1.12	*ns*	–.96	–1.31	.000
Mental Disengagement	1.42	1.41	*ns*	–.82	–1.01	*ns*
Venting	2.27	2.69	.02	.03	.26	.08
Self-Blame	2.35	2.73	.04	.11	.31	*ns*
Relationship Stressor						
Active	3.10	3.31	*ns*	.88	.86	*ns*
Seek SS-I	2.51	3.09	.001	.29	.65	.01
Seek SS-E	2.29	3.25	.000	.08	.81	.000
Distraction	2.60	2.51	*ns*	.38	.07	.04
Denial	1.33	1.26	*ns*	–.88	–1.19	.01
Mental Disengagement	1.51	1.33	*ns*	–.71	–1.11	.001
Venting	2.17	2.51	.09	–.05	–.01	*ns*
Self-Blame	2.22	2.37	*ns*	.00	–.07	*ns*
Heart Problem						
Active	3.16	3.10	*ns*	.77	.52	.002
Seek SS-I	2.55	2.71	*ns*	.15	.12	*ns*
Seek SS-E	2.41	2.78	.000	.01	.20	.01
Denial	1.38	1.50	*ns*	–1.01	–1.08	*ns*
Mental Disengagement	1.80	2.02	.02	–.60	–.56	*ns*
Positive Reappraisal	2.60	2.66	*ns*	.20	.08	.07
Venting	1.65	1.87	.02	–.75	–.72	*ns*
Religion	2.57	3.01	.001	.18	.43	.02
Acceptance	3.47	3.61	.09	1.07	1.02	*ns*

Note: SS-I = instrumental social support; SS-E = emotional social support.

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$t(91) = 6.18$, $p < .001$. Men were not more likely than women to engage in any of the strategies. In addition, the average of all coping strategies revealed that women engaged in more coping than men, $t(91) = 3.04$, $p < .01$. Relative coping scores showed that men were more likely than women to engage in the three forms of avoidant coping: distraction, $t(91) = 2.13$, $p < .05$; denial, $t(91) = 2.81$, $p < .01$; and mental disengagement, $t(91) = 3.67$, $p < .001$. Women were still more likely than men to seek instrumental support, $t(91) = 3.67$, $p < .001$, and emotional support, $t(91) = 5.86$, $p < .001$.

Sample 2. Absolute coping scores revealed that women were more likely than men to engage in four of the nine coping strategies: seek emotional support, $t(260) = 3.55$, $p < .001$; mental disengagement, $t(260 = 2.43$, $p < .05$; venting, $t(260) = 2.40$, $p < .05$; and religion, $t(260) = 3.23$, $p < .001$. There were no sex differences for active coping, seek instrumental support, denial, positive reappraisal, or acceptance. Again, there was no coping strategy on which men scored higher than women. In addition, when the average of all coping strategies was computed, women engaged in more coping than men, $t\,(260) = 3.24$, $p < .001$. Relative coping scores revealed a different pattern of findings. Men were relatively more likely than women to engage in active coping, $t\,(260) = 3.12$, $p < .01$; women were relatively more likely than men to seek emotional support, $t\,(260) = 2.56$, $p < .05$, and to use religion, $t(260) = 2.26$, $p < .05$.

As expected, there was a sex difference in neuroticism such that women scored higher ($M = 1.43$) than men ($M = 1.30$), $t(260) = 4.28$, $p < .001$. Neuroticism was significantly associated with six of the nine raw coping scales (seek emotional support, $r = .20$, $p < .001$; denial, $r = .25$, $p < .001$; mental disengagement, $r = .31$, $p < .001$; positive reappraisal, $r = .15$, $p < .05$; venting, $r = .36$, $p < .001$; and religion, $r = .18$, $p < .01$). In each case, people who scored higher on neuroticism engaged in more of the coping behavior. Not surprisingly, neuroticism also was associated with more overall coping, $r = .27$, $p < .001$. Analyses of covariance (ANCOVA) revealed that the previously found sex differences in emotional support and religion remained significant when neuroticism was statistically controlled. The marginally significant sex difference in acceptance actually became significant when neuroticism was statistically controlled. Sex differences in mental disengagement and venting, however, became nonsignificant when neuroticism was statistically controlled. An ANCOVA on the overall coping index revealed that the sex difference in coping was reduced but remained significant, $F(1, 259) = 4.42$, $p < .05$, and the covariate—neuroticism—was highly significant, $F(1, 259) = 14.61$, $p < .001$.

Neuroticism also was related to several of the ipsitized coping scales but not all in the same direction. Neuroticism was associated with higher relative coping scores for mental disengagement ($r = .18$, $p < .01$) and venting ($r = .25$, $p < .001$), but lower relative coping scores for active coping ($r = -.21$, $p = .001$), seeking instrumental support ($r = -.12$, $p < .05$), and acceptance ($r = -.27$, $p < .001$). ANCOVA on the ipsitized scales revealed that all of the sex differences in coping shown in Table 6 remained significant when neuroticism was statistically controlled.

Discussion

These analyses of two different samples and three different stressors make several points. First, analyses of relative coping reveal a different pattern of sex differences than analyses of absolute coping. Second, women engage in more coping overall than men. Third, regardless of whether absolute or relative coping is examined, women clearly engage in more support seeking than men—especially emotional support. This finding is consistent with the results from our meta-analysis. Fourth, men appear to engage in relatively more problem-focused coping (i.e., active coping) and avoidant coping than women, but men do not engage in more problem-focused coping or avoidant coping in absolute terms compared to women. The disparity in the findings between absolute and relative coping may explain why it is so commonly believed that men engage in problem-focused and avoidant coping even though empirical evidence has been lacking.

This study also demonstrated that there is sufficient overlap between sex and neuroticism to account for some of the sex differences in coping—at least when absolute scores are used. In the study of cardiac patients, the tendency of women to engage in more mental disengagement and venting compared to men appears to be due to women's higher neuroticism scores. This is partially consistent with the findings from another study (De Fruyt, 1997) that examined links of sex and neuroticism to crying as a coping style. In that study, sex and neuroticism independently predicted crying. Neuroticism partly explains why women engage in more of all of the coping behaviors than men. Like sex, neuroticism also is associated with appraising stressors as more severe. In other words, it is not just women who appraise stressors as more severe and thus engage in more coping; the same can be said of people who score high on neuroticism.

However, we found that some sex differences in coping were independent of neuroticism. In particular, women's tendencies to seek emotional support and turn to religion were not explained by neuroticism. The use of relative coping scores again seems to circumvent the problem of overlap between sex and neuroticism. First, neuroticism was not consistently related to more relative coping. Second, sex

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differences in relative coping were not accounted for by neuroticism.

General Discussion

In summary, we found that women were more likely than men to use most of the coping strategies on an absolute basis. The sizeable effects revolved around verbal expressions to others (seek emotional support) and to the self (rumination, positive self-talk). We are particularly confident in our finding that women seek emotional social support more than men because the effect size was homogeneous across studies and not accounted for by neuroticism in our study of cardiac patients. The vast majority of effect sizes were heterogeneous, indicating that important variables may moderate these relations. The nature of the stressor was clearly a moderator. We encourage future research to take into consideration the nature of the stressor when examining sex differences in coping. There are other variables that may moderate sex differences in coping. Age is one. We could not examine age as a moderator in this article because (a) there were not enough studies of children and (b) age was confounded with the nature of the stressor (e.g., older people face caretaking stressors). Time since the onset of the stressor is another potential moderator variable. There may be a temporal sequence of coping that differs for men and women.

A major issue for researchers in the field to address is the impact of stressor appraisal on sex differences in coping. In the majority of studies, women appraised the stressor as more severe than men. In no study did men appraise the stressor as more severe. It also appeared that a number of the sex differences in coping (women more than men) were restricted to studies in which women appraised the stressor as more severe than men. Future research should include assessments of perceived stress to see whether they explain sex differences in coping. Investigators also ought to routinely measure neuroticism or negative affectivity as well as other personality traits (e.g., agreeableness) to see if they account for sex differences in coping. Another way to deal with differences in stressor appraisal and neuroticism is to examine relative coping scores. We found that analyses of relative coping revealed a different pattern of findings than analyses of raw coping scores. The findings for relative coping are more consistent with lay theories of men's and women's coping strategies. Studies of relative coping, including our own, are more likely to show men favor active and avoidant strategies.

Although our review was limited to studies that examined coping with a specific stressor, studies of men's and women's general coping styles are likely to be consistent with the conclusions we have drawn in this article. A specific example is the research on ruminative and distractive coping. According to Nolen-Hoeksema (1987), women are more likely than men to ruminate, and men are more likely than women to distract, regardless of the type of stressor. The pervasiveness of this idea is demonstrated by a study (Strauss, Muday, McNall, & Wong, 1997) in which college students were asked to rate how they thought the typical man and woman would cope with depression. Students of both sexes rated men as being more likely to distract and women as being more likely to ruminate. However, there is more evidence to support women's greater tendency to ruminate than there is for men's greater tendency to distract. For example, in the Strauss et al. (1997) study, the students were also asked to predict how they themselves would cope if they were to become depressed. Female students' self-ratings of rumination were significantly higher than male students' self-ratings, but there was no significant sex difference in self-ratings of distraction (Strauss et al., 1997). A daily diary study of coping (Nolen-Hoeksema, Morrow, & Fredrickson, 1993) also showed that women ruminate more than men, but there was no sex difference in distraction. Perhaps if relative coping were examined, the sex difference in distraction would appear.

An excellent example of the impact of relative versus absolute coping scores on the interpretation of results is demonstrated by a longitudinal study of college students' coping with daily stress (Ptacek, Smith, & Zanas, 1992). Again, in this study the nature of the stressor was unspecified. Absolute coping scores revealed a sex difference in favor of female students for the strategies of seeking social support, wishful thinking, and avoidance. Consistent with our meta-analytic review, there was no coping strategy that men engaged in more than women. When relative scores were analyzed, all of the sex differences disappeared, but a new sex difference appeared in the direction of male students using more problem-focused coping than female students. Thus, relative but not absolute scores support the theory that men engage in more problem-focused coping than women. This is consistent with the conclusions we have drawn from studies of how people cope with specific stressors.

It also must be pointed out that all of the coping studies we reviewed are based on self-reports rather than direct observation of behavior. Women may be more willing to report engaging in coping behavior than men. This issue is reminiscent of the literature on the experience versus expression of emotion. Recall that there is clear evidence that women express more emotion than men, but it is not at all clear that women experience more emotion than men.

There are other limitations to this review, largely due to methodological difficulties in examining sex differences in coping. We identified several of these methodological issues in the introduction. One problem that we hoped to bring to people's attention is the

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difficulty inherent in analyzing sex differences in broad classes of coping. Certainly, an examination of general problem-focused versus general emotion-focused coping would mask many of the specific findings from this review. Sex differences are not consistent across problem-focused coping strategies, especially when relative scores are examined. Sex differences vary widely across emotion-focused behaviors such as rumination, avoidance, and positive reappraisal. Although we attempted to narrow the definitions of coping behaviors, even the definitions we used may be too broad to examine sex differences for some categories of coping. For example, we found no overall sex difference in venting. Yet, venting was measured in some studies as aggressive behavior (acting out, anger), in other studies it was more passive behavior (crying, writing), and in some studies the specific behavior was unspecified. Yet, all of these different kinds of behavior constitute the venting of emotions. It is possible that men engage in more aggressive venting and women engage in more passive venting. We found that men engaged in more venting than women for relationship and achievement stressors, whereas women engaged in more venting for personal health and others' health stressors. The nature of the ventilation may explain these findings. Perhaps men are expressing more anger and women are expressing more tears. Men may even view the expression of anger as a problem-focused strategy if they believe that their expressions will result in the target of the anger changing his or her behavior. Definitional issues also may apply to other coping behaviors. It is possible that men and women prefer different kinds of problem-focused behaviors. In Leana and Feldman's (1991) study of adults dealing with job loss, men were more likely to engage in one problem-focused behavior—following up job leads and looking for jobs out of town—but men and women were equally likely to cope through another problem-focused behavior—seeking training. The latter problem-focused behavior might be interpreted as seeking instrumental social support. Greater care should be given toward the measurement of specific coping behaviors rather than conglomerations of associated behaviors. Definitions of coping behaviors should be more carefully delineated.

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