

13. Sex differences in anxiety and depression: Empirical evidence and methodological questions

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The notion that women are more emotional than men is entrenched in our cultural beliefs and consistently supported by research on sex-linked stereotypes (e.g., Birnbaum, Nosanchuk & Croll, 1980; Fabes & Martin, 1991; Fischer, 1993b). Men and women typically report differences in their general emotional experience, such as overall emotional intensity or expressivity (Grossman & Wood, 1993; Johnson & Shulman, 1988), as well as in the experience and expression of specific emotions (Birnbaum et al., 1980; Fabes & Martin, 1991; Shields, 1984). This stereotype is particularly evident in the literature on anxiety and depression, the emotions which are the topic of interest in this chapter. In general, women are believed to be more susceptible to and more expressive of anxious and depressed feelings than are men. The closely related emotions, fear and sadness, are often described as prototypical female emotional responses and seem to be central to the emotion based stereotype of men and women (Fabes & Martin, 1991; Shields, 1984).

Anxiety and depression can be defined as emotional states or as clinical syndromes. Although a number of studies have focused on sex differences in the clinical syndromes (e.g., Kessler, McGonagle, Zhao, Nelson, Hughes, Eshelman, Wittchen, & Kendler, 1994; Nolen-Hoeksema, 1987, 1990; Robins & Regier, 1991; Weissman & Klerman, 1977, 1985), this chapter focuses on sex differences in anxiety and depression as emotional experiences. Therefore, it is not our intent to provide a comprehensive review of the clinical literature on anxiety and depression, but we will refer to the clinical literature when it is relevant for understanding sex differences in anxiety and depression as emotional states.

As an emotional phenomenon, anxiety is defined in terms of three components (Ohman, 1993): (1) a subjective experience consisting of an "ineffable and unpleasant feeling of foreboding," (2) perceptions of bodily responses (e.g., sweating, palpitations, shortness of breath), and

(3) behaviors associated with escape and avoidance. Anxiety is also defined as unresolved fear (Epstein, 1972), and the emotions of anxiety and fear are often treated collectively in reviews of the literature (e.g., Ohman, 1993). Similarly, the emotional phenomenon of depression is defined as a state of prolonged and ongoing sadness (Oatley & Jenkins, 1996; Stearns, 1993). As evidenced by these definitions, anxiety and fear are considered strongly related to one another, as are depression and sadness. If anything, the distinct emotion labels (anxiety versus fear; depression versus sadness) reflect differences in intensity and/or duration rather than fundamental distinctions in the nature of the emotions themselves.¹ As a result, we review relevant literature regarding fear and sadness when addressing sex differences in anxiety and depression. Moreover, throughout the chapter, we treat anxiety and fear, and depression and sadness, as interchangeable emotions.

Despite the popular belief that women are the more emotional sex, reviewers and researchers disagree as to whether there is empirical support for sex differences in emotional expression and experience (e.g., Brody & Hall, 1993; Fischer, 1993b; LaFrance & Banaji, 1992; Shields, 1991). The purpose of this chapter is to critically review a representative sample of the existing literature in an attempt to address this issue. We will pay especially attention to some methodological issues in relation to the current research.

Sex differences in the expression of anxiety and depression

Fear and sadness are the emotions that women express more than do men (Brody & Hall, 1993; Fischer, 1993b). Evidence suggests that women are more verbally and non-verbally expressive of fear than are men; they report expressing their fearful feelings with more intensity (Allen & Haccoun, 1976), more frequent facial expressions of fear (Kring & Gordon, 1998), and more crying and freezing when afraid (Wallbott, Ricci-Bitti, & Banninger-Huber, 1986). In addition, women have displayed greater reluctance than men to be close to a feared object such as a spider or a snake (Cornelius & Averill, 1983; Speltz & Bernstein, 1976).

Evidence also suggests that women express sadness to a greater extent than do men. Women, in comparison with men, express sadness with more intensity or more frequency (Allen & Haccoun, 1976; Balwick & Avertt, 1977; Dosser, Balwick, & Halverson, 1983), and report crying with greater frequency and intensity (Lombardo, Cretser, Lombardo, & Mathis, 1983; Oliver & Toner, 1990). Finally, women have reported a greater frequency of certain types of non-verbal expressions (e.g., facial expressions, Kring & Gordon, 1998), changes in voice quality and crying (Wallbott et al., 1986). Taken together, the empirical evidence

supports the commonly held belief that women express anxious and depressed feelings more than do men.

Theories for understanding sex differences in emotional expression

A number of theories offer explanations for why women express more anxious and depressed feelings than do men. Although most of these explanations have not been tested empirically, they suggest several specific processes that will be important to examine in future investigations.

The role of stereotypes

Several theorists (Brody & Hall, 1993; Fischer, 1993b; LaFrance & Banaji, 1992; Shields, 1987, 1991) suggest that stereotypes contribute to sex differences in the expression of emotions such as fear and sadness. The essence of the prevailing stereotype is that women are more expressive than men of their fearful and sad feelings (e.g., Birnbaum & Croll, 1984; Fabes & Martin, 1991). This stereotype may give rise to two distinct effects. First, the stereotype may function as a cognitive structure (or schema) that leads perceivers to focus on stereotype-consistent information (Fiske & Taylor, 1991). Thus, perceivers may be more likely to notice women's expressions of fear and sadness, whereas similar expressions by men may go unnoticed. Any sex-linked disparity in people detecting fear and sadness expressions could lead to exaggerated estimates of stereotypic female expressivity and underestimates of non-stereotypic male expressivity. Furthermore, perceivers' expectations may lead women (or men) to respond in a manner consistent with the stereotype, thereby creating a self-fulfilling prophecy that provides further support for the stereotype. This cycle is particularly likely to occur for expressions of fear and sadness because these are the two emotions that are most representative of the female stereotype (Fabes & Martin, 1991; Shields, 1984).

Second, stereotypes provide the basis for socializing girls and boys about appropriate emotional behavior (for a thorough discussion of sex-based socialization practices, see Brody & Hall, 1993), and thus early differences in reinforcement histories may lead to later differences in the sex-linked expression of emotions such as fear and sadness. Girls are socialized to express their fear and sadness, whereas boys are not (Brody & Hall, 1993; see also Brody, this volume; Fivush & Buckner, this volume). A potent example of sex-based socialization practices regarding fear comes from a review of child-rearing manuals and children's literature covering the time period from 1850 to 1950 (Stearns &

Haggarty, 1991). Boys' expressions of fear, in particular, are depicted negatively in these books and parents are advised to discourage the expression of fear by their sons.

The connection between stereotypes and socialization practices provides a compelling explanation for how differences in expressions of anxiety and depression develop and are sustained. The theory suggests a proximal cause for the expressivity differences: stereotypes may play a role in producing sex-linked behaviors of expression, and those behaviors further reinforce the stereotypes. What the theory fails to explain, however, are the origins or functions of the stereotypes: why do the stereotypes exist and what purposes might they serve? If stereotypes play a role in producing sex-linked differences in anxiety and depression expressions, then we need to identify factors that might produce the stereotypes, as well as the functions served by stereotypic behaviors such as women's greater expression of anxiety and depression.

Stigmatization of women

At least one theorist (Lutz, 1990) argues that the emotional double-standard associated with the stereotype serves a function of preserving the social hierarchy. According to the emotional double-standard theory (Shields, 1987), women who express either fear or sadness are more likely than men to elicit an immediate positive response (presumably because the expression of these emotions is consistent with the female stereotype). At the same time, women's emotional expressions may produce less immediate, more subtle, and quite negative consequences for women (Lutz, 1990). According to Lutz, women's emotional expressions help to preserve a social hierarchy in which women (like their emotions) are viewed as irrational, chaotic, uncontrollable, and therefore dangerous. In contrast, men are associated with more valued processes such as rational, controlled thought. Furthermore, the presumption that men are more rational and less emotional than women may lead to perceptions that men are more justified than women when they do express their emotions (Shields, 1987; Shields & Koster, 1989). According to Lutz's theory, the belief that women are more emotional serves a larger social function of legitimizing women's subordinate rank in the power hierarchy. Expressions of fear and sadness, in particular, connote weakness, lack of control, and helplessness. As a result of the emotional double-standard, women who express fear and sadness may reap rewards in their immediate situation, but they may be stigmatized in the long run.

Social Role Theory

Another reason the sex-linked stereotypes regarding anxiety and depression might exist is that men and women actually behave differently as a result of differing demands placed on them by their distinct social roles in Western society (Eagly, 1987). Social role theorists (Eagly, 1987; Wood, Rhodes, & Whelan, 1989) propose that women's traditional domestic role emphasizes taking care of others and thus demands affiliative and relationally oriented behaviors. By contrast, men's traditional roles in the workplace elicit more agentic and instrumental behaviors (Eagly, 1987). Several theorists (Brody & Hall, 1993; Shields, 1987, 1991; cf. Fischer, 1993b) have suggested that sex-linked differences in social roles promote differences in the expression of emotions such as fear and sadness; affiliative tasks often require greater emotional expressivity than agentic tasks. According to this argument, expressions of emotions like fear and sadness facilitate a woman's ability to effectively meet her primary interpersonal goal, which is to care for and maintain her social relationships with others. In contrast, expressions of fear and sadness would be likely to inhibit a man's primary interpersonal goal of being instrumental and agentic.

Although this argument suggests that the stereotype has a "grain of truth" (i.e., reflects actual sex differences in fear and sadness expressions produced by social role demands), several questions exist about whether and how expressing sadness or fear might serve the demands of women's social roles. In general, emotional communications do tend to foster a feeling of intimacy (Laurenceau, Feldman Barrett, & Pietromonaco, 1998), thereby contributing to the maintenance of a relationship. According to a social role analysis, women's emotional expressions function to nurture their relationships and thus should be tied to giving help. The problem with this analysis is that women express more fear and sadness, and these particular emotions are likely to decrease help-giving and to increase help-seeking. Furthermore, expressions of fear and sadness may actually strain and deteriorate relationships rather than foster and maintain them (Feldman & Gotlib, 1993; Gotlib & Hammen, 1992). Specifically, it is not clear how the expressions of fear and sadness (as compared to any other emotions) would allow women to be more attuned to the needs and emotions of others. Another aspect of sex-based social roles, however, may provide a better explanation for both the stereotype and underlying behavioral differences in male and female expressions of anxiety and depression: relative levels of power and status associated with male and female roles (e.g., Fischer, 1993b).

The role of power

Men and women may differ in the expression of emotion because they typically differ in level of power; women are likely to hold positions of lower power and status than men. The emotions of fear and sadness are often described as expressions of "vulnerability, helplessness and powerlessness" (Fischer, 1993b, p. 312). Thus, women's expressions of these emotions may reflect that they have less power and less status (see Brody & Hall, 1993), making them more vulnerable to these feelings than men. In contrast, men express more anger than women, possibly because anger is associated with power and assertiveness (e.g., Fischer, 1993b). This theory assumes that emotional expressions serve to mark one's status or power in society, and is consistent with sociological theories in which all emotions are viewed as determined by relative levels of status and power in social interactions (e.g., Kemper, 1978). Furthermore, people in positions of power rely on stereotypes and notice stereotype-congruent behavior in assessing the behavior of persons of lower power (Goodwin, Gubin, Fiske, & Yzerbyt, 1998). Thus, power also may play a role in the application of stereotypes to judgments of emotional expression, leading observers to perceive more frequent fear and sadness in women's expressions than in men's.

From our perspective, the expressions of fear and sadness may convey not only powerlessness and lower social status as discussed above, but may also provide women with a way to be agentic in relationships without violating their social role. By expressing fear or sadness, women may elicit responses from others and this may allow them to enact an indirect form of interpersonal influence. More direct forms of influence are not always seen as socially appropriate for women, who are expected to be less agentic than men and more relationally oriented (Eagly, 1987). Thus, social role constraints may produce more creative and subtle means (e.g., the use of emotions) of interpersonal influence, allowing women to exert agency in their relationships in a way that is consistent with their relative levels of power and status.² This view suggests that expressions of fear and sadness might fulfill a different interpersonal function for women than they do for men.

In summary, empirical evidence supports the view that women express more anxiety and depression than do men. Stereotypes about the sexes and their emotions seem to play a role in both creating and sustaining sex differences in expression. In particular, the stereotype and related sex differences in expressions of anxiety and depression are apt to reflect women's positions of low power and status in society and/or their social role as relationship caretakers via communication styles and display rules.

Sex differences in the experience of anxiety and depression

Although women appear to express more anxiety and depression than do men, it is not clear whether they actually experience more frequent or more intense emotions. Studies incorporating reports of anxiety/fear and depression/sadness as either predictor or criterion variables have not produced consistent sex differences, although when differences appear they are typically in the stereotypic direction.³ For example, some studies find that women report experiencing fear or anxiety more intensely or more often than do men (e.g., Alagna & Morokoff, 1986; Allen & Haccoun, 1976; Berenbaum, Fujita, & Pfennig, 1995; Dillon, Wolf, & Katz, 1985; Fischer, 1993a; Scherer, Wallbott, & Summerfield, 1986; Strube, Berry, Goza, & Fennimore, 1985), whereas others have failed to find significant sex differences (e.g., Gotlib & Meyer, 1986; Kring & Gordon, 1998; Nezu, Nezu, & Blissett, 1988; Pennebaker, Hughes, & O'Heeron, 1987; Philippot, 1993; Small, Gessner, & Ferguson, 1984; Sprecher & Sedikides, 1993; Stapley & Haviland, 1989).

A similar picture emerges for reports of both sadness and depression. Sometimes women report experiencing more frequent or more intense sadness and depression than do men (e.g., Alagna & Morokoff, 1986; Allen & Haccoun, 1976; Eisenberg, Fabes, Murphy, Karbon, Maszk, Smith, O'Boyle, & Suh, 1994; Fischer, 1993a; Grossman & Wood, 1993; Nolen-Hoeksema, 1987; Scherer et al., 1986; Sprecher & Sedikides, 1993; Strube et al., 1985), but some studies find no differences (e.g., Ganong & Coleman, 1984; Gotlib & Meyer, 1986; Kopper, 1993; Kring & Gordon, 1998; Larsen, Kasimatis, & Frey, 1992; Nezu et al., 1988; Nolen-Hoeksema & Morrow, 1993; Parrott, 1991; Philippot, 1993; Potts, Camp, & Coyne, 1989; Rothkopf & Blaney, 1991; Small, Gessner, & Ferguson, 1984; Watson & Clark, 1992).

Given the lack of consistent findings across studies, it is not surprising that review articles draw somewhat different conclusions regarding the status of sex differences in the experience of fear and sadness. Some reviewers (Brody & Hall, 1993; Fischer, 1993b) have concluded that women experience more intense fear and sadness than do men, whereas other reviewers (LaFrance & Banaji, 1992; Shields, 1991) have suggested that sex differences in fear and sadness occur primarily in specific contexts or in connection with the use of certain methodologies. Thus, although most theorists agree that sex differences arise in at least some contexts, explanations for these differences vary.

Theories for understanding sex differences in emotional experience

Cognitive appraisals

Many theories attempt to explain both the emotions and the clinical syndromes of anxiety and depression, but those focusing on cognitive appraisal are particularly relevant for understanding the processes that may link sex to the experience of emotion.⁴ The basic premise of cognitive appraisal theories is that emotions are produced from a person's appraisal or interpretation of her or his environment (e.g., Frijda, 1986; Roseman, Antoniou & Jose, 1996; Smith & Ellsworth, 1985; Smith & Lazarus, 1993). Sadness, for example, is associated with a "belief that [an] unpleasant situation is controlled by impersonal circumstances and that nothing can be done to set it right" (Smith & Ellsworth, 1985, p. 834). The cognitive appraisals associated with this emotion are irrevocable loss, helplessness about the loss, and low perceived ability to control or act directly upon the situation (Roseman et al., 1996; Smith & Lazarus, 1993). Fear is "characterized by uncertainty about whether or not one will be able to escape or avoid an unpleasant outcome" (Smith & Ellsworth, 1985, p. 834). Cognitive appraisals associated with fear include danger or threat, uncertainty about the situation and about future outcomes, and a belief that another is in control of the situation (Roseman et al., 1996; Smith & Lazarus, 1993). Although little empirical evidence is available, some theorists believe that women are more prone than are men to the patterns of cognitive appraisal associated with these emotions, making women more susceptible to experiencing them (Brody & Hall, 1993; Fischer, 1993b). Similar to the emotion theories, several clinical theories focus on the role of negative cognitive schemas in producing feelings of anxiety or depression (e.g., Abramson, Seligman, & Teasdale, 1978; Beck, 1967). The theme of these theories is that anxiety and depression are associated with thoughts, perceptions, or behaviors reflecting helplessness, hopelessness and lack of control over outcomes of future events.

Given their relatively lower status and power, women may be more prone than men to judge themselves as lacking control over their circumstances and being helpless, which, in turn, may lead to thoughts of hopelessness about the future (Fischer, 1993b). Although these thoughts may accurately portray women's social position, they also may lead to increased susceptibility to anxiety and depression. An implicit assumption of many theories of depression is that beliefs of helplessness, hopelessness, or lack of control are irrational and, therefore, maladaptive. Within the larger social context, however, women's thoughts of helplessness or of lack of control may not be irrational.

Rather, they may reflect a reality of decreased social and economic power, either in everyday life or in the face of negative life events such as divorce or the loss of a job. Thus, women's vulnerability to anxiety and depression could be interpreted as a rational reaction to social and economic realities, rather than as maladaptive and psychopathological.

In addition to engaging in cognitive appraisal patterns associated with anxiety and depression, women also may be more prone than men to respond to depression in a way that prolongs and intensifies their depressed feelings (Nolen-Hoeksema, 1987, 1991, see also Fivush, this volume). According to the response style theory of depression, people who ruminate about being depressed, and who focus on symptoms, causes and the significance of their depression are likely to experience longer and more intense depressions. Women receive more advice to ruminate in stressful situations than do men (Ali & Toner, 1996) and women do, in fact, ruminate more on their sadness than do men (Conway et al., 1990; Nolen-Hoeksema, 1987).

In summary, women may experience more anxiety and depression because their position in the social hierarchy is associated with the cognitive appraisal patterns underlying these emotions. Because women on average hold positions of low status and low power, as a group they may have an increased propensity to make appraisals that they lack control or are helpless and hopeless about life events. Each of these appraisals is associated with experiencing anxiety and depression. Furthermore, a female tendency to ruminate on negative feelings may produce more prolonged and intensified experiences of depression by women.

Accessibility and memory

It is possible that sex differences observed in some studies reflect differences in the ability of men and women to access or recall particular aspects of their emotional experiences rather than actual differences in the experience of the emotions. The standard method for assessing sex differences relies heavily on memory; participants must answer global, retrospective questions about their emotional experiences by relying on their memory of past events (e.g., "I seldom feel sad or depressed"). Studies using this retrospective method typically find that men and women differ in their emotional experience. Stereotypic sex differences in the experience of emotion have not been found in diary studies in which participants answer brief, structured questions about their emotional experiences immediately following specific, everyday life events (Feldman Barrett & Morganstein, 1995; Feldman Barrett, Robin, Pietromonaco, & Eyssell, 1998). This methodology relies less on

memory than do global, retrospective reports (Reis & Wheeler, 1991), and therefore may be less influenced by stereotypes, implicit beliefs, and differences in the accessibility of emotion knowledge. Interestingly, participants in these diary studies did respond in a stereotypic manner to global, retrospective measures (i.e., women report experiencing more anxiety and depression than do men), even when sex differences were not apparent in the immediate, context-specific measures. Furthermore, the discrepancy between the retrospective and concurrent ratings of fear and sadness is greater for women than for men. For both fear and sadness, the relationship between their memory-based and their concurrent ratings is stronger for men than for women (Feldman Barrett & Morganstein, 1995). Thus, the men appear to be more accurate in their memory-based ratings of sadness and fear than the women.

The reason for these sex differences is not clear. Although concurrent ratings are also self-report measures, they are made in real world settings, rich with context and cues for assessing one's feelings of anxiety and depression. They also are made concurrently with the emotional experience, without the necessity of retrieving, integrating, and aggregating memories. It may be that the presence of context and cues and the lack of reliance on memories produces concurrent ratings of experiences of anxiety and depression that are less influenced by emotion knowledge and by sex-based implicit beliefs and stereotypes about emotions. In contrast, the degree to which participants must rely on memory may influence whether women report experiencing more anxiety or depression than do men for at least two reasons: (1) men and women differ in their ability to remember previous emotional experiences (Feldman Barrett, Lane, Sechrest, & Schwartz, 1997), and (2) implicit beliefs and stereotypes about how men and women experience and express emotions may contribute more to memory-based judgments than to concurrent (and less memory-based) judgments (e.g., Fischer, 1993b; Shields, 1987, 1991).

Differences in memory for emotional experience

Women may remember experiencing greater emotion (e.g., anxiety and depression), because they are more likely than men to record and recall the details of their emotional experiences. Women are superior to men at identifying emotion from non-verbal cues (Brody & Hall, 1993), with the possible exception of decoding expressions of anger (Wagner et al., 1986). Women are better able to match emotion stimuli to emotion responses (Lane, Sechrest, Riedel, Weldon, Kaszniak, & Schwartz, 1996), and they display more complex knowledge of emotions than men, including a greater ability to differentiate among different emo-

tions (Feldman Barrett et al., 1997). These sex-linked differences in emotion-related knowledge will likely influence responses on self-report measures, particularly those calling for the retrieval, summarizing and integration of emotion memories. Such global, retrospective self-report measures contain no immediate cues or context to assist a participant in assessing his or her emotions, and may require more reliance on emotion knowledge than measures answered concurrently with an emotional experience. Thus, women may report experiencing more emotion than do men because women are better able to access and recall their emotional experiences; however, in the immediate situation, men and women may not differ in the nature of their emotional experiences.

Reliance on implicit beliefs and stereotypes

People may also rely on implicitly held beliefs about their own emotional responses or on stereotypes about appropriate male and female emotional responses when answering global, memory-based questionnaires in a laboratory setting. The typical laboratory setting for psychological studies, by design, provides minimal cues to influence participants when they are completing psychological measures. Furthermore, retrospective self-report measures contain global items (e.g., "I seldom feel sad or depressed") that make no reference to specific or hypothetical situations and, therefore, provide little context within which to frame a response. As a result, participants must retrieve, integrate and aggregate their memories of specific events to produce global ratings of their experience; this reconstructive process is likely to be aided by implicitly held theories (for reviews see Fiske & Taylor, 1991; Greenwald & Banaji, 1995; Nisbett & Ross, 1980; Ross, 1989). As a result, women might reconstruct their memories in line with the societal belief that they are or should be emotional, whereas men's reconstructed memories might be tailored to fit the societal belief that they are or should be unemotional. Alternatively, study participants might minimize their cognitive efforts and respond to global, retrospective questions by invoking their stereotypes as a heuristic. Social observers frequently use sex-linked stereotypes to infer the emotional experiences of others (Birnbaum et al., 1980; Fabes & Martin, 1991; Grossman & Wood, 1993). People also appear to rely on such stereotypes in remembering their own past emotional experiences while in laboratory settings (Robinson, Johnson, & Shields, in press).

In order to be a viable hypothesis, the proposal that people rely on sex-based stereotypes in making global, retrospective ratings of their emotional experiences should be compared with other research on the

use of stereotypes. In fact, the stereotype as heuristic explanation of sex differences in anxiety and depression is somewhat inconsistent with literature on the use of racial stereotypes (e.g., see review by Devine, 1995). According to this literature, people seem to rely less on racial stereotypes the more they engage in conscious, effortful processing of information. By contrast, the effortful processing required when making global, retrospective self-reports of anxiety and depression may actually foster reliance on sex stereotypes, according to both the theory and a recent study on sex stereotypes (Robinson et al., in press). Important differences in the methodologies used in these two lines of research may account for this discrepancy. It is also possible that differences in the contents and the targets of the stereotypes involved may account for the apparent inconsistency. Racial stereotypes generally are not considered acceptable in modern Western society. Therefore, people may be motivated to overcome socially unacceptable prejudices based on race and may achieve this goal through failing to rely on stereotypes when engaging in effortful processing of information. By contrast, people may be less motivated to overcome sex stereotypes regarding emotions, given that the socially desirable response is less clear for these stereotypes than it is for racial stereotypes. As a result, sex stereotypes may be regarded as both acceptable and accurate.

In summary, the evidence regarding sex differences in experiences of anxiety and depression is mixed. One possible explanation for sex difference findings comes from cognitive appraisal theories of anxiety and depression. According to these theories, anxiety and depression are associated with patterns of appraisals reflecting helplessness, hopelessness and lack of control. Because women are on average in positions of lower status and lower power in society, they may be more prone to making such appraisals, which would explain their increased susceptibility to feelings of anxiety and depression. Another possible explanation is that the findings actually reflect differences in the ability of men and women to access and recall their emotional experiences (while the experiences themselves may not significantly differ for the two sexes). Because the majority of studies use global, retrospective self-report questionnaires, they may be measuring stereotypes, implicit beliefs, and emotion knowledge rather than sex differences in the experience of anxiety and depression.

The role of culture

All of the sex difference findings reported in this chapter are from studies in Western cultures (primarily from North America). Cross-cultural differences are likely to play a central role in how women and

men experience and express anxiety and depression, however. Culture may influence the definition of anxiety and depression, the context in which these emotions are experienced or expressed, or the meaning of their expression. To date, little empirical work has addressed these questions, and until it is conducted we cannot determine whether our knowledge regarding sex differences is culture-bound or not.

Nevertheless, considerable debate exists about whether culture influences the experience and expression of emotions. Some researchers and theorists referred to as "universalists" believe that "basic" emotions, including fear and sadness, are experienced and recognized universally by people across cultures (e.g., Ekman, 1992, 1994; Izard, 1994; Shaver, Wu, & Schwartz, 1992; cf. Russell, 1994). The universalist perspective might account for sex differences in *expressions* of fear and sadness in cultures where display rules vary with sex (e.g., like the Western emotional double standard for displays of fear and sadness previously discussed). But the universalist view does not provide any explanation for sex differences in *experiences* of fear and sadness, short of assuming or demonstrating that such differences are biologically based and found consistently across cultures.

Social constructionists have an alternative theory of the relationship between culture and emotions which may allow for the exploration of sex differences in anxiety and depression across cultures. The views regarding the role of culture range from believing that emotions are a complete product of culture, to more moderate views that distinct cultural patterns of emotions emerge from a limited range of universal emotions (e.g., Harré, 1986; Heelas, 1986; Lutz, 1988; Oatley, 1993; Oatley & Jenkins, 1996). Understanding the functions and social meanings of anxiety and depression may help to explain the appearance of sex differences. The social meanings of anxiety and depression are linked with concepts of helplessness and hopelessness in Western cultures, but they may not connote the same thing in other cultures (e.g., "tijituru-tijituru" is described as the closest counterpart to "sad" in Australian Aboriginal language of Pintupi, but it does not imply a "quiet resignation" of helplessness like the English term sad does; Wierzbicka, 1992). Moreover, in some societies, emotions that are central to the culture may not correspond exactly to Western emotional concepts. For example, in an anthropological study of people inhabiting the Pacific atoll of Ifaluk, Lutz (1988) observed that the emotion of "fago" links sadness with concepts of compassion and love and that "fago" cannot be adequately translated by any one of these three English emotion terms. "Fago" is felt when a loved one is in need. Similar to sadness, "fago" is experienced in connection with a loss, such as when a loved one dies or travels far away. In addition to these common

eliciting conditions, "fago" and sadness also are associated with similar immediate behavioral patterns, such as crying, passively sitting, and losing one's appetite. However, the emotions also differ in fundamental ways. Importantly, "fago" does not imply loss of control as does sadness. In fact, quite to the contrary, "fago" is seen as empowering and as ultimately propelling to activity the one who experiences it. The loss and suffering associated with "fago" are those of another rather than of the self, and a desire to fulfill the needs of the other empower one to take action. If sex differences were found in the experience or expression of "fago" in Ifaluk, any explanation of such differences would need to take into account the distinct meaning of "fago" in that culture. Furthermore, if sex differences in anxiety and depression were revealed in other cultures, the reasons for such differences might be culturally bound.

The comparison of "fago" and sadness makes clear that emotions like anxiety and depression need to be decomposed to make meaningful cross-cultural comparisons of both the emotions and any sex difference findings relating to them. For example, one theory proposes that embedded in each emotion label is a narrative about the emotion, and this narrative must be parsed in different cultures to determine the existence of commonalities across cultures (Shweder, 1993; for a similar theory from a linguistic perspective, see also Wierzbicka, 1992, 1995).

Thus, the role that culture plays in the link between sex and anxiety or depression is far from clear. What emerges from the discussion of culture are more questions. More important than whether there are consistent sex differences in the experience and/or expression of anxiety and depression is whether these emotions mean the same thing or serve the same function across cultures. The act of comparing the constituent components (i.e., narrative slots) of anxiety and depression may shed light on the conditions under which sex differences might or might not occur.

Suggestions for future research

The purpose of the present chapter was twofold. First, we demonstrated that the answer to the question of whether there are sex differences in expressions and experiences of anxiety and depression is still far from clear. The most empirical support exists with respect to expression of these emotions, although the grounds for these differences remain to be determined. Some theorists believe that the existence of sex differences in the experience of emotion is an open question, because the methodology typically used to assess such differences actually measures other phenomena such as stereotypes, implicit beliefs, and emotion knowledge. Second, we identified several impor-

tant methodological and substantive variables that may provide a context that amplifies or hides differences in anxiety and depression: power/status levels, appraisals of helplessness, potential bias in self-reports as well as observers' reports.

Methodological improvements

Because of the problems inherent in the use of any single method in assessing sex differences, we believe that relying on multiple methods will yield more meaningful results. With a multi-method approach, for example, data-analysis could decompose the variance of sex difference judgements into analysis of variance-like components attributable to judgements by the self, judgements by others and their interaction and compare these components (e.g., Kenny's Social Relations Model of Interpersonal Perception, Kenny, 1994; Funder's Realistic Accuracy Model of Personality Judgements, Funder, 1995).

Combining observer ratings with self-report ratings is another example of achieving this multi-method approach (e.g., self and peer ratings from personality literature, Funder & Colvin, 1988; Kolar, Funder, & Colvin, 1996). As with self-report judgements, certain types of observer ratings may have less potential to be biased. One example of reducing bias involves having observers make judgments of expressions of anxiety and depression from transcripts of taped conversations (where the speakers' sexes are unknown to the observer). This method prevents an observer from relying on stereotypes and implicit beliefs invoked by the sex of the target whose emotions are being rated. Combining this method with more traditional self-reports may help to reveal where biases occur.

Sex-in-context

To the extent that environmental cues produce or inhibit sex difference findings in anxiety and depression, then such findings are highly contextualized. Viewed in another way, sometimes sex may have a psychological meaning (a stimulus value) such that it will affect a person's view of himself or herself or others' views of that person, and sometimes sex may not have such a stimulus value – it depends upon the context. Our second category contains recommendations for contextual variables that are apt to provide a more complete picture of the circumstances under which sex is associated with anxiety and depression. Throughout this chapter we refer to variables that may mediate or moderate the relationship between sex and anxiety and depression, such as the power and status levels of both the person experiencing or

expressing anxiety or depression and the person(s) to whom the emotion is expressed; and the culturally derived functions, meanings and display rules surrounding anxiety and depression. None of these variables have been systematically tested for their impact on the relationship between sex and anxiety and depression and we believe that they must be. The paradigm to date seems to search for cross-situational consistency as evidence of a stable sex-linked difference in anxiety and depression. Instead, it will be important to look at whether the interaction between sex and any of these other variables manifests in predictable patterns of sex differences within similar contexts across time (e.g., behavior-in-context theory of personality, Mischel & Shoda, 1995)

Conclusion

Do women experience and/or express more anxiety and depression than men? The answer is not clear. If sex differences in anxiety and depression were robust, the findings would be more consistent than they are. Empirical evidence supports the idea that Western women express more anxiety and depression than do Western men, but we do not know why this relationship exists, or the boundary conditions of the relationship. Sex differences in the experience of anxiety and depression seem to be related, in part, to the way the questions are asked. Therefore, the underlying effect must be more clearly established or rejected. Our goal in this chapter was to lay the groundwork to begin searching for answers to some of these questions.

We end our chapter with this final observation. Although the question of whether sex differences exist in anxiety and depression is far from answered, the literature (including our own chapter) seems to be organized around searching for sex differences – as researchers, we try to explain when and why sex differences appear. This focus might reflect that, as part of the larger culture, our own stereotypes and implicit beliefs regarding men's versus women's emotions shape our understanding of the evidence.

Notes

1. In fact, when measured as emotional states, the distinctions between anxiety and fear, and between depression and sadness, are often arbitrary. For example, the Profile of Mood States (POMS; McNair, Lorr, & Droppleman, 1971) contains anxiety and depression subscales, whereas the Positive Affect Negative Affect Scale-Expanded (PANAS-X; Watson & Clark, 1994) contains fear and sadness subscales. Despite their different labels, the corresponding subscales from the POMS and the PANAS-X contain substantial overlap.
2. Many authors consider the use of emotions as an indirect means to influence others as dishonest or manipulative. An alternative explanation, however, is

that interpersonal influence through expressions of fear and sadness is adaptive for women, allowing them to be agentic within the confines of both their social role and their level of power in society.

3. The studies reviewed in this section should be considered a representative sample of those that incorporate specific emotions as either predictor or criterion variables. An exhaustive review of all of the findings pertaining to sex differences in emotional experience was not possible given the number of studies that test for differences between men and women when the theoretical focus is not concerned with sex differences in emotion.
4. In contrast to cognitive appraisal theories of emotion, other theories of emotion do not provide a viable explanation for why women may experience more anxiety and depression.

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