

# Understanding Depression across Cultures

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**M**ajor depression is associated with significant global economic burden, disability, and diminished quality of life (Murray & Lopez, 1997). Clearly, studying this affliction across cultures continues to be an important goal for researchers. Despite significant advances in this field, however, we are still grappling with fundamental questions. Imagine a young woman living in the United States who experiences profound feelings of distress and worthlessness, and who no longer enjoys spending time with friends, has significant trouble falling asleep, feels tired much of the time, and has difficulty concentrating. These symptoms are easily identified by psychologists and psychiatrists as the syndrome of major depression. But how does this syndrome translate across cultures? Do individuals reporting similar symptoms in other cultural contexts also suffer from major depression? Conversely, do individuals reporting different symptoms, such as Chinese suffering from fatigue, weakness, and bodily aches and pains (Kleinman, 1982); Puerto Ricans reporting crying jags, difficulty sleeping, and visions and hallucinations (Koss-Chioino, 1999); or rural Nepalese complaining of numbness and tingling (Kohrt et al., 2005) suffer from other disorders or from “indigenous” forms of major depression? What role does culture play in shaping depression? Are some aspects of depression more or less culturally shaped? In this chapter, we review the extant evidence accumulated over several generations by anthropologists, psychiatrists, and psychologists using different research approaches to address these questions. Before we begin this review, we briefly define what we mean by *culture* and by *depression*.

## DEFINING CULTURE

In Kroeber and Kluckhohn’s (1952) classic definition, *culture* is described as

patterns, explicit and implicit, of and for behaviour acquired and transmitted by symbols . . . including their embodiment in artifacts; the essential core of culture consists of traditional . . . ideas and especially their attached values; culture systems may, on the one hand, be considered as products of action, on the other, as conditional elements of future action. (p. 181)

This definition stresses that culture exists in the heads of its members (e.g., values and norms), as well as in the world, as embodied in daily patterns of behavior and in cultural artifacts (e.g., daily interaction patterns, songs). Furthermore, this definition highlights the mutual constitution of culture and psychological processes; that is, culture shapes behavior, thought, and emotions of individuals and is in turn shaped by them. Individuals are not merely passive recipients of culture, but are active contributors to change or stability in their cultural worlds. For example, lyrics of popular songs, such as "Just put on a happy face," from the popular musical *Bye Bye Birdie*, communicate to the listener that certain ways of experiencing and expressing emotional distress, such as trying to act as if one is happy, are desirable in the mainstream American culture. At the same time, listeners create demand for certain songs, and not for others, thus contributing to cultural selection and maintenance.

### DEFINITION OF DEPRESSION

According to the fourth, text revision edition of the *Diagnostic Manual of Mental Disorders* (DSM-IV-TR; American Psychiatric Association, 2000), major depression is characterized by the prolonged presence of either depressed mood or *anhedonia*, a markedly diminished interest or pleasure in response to previously enjoyable activities. This definition focuses on symptoms that are experienced subjectively and are emotional rather than physical in nature. Of course, this definition did not develop in a cultural vacuum. Western cultural contexts emphasize the uniqueness and autonomy of each individual and the importance of personal goals, values, and preferences. In these contexts, key markers of healthy functioning include promotion of the self, positive views of the self, a focus on personal accomplishments, and open expression of one's emotions to signal personal preferences (Heine, Lehman, Markus, & Kitayama, 1999). The symptoms of major depression (e.g., feelings of worthlessness and failure to experience pleasure) reflect deviations from these cultural norms. Also, in Western cultures, diseases of the mind and the body are considered to be distinct. Although criteria for major depression, a mental illness, include both emotional and physical symptoms, a diagnosis of major depression cannot be made in the absence of its key emotional symptoms (i.e., depression and/or anhedonia). Thus, Western criteria for major depression (and other mental disorders) reflect cultural biases of viewing emotional distress as characterizing individuals rather than groups, and as fundamentally distinct from physical distress. These biases are reflected in the multi-axial assessment system used by DSM, in which emotional, social, and physical aspects of functioning are recorded on separate axes.

These norms of socioemotional functioning, however, are not universally shared by other cultures. For instance, in East Asian cultures (e.g., Japan), individuals are viewed as inherently interdependent with others and defined by their social context. Healthy emotional functioning in East Asian cultural contexts is marked by self-criticism, ability to avoid interpersonal tension, and moderation of open expression of emotions in an effort to preserve interpersonal harmony. In these cultural contexts, interpersonal symptoms of depression, such as social withdrawal or failure to maintain interpersonal obligations, may be more salient and exact a greater toll on a person's daily functioning than intrapersonal symptoms. Thus,

reporting that one feels negatively about one's abilities or that one experiences excessive levels of negative emotions may not serve as useful markers of depression in these cultural settings. In addition, in many non-Western cultures, mind and body are not viewed as separate and distinct entities, but are seen as intimately connected and mutually constitutive. As a result, patients in some cultures may talk about their distress as an integrated psychobiological phenomenon, without making distinctions between bodily pain and feelings of despair.

How do we study cultural variation in a disorder whose very definition is culturally constructed? Researchers have approached this challenge in several different ways. We briefly describe a number of these research approaches, then review empirical findings for each. We review studies that rely on indigenous conceptions of depression, on the standardized DSM or *International Classification of Diseases* (ICD) criteria for the syndrome of major depression, and on self-report measures of depressive symptoms. Throughout the chapter we use the terms *indigenous forms of distress*, *prevalence rates of major depression*, and *levels of depressive symptoms*, respectively, to refer to these distinct ways of conceptualizing and assessing depression. We focus on studies examining unipolar depression and also describe the few studies that have examined cultural shaping of bipolar spectrum disorders.

### RESEARCH APPROACHES TO STUDYING DEPRESSION ACROSS CULTURES

Three key approaches have been influential in the field of cultural psychopathology. The *ethnographic* approach assumes that even if members of a particular culture experience the symptoms defined by Western culture as depression, the meanings and implications of these symptoms may vary considerably across cultures. Following Kleinman's (1977) article urging researchers who study mental illness across cultures to consider carefully not only the symptoms of the disorder but also the personal and culturally shaped interpretation of these symptoms, several generations of psychiatrists and psychologists have used ethnographic methods in their quest to understand the cultural underpinnings of depression. Proponents of the ethnographic approach utilize local construction of depression by focusing on the structures, norms, and values that shape the meaning of the depressive symptoms within a particular cultural context. Most of the work that falls under this approach is based on ethnographic interviews and behavioral observations.

In contrast, the *biomedical* approach assumes that, regardless of the cultural context, the disorder exists if individuals report having the familiar symptoms of depression, and if associated factors show similar relations to the disorder across cultural contexts. To date, the bulk of the research employing a biomedical approach focuses on the prevalence rates of major depression, and risk and protective factors in various nations and cultural groups. Most of this work is based on epidemiological data using structured diagnostic interviews or self-report surveys.

Finally, an emerging *cultural* approach seeks to understand meaningful connections between culture and the psychology of individuals living in it. The cultural approach uses both descriptive and experimental methods to identify specific factors, such as the ways selves are constructed across cultures, that contribute to cultural variation in major depression. Thus, researchers are beginning to operationalize aspects of culture that may shape the expression of depression.

Each of these research traditions contributes unique strengths to the study of culture and depression. It is by comparing and pooling the findings from each of these approaches

that we minimize their shortcomings and maximize their strengths. In this chapter, we present research findings from each of these approaches, highlight consistent themes that emerge from these bodies of literature, and propose other ways of studying depression across cultures that we believe will advance our current knowledge base.

### **Ethnographic Approach: Examining the Meaning of Depression across Cultures**

Ethnographic studies typically focus on one culture at a time. Working closely with local informants, researchers examine local ways of experiencing and expressing emotional distress, and relate them to the ideas and practices of that culture.

#### *Indigenous Forms of Distress*

Over several decades, ethnographers have accumulated from diverse cultures rich accounts of indigenous forms of distress that resemble depression in some of their features. In some cases, the resemblance is very close, and it is easy to become convinced that the indigenous disorder is indeed depression. For example, Tousignant and Maldonado (1989) described the illness of *pena*, the word that translates as “suffering” in highland Ecuador. In its severe form, *pena* is characterized by crying spells, problems with concentration, anhedonia, social withdrawal, sleep and appetite disturbances, gastrointestinal symptoms, and heart pain. Thus, symptoms of *pena* closely resemble those of major depression. Another similarity is that *pena* is often experienced in response to personal loss. However, Tousignant and Maldonado argue that unlike depression, *pena* is primarily an interpersonal strategy to appeal to others “for payment of an incurred loss” (p. 900). Thus, *pena* serves as a signal to others to act to restore equity and ensure reciprocity among individuals in a small community. An injured party in a conflict may signal distress by withdrawing from others and displaying symptoms characteristic of *pena*. In turn, the party’s social circle may attempt to remedy the situation by sharing feelings with the sufferer, and by bringing him or her back into the social network. Thus, although *pena* looks very similar to depression, its personal and social implications, and its management, differ from those of depression in Western cultures. *Pena* provides an example of an indigenous depressive disorder for which the symptoms, but not their meanings, closely match Western criteria for depression.

Other indigenous disorders do not resemble depression as closely in their key symptoms. Examples of these disorders include *ataque de nervios* in Puerto Rico (Guarnaccia, Rivera, Franco, & Neighbors, 1996), *hwa-byung* in Korea (Lin et al., 1992), *jhum-jhum* in Nepal (Kohrt et al., 2005), and *neurasthenia* in China (Kleinman, 1982). Key complaints that characterize many of these disorders are somatic rather than emotional. For example, *hwa-byung* (Lin et al., 1992) is distinguished by constricted sensations in the chest, and *jhum-jhum* (Kohrt et al., 2005), by numbness or a tingling sensation. Despite these unique features, some scholars have suggested that these culture-bound syndromes may be subtle variants of depression. Consistent with this notion, studies show that individuals with indigenous disorders, such as Korean patients with *hwa-byung* (Lin et al., 1992) and Nepalese patients with *jhum-jhum* (Kohrt et al., 2005), have higher levels of depressive symptoms than do those without the disorder. It is important to note, however, that the association between indigenous disorders and depression, as measured by Western criteria, is far from perfect. For instance, only half of self-defined *hwa-byung* sufferers actually meet criteria for major depression. Thus, indigenous disorders may better map onto a broader cluster of dis-

orders that includes major depression, as well as other mental disorders that frequently occur with depression, such as anxiety or somatization disorders.

### *Conceptions of Depression across Cultural Contexts*

In addition to examining indigenous forms of distress, recent ethnographic studies have turned to documenting the conception of depressive symptoms across cultures. In these studies, researchers interview individuals with symptoms of major depression and their friends, family, or physicians about the manifestation, perceived causes, and preferred coping and treatment strategies for depressive symptoms.

#### EMPHASIS ON SOMATIC FEATURES OF DEPRESSION

Consistent with research on indigenous forms of distress, somatic features of depression are commonly emphasized in non-Western settings. For instance, Puerto Ricans and African immigrants to the United States (Koss-Chioino, 1999; Sellers, Ward, & Pate, 2006) identify symptoms such as heart pounding, body aches, tiredness, and headaches as key features of their depression. The physical complaints can overshadow psychological ones: Puerto Rican patients produce less frequent and less varied reports of psychological than of physical symptoms of depression, and embed them in physical symptoms (Koss-Chioino, 1999). In some cases, such as among South Asian women in the United States, there is even an expectation that depression is merely a prelude to more serious physical ailments (Karasz, 2005b). Given this emphasis on somatic symptoms of depression, it is hardly surprising that South Asian immigrants in the United States are less likely than European Americans to recognize and label a vignette based on emotional features (e.g., crying, sadness and lack of interest in previously enjoyable activities) as depression (Karasz, 2005a). Thus, despite exposure to North American culture, somatic rather than emotional presentation continues to match more closely the South Asian cultural conception of depression.

On the other hand, the choice to report distress in somatic terms may be quite deliberate and shaped by the notion that it is more appropriate to reveal physical symptoms to others than to reveal psychological symptoms. In many cultural contexts, psychological symptoms of depression are construed as stigmatizing and socially disadvantageous. For example, although focus groups of South Asian immigrant women in England recognize that depression is characterized by both psychological and somatic symptoms, they feel that physical symptoms have greater legitimacy in their community and are more appropriate to disclose to medical professionals than are psychological symptoms (Burr & Chapman, 2004). In some cases, patients may also tailor their reports of symptoms to satisfy their clinicians. Caribbean older adults in England perceive that their general practitioners prioritize physical complaints in an effort to “cure your pains and then think about the depression later on” (Lawrence et al., 2006, p. 1380).

Finally, somatic reports of depression may be encoded in the local language, creating a culture-specific *idiom of distress*. Emotional distress may be verbalized as physical pain depending on the terms and metaphors available in a particular language, and on the local codes for communication of emotions. For instance, in Chinese, somatic terms such as *heart discomfort* serve as shared metaphors for affective states or emotions (Tung, 1994).

#### EMPHASIS ON INTERPERSONAL FEATURES OF DEPRESSION

In addition to emphasizing bodily complaints, conceptions of depression in non-Western cultural groups often focus on social causes. For example, based on semistructured interviews,

Pang (1995) reported that many older Korean immigrants did not report feeling depressed; instead, they explained and communicated their distress in terms of loneliness and family dynamics, as well as somatic complaints. Studies indicate that although the British (Jadhav, Weiss, & Littlewood, 2001), European Americans (Karasz, 2005a), and South Asians (Karasz, 2005a, 2005b; Raguram, Weiss, Keval, & Channabasavanna, 2001) recognize that interpersonal stressors have an important role in etiology of depression, interpersonal causes are emphasized more heavily by Asian individuals. For instance, South Asian women in the United States are more likely than their European American counterparts to believe that depression is caused by interpersonal stressors, such as marital conflict (Karasz, 2005a, 2005b); in contrast, European American individuals are more likely to endorse the Western biopsychiatric model of depression and attribute depression to biological causes. These differences occur against a backdrop of cultural similarities in other aspects of etiological theories of depression. For example, British and Indian individuals similarly endorse cognitive causes of depression, such as worrying or thinking too much (Jadhav et al., 2001; Raguram et al., 2001).

Documenting etiological theories of distress is important, because patients' choices of coping and treatment strategies are closely tied to the perceived causes of their depression. Consistent with their view of depression as interpersonal in origin, South Asian immigrants are more likely than European Americans to endorse interpersonal strategies for managing their depressive symptoms, such as turning to family and close friends for help (Karasz, 2005a). In contrast, consistent with their view of depression as biological in origin, European Americans are more likely than South Asian immigrants to recommend professional interventions by a psychiatrist or psychologist (Karasz, 2005a). When European Americans suggest self-management strategies for alleviating distress, the strategies they suggest also tend to be physical (e.g., exercise), rather than social (e.g., conversation with a close friend) in nature. Future studies need to examine whether choice of therapies that match cultural conceptions of depression would increase compliance. It is also important to investigate whether the common perception that depression is caused by thinking patterns and worrying would make cognitively based therapies more acceptable than biological therapies in non-Western cultural settings.

In summary, ethnographic studies provide compelling evidence that cultural norms and beliefs shape views of the causes, manifestations, and ways of coping with depressive symptoms. Although these studies contribute to our understanding of depression across cultures, they have a number of serious limitations. Because of their in-depth nature, most ethnographic studies are based on very few participants, which limits the generalizability of their findings. Moreover, although researchers have firsthand knowledge about the cultures they are studying, it is unclear to what extent their observations are influenced by their own cultural biases. Finally, because most of these studies are not comparative (i.e., do not include direct comparisons of data collected in more than one culture), it is unclear whether the meaning and consequences of depressive symptoms differ as drastically across cultures as these accounts suggest. The few studies that provide such comparisons (Karasz, 2005a) are still the exception rather than the rule. Thus, it is important to complement the ethnographic approach with cross-cultural examinations of the construct of depression across cultures.

## **Biomedical and Cross-Cultural Approaches:**

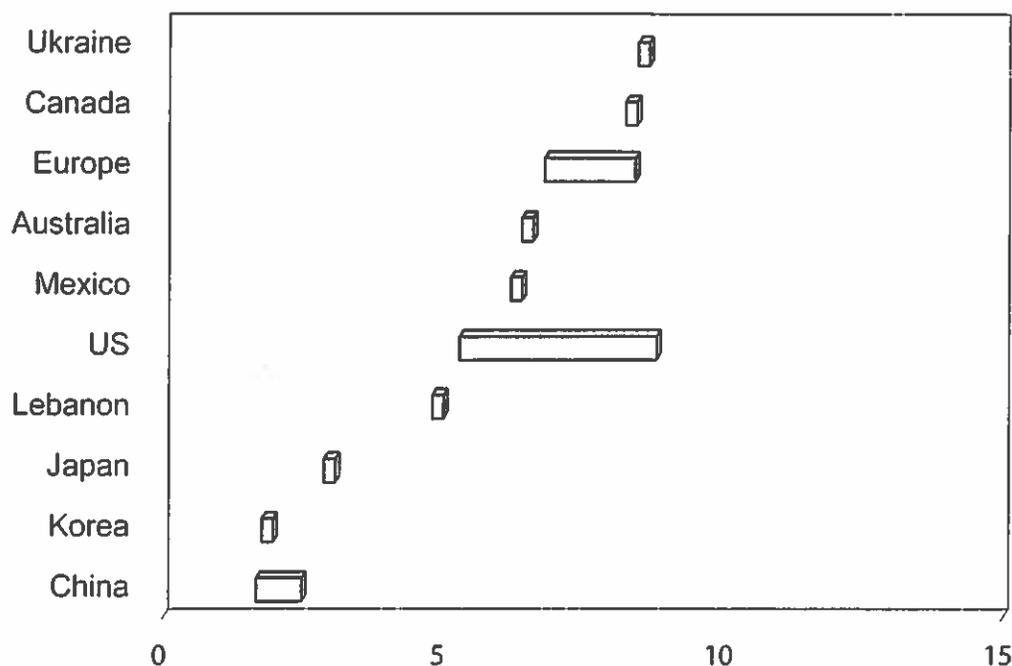
### *Examining the Construct of Depression across Cultures*

Biomedical and cross-cultural studies of depression have used standardized instruments to assess prevalence of symptoms of major depression and to identify factors associated with

depression across cultures. This research approach requires an enormous investment of time and resources to orchestrate coordinated data collection across many cultural contexts. Cross-cultural studies typically boast large sample sizes, allowing researchers to examine the contribution of a number of risk factors to the etiology and progression of major depression. We briefly review the cross-cultural data on the prevalence of major depression, examine whether somatic versus psychological presentation of depression depends on a cultural setting, and identify factors known to be associated with depression across cultures.

### *Cross-Cultural Differences in the Prevalence Rates of Major Depression*

Epidemiological studies show that prevalence rates of major depressive disorder vary dramatically across cultures. Figure 16.1 shows 12-month prevalence rates reported in recent epidemiological studies using standardized structured clinical interviews assessing DSM-IV criteria for major depressive disorder. As is evident from Figure 16.1, in Ukraine or Canada, 1 in roughly 10 adults reports experiencing major depression in the past year, compared with only 1 in roughly 50 adults in China or Korea. Epidemiological studies show consistent patterns of differences in rates of depression across nations. Depression rates among teens and adults are consistently higher in countries with rapidly changing economic and political conditions, such as Chile (Simon, Goldberg, Von Korff, & Ustün, 2002), and the post-Soviet states (Bromet et al., 2005; Pikhart et al., 2004) than in countries with stable economic and political conditions. Prevalence rates of major depression in the United States and Canada are consistently higher (Kessler et al., 2005; Vasiliadis, Lesage, Adair, Wang, & Kessler, 2007) than rates of depression in East Asian countries (Inaba et al., 2005; Kawakami et al.,



**FIGURE 16.1.** Twelve-month prevalence estimates for DSM-IV major depressive disorder by nation. Prevalence rates were obtained from Ayuso-Mateos et al. (2001); Bromet et al. (2005); Cho et al. (2007); Henderson, Andrews, and Hall (2000); Hasin, Goodwin, Stinson, and Grant (2005); Karam et al. (2006); Kawakami et al. (2005); Lee (2001); Ohayon and Hong (2006); Slone et al. (2006); Vasiliadis, Lesage, Adair, Wang, and Kessler (2007); World Health Organization World Mental Health Survey Consortium (2004).

2005; Simon et al., 2002). In addition to differences in prevalence rates, depression has higher recurrence rates in Western and Latin American cultural contexts than in Asian cultural contexts (Simon et al., 2002). For example, 33–44% of patients in Western and Latin American cultural contexts experience recurrence of their depressive symptoms after 1 year, compared to only 9% of patients in Asian cultural contexts. In contrast, prevalence rates for bipolar spectrum disorders are remarkably similar across cultures (Weissman et al., 1996).

Although cultural biases in the use of standardized diagnostic instruments have been documented, it is unlikely that these differences are due entirely to methodological differences across epidemiological studies. Notably, even studies using standardized sampling and assessment procedures across countries obtain widely different prevalence rates of major depression across nations (Simon et al., 2002). Thus, it is unlikely that national differences in prevalence rates can be entirely explained by factors such as methodological and sampling differences across studies.

#### SOMATIZATION OF DEPRESSIVE SYMPTOMS

Based on ethnographic evidence of non-Western cultures that place greater emphasis on somatic symptoms of depression, researchers have long questioned whether the disparities in prevalence of major depression are due to the tendency of individuals in non-Western cultures to *somatize*, or to report depression in physical rather than in psychological terms. Consistent with ethnographic data, cross-cultural studies show that in many non-Western, as well as in South and Eastern European countries, depression is associated with somatic complaints (Bhui, Bhugna, Goldberg, Sauer, & Tylee, 2004; Burr & Chapman, 2004; Gutkovich et al., 1999; Mak & Zane, 2004; Pang, 1995; Takeuchi, Chun, Gong, & Shen, 2002; Waza, Graham, Zyzanski, & Inoue, 1999). Patients from non-Western cultural settings and minority patients are less likely to report psychological symptoms of depression, such as worthlessness, delusions of guilt, and suicidal ideation, and more likely to report somatic symptoms of depression, such as poor appetite, lack of sleep, and headaches, relative to Western samples (Brown, Schulberg, & Madonia, 1996; Slone et al., 2006; Stompe et al., 2001). For example, Waza and colleagues (1999) reviewed medical charts of Japanese and American primary care patients who had received new diagnoses of depression. They found that whereas Japanese patients were more likely to present with exclusively physical symptoms, American patients were more likely to present with exclusively psychological symptoms.

In sharp contrast to these findings are recent reports that challenge the notion that Western cultures foster an overemphasis on psychological symptoms at the expense of somatic symptoms. These studies show that depression is often reported in somatic terms and associated with unexplained medical complaints in the United States and England (Bhui et al., 2004; Keyes & Ryff, 2003). Levels of acculturation and time spent in a Western cultural context are not associated with diminished levels of somatization among immigrants (Mak & Zane, 2004). It is also not the case that psychological symptoms of depression are reported at the expense of physical symptoms in Western settings. In a study conducted across 14 countries, Simon, Von Korff, and colleagues (1999) reported that, contrary to the notion that patients in non-Western cultures somatize their psychological symptoms, the proportion of somatic symptoms to psychological symptoms does not differ across countries. Moreover, somatization is more likely to be maladaptive and to be associated with depression in Western cultures, such as the United States, than in non-Western cultures, such as Korea (Keyes & Ryff, 2003).

What factors account for inconsistencies in the findings of these sets of studies? Somatic presentation may in part reflect the quality of relationships between medical doctors and their patients. Simon, Von Korff, and colleagues (1999) found that, across cultures, patients were more likely to initially report somatic symptoms when they used walk-in clinics and did not have an ongoing relationship with their physicians. Studies reporting that individuals in non-Western cultural settings present with somatic symptoms tend to rely on initial clinical presentation of patients who have not developed strong rapport with their clinicians. Thus, somatization may reflect initial reluctance to report symptoms that are less salient or more stigmatizing in a particular culture rather than an absence of these symptoms. This tendency to report some types of symptoms preferentially may be conditioned by verbal and nonverbal reinforcement of psychological versus somatic responses by clinicians. Lam, Marra, and Salzinger (2005) demonstrated that verbal and nonverbal reinforcement of psychological versus somatic responses to vignettes of stressful life events resulted in conditioned preference for particular types of reports. It is possible that social interactions in different cultural contexts condition responses that are culturally normative.

The initial tendency of individuals to selectively report some symptoms of depression but not others may be overcome with careful probing during the assessment. For example, in England, patients report psychological symptoms spontaneously but acknowledge somatic symptoms when probed by clinicians. In contrast, in India, patients report somatic symptoms spontaneously but report psychological symptoms upon being probed (Jadhav et al., 2001; Raguram et al., 2001). Thus, patients across cultures are aware of both their physical and psychological symptoms but may fail to attend to or may feel reluctant to report some of them.

In summary, cross-cultural studies of somatization indicate that both somatic and emotional symptoms are a part of depression across cultural contexts, and that patients tend to make initial somatic complaints to their physicians when they do not feel comfortable disclosing information about their emotional distress, or vice versa. The literature on somatization underscores the need to establish that standardized Western assessment instruments are capturing similar constructs of depression across cultural settings. We turn now to an examination of whether cultural similarities in risk and protective factors, and patterns of comorbid disorders across cultures, are sufficient to allow us to conclude that the same concept is assessed by epidemiological studies despite large differences in prevalence of major depression.

### *Risk Factors for Major Depression across Cultures*

A number of risk factors show remarkable similarity in their association with depression across cultures. We briefly review evidence suggesting that women, individuals who are under high levels of stress, and those who are poor, disadvantaged, and unmarried experience disproportionately high levels of depression across diverse cultural settings.

#### GENDER

Ample evidence shows that across countries of North America (Inaba et al., 2005; Ohayon, 2007), Western and Eastern Europe (Bromet et al., 2005; Pikhart et al., 2004), the Caribbean, Central and South America (Almeida-Filho et al., 2004; Slone et al., 2006), and East Asia (Inaba et al., 2005), women are more vulnerable than men to depression. In the United

States, this pattern holds for minority groups, such as Chinese Americans (Mak & Zane, 2004; Takeuchi et al., 2002), Hispanic Americans (Oquendo, Lizardi, Greenwald, Weissman, & Mann, 2004), and Native Americans (Sawchuk et al., 2005). Only a few studies fail to replicate this pattern. For example, gender differences are not evident in some East Asian contexts, such as among South Koreans (Ohayon & Hong, 2006). Future studies need to reveal the sociocultural factors that may explain why gender differences do not emerge for these cultural contexts.

#### STRESS

Country-level stressors, such as rapid economic and political changes, are known to be risk factors for increased prevalence of depression. For example, recession in Greece in the early 1980s was associated with increased prevalence of mood disorders (Madianos & Stefanis, 1992). Across countries, government stability is associated with lower levels of depressive symptoms (Van Hemert, Van de Vijver, & Poortinga, 2002). On the individual level, stressful and traumatic life events are associated with depressive symptoms across cultures (Kanazawa, White, & Hampson, 2007; Ohayon & Hong, 2006; Slone et al., 2006; Takeuchi et al., 2002; Unger et al., 2001). For example, negative life events similarly predict levels of depressive symptoms for teens from the United States, China, Korea, and the Czech Republic (Dmitrieva, Chen, Greenberger, & Gil-Rivas, 2004).

#### SOCIOECONOMIC DISADVANTAGE

Van Hemert and colleagues (2002) examined country-level associations between self-reported depressive symptoms and economic factors. They found that individuals in richer countries tend to report lower levels of depressive symptoms. Individual-level factors, such as poverty, unemployment, and lack of education, are consistently associated with depression across countries (Almeida-Filho et al., 2004; Bahar, Henderson, & Mackinnon, 1992; Bromet et al., 2005; Dressler et al., 2004; Ohayon, 2007; Oquendo et al., 2004; Pikhart et al., 2004). Because these variables are likely to be associated with a perceived failure to follow the cultural norm for a desirable lifestyle (Dressler et al., 2004), as well as with chronic life stress and lack of financial resources to manage negative life events and obtain health care, it is not surprising that, across cultures, low socioeconomic status is associated with depression. Interestingly, specific indices of socioeconomic disadvantage show cross-cultural differences in their association with emotional distress. For example, one study showed that lack of education did not emerge as a risk factor in Japan (Inaba et al., 2005). It appears that reliance on a conservative seniority stratification system in the workplace diminishes the association between education levels and professional promotion. In this cultural setting, other markers of financial stability may predict depression better than education.

#### MARITAL STATUS AND INTERPERSONAL FUNCTIONING

In addition to gender, stress, and socioeconomic status, ability to maintain healthy relationships is associated with depression across diverse cultural contexts. The odds of developing major depression or reporting depressive symptoms are heightened among unmarried relative to married adults across cultures (Inaba et al., 2005; Kawakami et al., 2005; Pikhart et al., 2004). The heightened risk is driven by individuals who are divorced, separated, or widowed (Almeida-Filho et al., 2004; Bromet et al., 2005; Ohayon, 2007; Slone et al., 2006).

More generally, the lack of stable and supportive social relationships is associated with heightened levels of depressive symptoms and increased prevalence of major depression across cultural groups in the United States (Whitbeck, McMorris, Hoyt, Stubben, & LaFromboise, 2002), as well as in other countries (Calvete & Connor-Smith, 2006). This is not a surprise considering that healthy interpersonal functioning plays an important role in buffering the effects of stress on levels of depressive symptoms across diverse cultural contexts (Calvete & Connor-Smith, 2006).

In summary, numerous studies lend support to the notion that despite large differences in prevalence rates, the construct of depression is associated with similar risk factors across countries. Another step in determining whether depression is similar across cultures involves examining the comorbidity of depression with other common forms of mental illness.

### *Patterns of Comorbidity across Cultures*

Although depression traditionally has been conceptualized as a category that is independent of other forms of psychopathology, this assumption is not true. Clinicians and researchers have long observed that psychiatric comorbidity is the rule rather than the exception in Western cultures, including North America (Hasin, Goodwin, Stinson, & Grant, 2005), Finland (Melartin et al., 2002), and Australia (Henderson, Andrews, & Hall, 2000). These studies tell us that a patient with major depressive disorder and panic disorder in these cultures is not affected by two independent maladies. Rather, this patient demonstrates vulnerability to the broader cluster of disorders that includes both depression and panic disorder.

Research demonstrates that common forms of psychological distress systematically co-occur in both children and adults (Achenbach & Edelbrock, 1984; Krueger, Caspi, Moffitt, & Silva, 1998). For example, mood disorders, anxiety disorders, and somatization (what have been described as *internalizing disorders* in the child clinical literature) often co-occur at rates significantly higher than chance. Similarly, substance use and antisocial behavior (what has been described as *externalizing disorders*) also co-occur at rates significantly higher than chance. In addition, there is a weaker, albeit still significant, association between clusters of internalizing and externalizing disorders (Hasin et al., 2005). Thus, depression shows high rates of comorbidity with other internalizing disorders, such as anxiety disorders, and moderate rates of comorbidity with externalizing disorders, such as alcohol dependence.

Do these patterns of comorbidity generalize to other cultural contexts? An emerging body of literature suggests that the answer is "yes." High comorbidity rates have been documented for major depression and other internalizing disorders in countries as diverse as India (Raguram et al., 2001), Mexico (Slone et al., 2006), Poland (Malyszczak & Szechinski, 2004), and Saudi Arabia (Becker, 2004). In the United States, this association holds for minority groups, such as African Americans, Hispanic Americans, and Native Americans (Brown et al., 1996; Lagomasino et al., 2005; Sawchuk et al., 2005). A handful of studies report that major depression also shows significant association with externalizing disorders, such as alcohol use and/or abuse and antisocial behavior across cultural groups, such as Native American tribes in the United States (Sawchuk et al., 2005; Whitbeck et al., 2002) and adolescents in China (Unger et al., 2001).

Unfortunately, these studies do not formally compare patterns of comorbidity across cultures. Small-scale comparisons based on samples of primary care patients in the United States have yielded differences in rates of comorbidity of major depression and other common psychiatric disorders across ethnic groups (Brown et al., 1996; Lagomasino et al.,

2005). For example, depressed African Americans have higher rates of panic disorder, somatization disorder, and alcohol dependence than do European Americans (Brown et al., 1996). Similarly, Merikangas and colleagues (1996) found that although patterns of association between depression and other disorders are similar, the degree of association differs substantially across cultures. For example, the odds ratio (OR) for the association of depression and anxiety disorder ranged widely, from about 3 in Switzerland to about 15 in Puerto Rico. On the other hand, Krueger and colleagues (2003) examined comorbidity patterns of common mental disorders among patients in primary care centers across 14 countries and found that the patterns of association between depression and other common psychiatric syndromes held across cultures. As expected, depression was highly associated with internalizing syndromes, such as symptoms of anxiety and somatic distress, and moderately associated with externalizing syndromes, such as hazardous use of alcohol. Thus, emerging evidence suggests that depression reflects a broader internalizing tendency across cultures, although cultural factors may influence the strength of its association with other internalizing disorders.

Despite cross-cultural differences in prevalence of major depression, extant research suggests that epidemiological studies are capturing a comparable construct across diverse cultural settings. An important strength of cross-cultural studies is their attention to experimental, sampling, and linguistic similarity in methods employed across cultures. One trade-off is that relatively less attention is given to cross-cultural similarity in conceptual meanings and the behavioral context of symptoms of depression. Another weakness of this research approach is that epidemiological studies rarely attempt to measure cultural factors such as ideas and practices. Instead, they rely on country as a proxy for culture. As a result, when cross-national differences are detected, it is often difficult to know which of the many specific cultural, demographic, or biological factors may account for higher levels of depression in some countries, such as the United States, and lower levels of depression in other countries, such as Japan. Complementing a cross-cultural approach with more culturally nuanced approaches may allow researchers to identify and examine closely the association of specific cultural factors, such as self-enhancement tendency or cultural norms regarding emotions, and the occurrence and expression of depression.

### **Cultural Approach: Examining Cultural Factors Associated with Depression**

In this section, we describe emerging studies that use a cultural approach to studying depression. Because this research approach is a relative newcomer to the field of cultural psychopathology, these studies examine fewer cultural contexts than is the case with other approaches. Most of the studies that we describe in this section are based on comparison of North American (i.e., United States and Canada) and East Asian (i.e., Japan, Korea, China) cultural settings. Despite this limitation in scope, however, the cultural approach promises to provide us with a more sophisticated and empirically based understanding of the ways in which depression is culturally shaped.

#### *The Role of Positivity Biases*

Symptoms of depression, such as depressed mood, loss of interest in pleasurable activities, and decreases in self-esteem, are more likely to be viewed as abnormal in cultural settings such as North America (Heine, 2001; Mesquita & Karasawa, 2002; Tsai, Knutson, & Fung,

2006) and Puerto Rico (Koss-Chioino, 1999, p. 335) that promote the assumption that the “preferred ethos of euphoria” and feeling good about oneself is a healthy way of being. In these cultural settings, positivity biases, such as a tendency to view oneself and one’s life and one’s future in unrealistically positive light, and sense of control over one’s life, serve as useful tools to motivate the independent self to pursue important goals. Indeed, displays of positivity biases are associated with increasing engagement with these cultural settings. For example, levels of reported self-esteem steadily increase with East Asian individuals’ increasing acculturation to Western culture (Heine et al., 1999).

East Asian cultures provide an interesting cultural contrast. In these cultures, self-criticism and moderation are valued as a path to self-improvement and a way to maintain interpersonal harmony. Consistent with this cultural imperative, healthy individuals from East Asian cultures are less likely to self-enhance (Arnault, Sakamoto, & Moriwaki, 2005) and display lower levels of unrealistic optimism (Chang, Asakawa, & Sanna, 2001) than do individuals of European descent from the United States and Canada.

Implications of positivity biases for mental health may differ across cultures. Because North American cultures place a premium on feeling good about the self, the future, and life, individuals in these cultural contexts who fail to develop this worldview tend to be at risk for developing depressive symptoms. In contrast, positivity biases do not reflect a culturally normative worldview in East Asian cultures. In these cultural settings, low levels of positivity biases may not be associated with heightened levels of depressive symptoms, but may simply reflect reluctance to endorse positive items on depression questionnaires. For instance, Japanese individuals are less likely than European Americans to report that they feel happy or enjoy life, even though these groups do not differ in their reports of negative affect and somatic symptoms of depression (Iwata & Buka, 2002; Kanazawa et al., 2007). Studies examining cultural models of the self and the future, and perceptions of control have garnered support for the notion that positivity biases show different patterns of associations with levels of depressive symptoms across cultures.

#### MODELS OF THE SELF

A number of investigators have examined individuals’ perceptions of the actual self (how one is), and their relation to levels of depressive symptoms across cultural contexts. They reported that negative descriptions of the actual self show stronger associations with levels of depressive symptoms for U.S., Korean, and Spanish samples, compared to samples from Japan, China, and the Czech Republic (Arnault et al., 2005; Calvete & Connor-Smith, 2005; Farruggia, Chen, Greenberger, Dmitrieva, & Macek, 2004).

It may not be enough to examine descriptions of the actual self alone. Instead, the greater the discrepancy between the actual self and the ideal self (how one would ideally like to be), the more susceptible one may be to depression. A large distance between ideal and actual selves represents a failure to fulfill a cultural imperative to self-enhance. Heine and Lehman (1999) found that the relation between levels of depressive symptoms and discrepancies between ideal and actual selves is stronger for European Canadians than for Japanese, with a bicultural Asian Canadian sample falling in between the two groups. In contrast, actual-undesired self-discrepancy predicts levels of depressive symptoms equally well for Asian American and European American students (Hardin & Leong, 2005). These data suggest that for European American samples, depression is associated with both failure to achieve the ideal self and inability to distance oneself from undesirable outcomes. In contrast, heightened levels of depressive symptoms among individuals in East Asian cultures are

uniquely associated with failure to escape the undesirable self (Cheung, 1997), consistent with a notion that self-criticism rather than self-enhancement is an important cultural imperative in East Asian cultures.

#### MODELS OF THE FUTURE AND THE WORLD

Studies examining individuals' positive view of the future and their lives show a similar pattern. Although pessimism and hopelessness are associated with depressive symptoms across national groups, this association is stronger for European Americans than for individuals in Hong Kong (Stewart et al., 2005), as well as for Asian Americans (Hardin & Leong, 2005) and African Americans (Kennard, Stewart, Hughes, Patel, & Emslie, 2006). In addition, Calvete and Connor-Smith (2005) reported that although symptoms of depression are predicted by dissatisfaction with life circumstances for Spanish and U.S. students alike, the link between dissatisfaction with circumstances and heightened levels of depressive symptoms is stronger for the U.S. students than for the Spaniards.

#### ATTRIBUTIONAL STYLES

Another line of research has examined negative perceptions of the self, the world, and the future in the wake of negative life events. According to the hopelessness theory of depression (Abramson, Metalsky, & Alloy, 1989), individuals who tend to attribute negative events to internal, stable, and global causes are at increased risk for depression. Studies with primarily European American samples support this theory (Abela, 2002). Given an emphasis on positive self-presentation in European American cultural contexts, negative attributional style may represent a failure to interpret life stressors in a culturally normative way. Although negative attributions following negative life events have been found to be associated with depressed mood for U.S., Russian, French, and Chinese adults and children (Ameli, Swendsen, Campagnone, & Grillon, 2002; Anderson, 1999; Gutkovich et al., 1999), this association is weaker for Japanese students (Sakamoto & Kambara, 1998), and minority groups in the United States (Cardemil, Kim, Pinedo, & Miller, 2005; Rieckmann, Wadsworth, & Deyhle, 2004). Additional studies examining the association between negative explanatory style and the etiology and maintenance of depression across cultures are needed to examine the validity of attributional theory of depression across cultural groups.

#### LOCUS OF CONTROL

Finally, having an *external locus of control*, or believing that life events are out of one's personal control, is thought to be a risk factor for depression (Neff & Hoppe, 1993). For example, Mirowsky and Ross (1984) found that among Mexican Americans and Mexicans, being fatalistic (i.e., having an external locus of control) was predictive of higher levels of depression. However, the association between external locus of control (or fatalism) and depression is not universal. Although having an external locus of control was positively correlated with levels of depression for American and Turkish college students, such was not the case for Nigerian or Filipino college students (Akande & Lester, 1994; Lester, Castromayor, & Icli, 1991). Similarly, Sastry and Ross (1998) found that although believing in personal control is related to lower levels of depression across cultural groups, the magnitude of the correlation is weaker for East and South Asians than for non-Asians.

To summarize, viewing oneself, one's future, and one's life negatively; attributing negative life events to internal, stable, and global causes; and believing that they are not under

one's control are known to be harmful or "depressogenic" beliefs. The cultural approach challenges this notion, and suggests that these beliefs and attributional styles are greater risk factors for depression for individuals from Western cultural settings, such as European Americans, than for individuals from cultures that place less emphasis on promoting the self, such as East Asians. This pattern of findings helps us understand how East Asians can appear depressed due to their failure to endorse positive assessments of themselves and their lives, yet remain surprisingly resilient to major depression, in part due to their tendency to persevere under stress.

### *Cultural Norms Regarding Negative Emotions*

Another cultural factor that may shape the impact of depression on emotional responding is adherence to cultural norms regarding emotions. Different cultures endorse different norms regarding the experience and expression of negative emotions. For example, healthy emotional functioning is associated with open expression of emotions in European American cultural contexts, and with emotional balance and moderation in East Asian cultural contexts. Abnormal emotional functioning can also be expected to vary relative to these culture-specific norms of emotional functioning; that is, emotional symptoms of psychopathology may represent deviations from culturally specific norms of emotional expression rather than from culturally universal patterns of healthy emotional functioning. For example, Okazaki and Kallivayalil (2002) found that levels of depressive symptoms among Asian American students were associated with deviations from a culturally normative belief that it is inappropriate to express and experience depression.

Studies of European Americans indicate that individuals with major depressive disorder exhibit diminished reactivity to a variety of standard emotional cues (Gehricke & Shapiro, 2000; Sloan, Strauss, Quirk, & Sajatovic, 1997). Diminished emotional reactivity represents deviation from the European American cultural norm of open, or even exaggerated, emotional responding. Depression may reduce attention to, or concern with, cultural norms of emotional responding, resulting in emotional responses that contradict these norms; that is, in European American cultural contexts, a depressed individual may fail to express his or her feelings openly. In contrast, in Asian cultural contexts, a depressed individual may fail to moderate his or her emotions.

To test this hypothesis, we presented depressed and nondepressed European Americans and Asian Americans with sad and amusing films (Chentsova-Dutton et al., 2007). Consistent with previous studies, whereas major depression was associated with *diminished* emotional responding to the sad film for European Americans, it was associated with *enhanced* emotional responding for Asian Americans. In other words, within each cultural group, depressed participants demonstrated the culturally inappropriate negative emotional response. Being depressed may result in a failure to endorse and enact cultural norms of emotional expression. Alternatively, deviating from cultural norms may result in depression. Regardless, these findings suggest that the impact of depression on emotional responding varies depending on the dominant cultural model of healthy emotional functioning.

## **CONCLUSIONS AND FUTURE DIRECTIONS**

Recent decades have seen a growing interest in understanding the role of culture in shaping depression. Nearly 1,000 studies on culture and depression have been published in the last

15 years alone. These studies use different research approaches to examine whether the Western body of knowledge about major depression generalizes to other cultural contexts, and, increasingly, to identify specific cultural factors associated with resilience and vulnerability to major depression.

In this chapter, we have reviewed recent evidence gathered in ethnographic, biomedical, and cultural approaches to the study of cultural shaping of depression. Despite differences in these theoretical and methodological approaches, all have demonstrated the various ways in which culture may influence depression—from concepts of depression and illness to prevalence rates across countries, to the association of positivity biases with levels of depressive symptoms. These approaches have also identified important similarities—from similar conceptualization of depression as caused by worrying too much to risk factors and comorbidity, to the patterns of emotional responding that represent deviations from cultural norms regarding experience and expression of emotions. Despite these advances, it is sobering to realize how little we know about depression across cultures. It is important that future researchers move beyond the approaches described here by studying depression in more cultural contexts and combining multiple research approaches to examine more explicitly how culture influences other aspects of depression, such as its biological and genetic markers, and its treatment.

### **Combining Diverse Approaches**

In particular, more studies are needed that combine research tools developed by ethnographic, biomedical, and cultural approaches. Only by combining these research approaches can we uncover the extent of cultural similarities and differences in depression. One recent example of this is the study by Kohrt and colleagues (2005). They studied *jhum-jhum*, a common illness in rural Nepal that is characterized by numbness and tingling sensations. The study combined ethnographic and biomedical approaches to investigate the relationship between *jhum-jhum* and depression, measuring levels of depression in patients with *jhum-jhum* and conducting medical exams to identify cases of *jhum-jhum* caused by medical conditions, such as arthritis or diabetes. This study demonstrated that the presence of somatic symptoms in this non-Western cultural setting was associated with higher levels of depressive symptoms, regardless of medical explanation for the somatic symptoms. The study benefited from combining different approaches. Limiting this study to a single approach, such as the ethnographic interview, would not have allowed researchers to examine whether the biological and cultural factors interacted in shaping the expression of distress among rural Nepalese.

### **Behavioral, Physiological, and Genetic Markers of Depression**

A recent set of studies has begun to examine interactions between ethnicity and physiological markers of depression, such as hormonal responses to stress, and genetic markers for depression (Gallagher-Thompson et al., 2006; Zintzaras, 2006). For example, Gallagher-Thompson and colleagues (2006) showed that physiological responses to stress differ for Hispanic and non-Hispanic caregivers. Regardless of their stress levels, Hispanic women had flatter daytime cortisol slopes than did their European American counterparts. This study suggests that we cannot take for granted that physiological markers of depression identified in European American samples hold universally for other cultural and ethnic groups. Future examinations of cultural differences in behavioral, physiological, and genetic

markers of depression and their interactions with stress would open a new frontier in the research on cultural shaping of depression.

### Barriers to Treatment

As the numbers of ethnic/minority and immigrant populations in Western countries skyrocket, the crisis in providing effective mental health services to these individuals is more apparent than ever. Mounting evidence suggests that evidence-based care for depression improves outcomes for these individuals (for a review, see Miranda et al., 2005). Despite these promising data, individuals from non-Western cultural settings face countless barriers in obtaining effective treatment for depression. These barriers range from low rates of treatment seeking (Lagomasino et al., 2005; Ohayon & Hong, 2006; Williams et al., 2007; Wittchen & Jacobi, 2005) to low likelihood of detection of depressive symptoms by clinicians (Simon, Goldberg, et al., 1999). Once in treatment, barriers include unwillingness of patients to engage in a biological treatment strategy for an ailment they believe to be of an interpersonal or spiritual nature, and some patients' inability to tolerate standard doses of antidepressants, resulting in lower likelihood of taking antidepressants (Cooper et al., 2003). In addition, some patients may feel hesitant to engage in therapies requiring disclosure of feelings, due to their belief that it is inappropriate to discuss personal and family problems with strangers (Lawrence et al., 2006). It is no surprise that these factors result in high treatment dropoff rates for individuals from non-Western cultural settings and minority patients (Organista, Muñoz, & Gonzalez, 1994). It is likely that cultural factors, such as fatalism, acceptance of suffering, stigma, and cultural conceptions of depression as being interpersonally based contribute to these barriers. Given these challenges in recruiting, accurately diagnosing, and delivering effective treatment modalities to culturally diverse populations, future research needs to utilize our knowledge of cultural conceptions of depression to design more effective recruitment, assessment, and treatment programs.

### Indigenous Forms of Treatment

A final, promising future direction is to explore the effects of non-Western treatment approaches, such as acupuncture, yoga, and meditative practices, on depression in Western populations. These practices may be particularly useful for treating individuals who cannot take some antidepressant medications, such as pregnant women or individuals who do not respond to antidepressants. For example, studies suggest that acupuncture provides relief to depressed individuals and appears to be comparable to other treatments in terms of response and relapse rates (Gallagher, Allen, Hitt, Schnyer, & Manber, 2001).

Similarly, a number of studies support the use of meditation, mindfulness practices, and yoga for treating depression (Segal, Williams, & Teasdale, 2002; Woolery, Myers, Sternlieb, & Zeltzer, 2004). For example, patients with mood and anxiety disorders undergoing mindfulness-based therapy show reduced *ruminations*, or maladaptive tendency to focus on symptoms of depression, compared to waiting-list controls (Ramel, Goldin, Carmona, & McQuaid, 2004). Reduced rumination can help patients predisposed to depression manage negative affect in their lives. Consistent with this notion, treatment with mindfulness-based cognitive therapy, a meditation-based psychotherapeutic intervention, reduced risk of relapse among patients with a history of multiple previous episodes of major depression (Teasdale et al., 2000). Future studies need to examine whether these practices are particularly beneficial within the context of East Asian and Southeast Asian cultural values and norms.

## REFERENCES

- Abela, J. R. Z. (2002). A test of the diathesis-stress and causal mediation components of Beck's cognitive theory of depression. *British Journal of Clinical Psychology, 41*, 111-128.
- Abramson, L. Y., Metalsky, G. I., & Alloy, L. B. (1989). Hopelessness depression: A theory-based subtype of depression. *Psychological Review, 96*, 358-372.
- Achenbach, T. M., & Edelbrock, C. (1984). Psychopathology of childhood. *Annual Review of Psychology, 35*, 227-256.
- Akande, A., & Lester, D. (1994). Suicidal preoccupation, depression and locus of control in Nigerians and Americans. *Personality and Individual Differences, 16*(6), 979.
- Almeida-Filho, N., Lessa, I., Magalhaes, L., Araujo, M. J., Aquino, E., James, S. A., et al. (2004). Social inequality and depressive disorders in Bahia, Brazil: Interactions of gender, ethnicity, and social class. *Social Science and Medicine, 59*(7), 1339-1353.
- Ameli, R., Swendsen, J., Compagnone, P., & Grillon, C. (2002). Cross-cultural validity of the cognitive theory of depression: A French-American comparison. *Annales Médico-Psychologiques, 160*(5-6), 362-368.
- American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorders* (4th ed., text rev.). Washington, DC: Author.
- Anderson, C. A. (1999). Attributional style, depression, and loneliness: A cross-cultural comparison of American and Chinese students. *Personality and Social Psychology Bulletin, 25*(4), 482-499.
- Arnault, D. S., Sakamoto, S., & Moriwaki, A. (2005). The association between negative self-descriptions and depressive symptomatology: Does culture make a difference? *Archives of Psychiatric Nursing, 19*(2), 93-100.
- Ayuso-Mateos, J. J., Vázquez, J. L., Dowrich, C., Lehtinen, V., Dalgard, O. S., Casey, P., et al. (2001). Depressive disorders in Europe: Prevalence figures from the ODIN study. *British Journal of Psychiatry, 179*, 308-316.
- Bahar, E., Henderson, A. S., & Mackinnon, A. J. (1992). An epidemiological study of mental health and socioeconomic conditions in Sumatra, Indonesia. *Acta Psychiatrica Scandinavica, 85*(4), 257-263.
- Becker, S. M. (2004). Detection of somatization and depression in primary care in Saudi Arabia. *Social Psychiatry and Psychiatric Epidemiology, 39*(12), 962-966.
- Bhui, K., Bhugra, D., Goldberg, D., Sauer, J., & Tylee, A. (2004). Assessing the prevalence of depression in Punjabi and English primary care attendees: The role of culture, physical illness and somatic symptoms. *Transcultural Psychiatry, 41*(3), 307-322.
- Bromet, E. J., Gluzman, S. F., Paniotto, V. I., Webb, C. P. M., Tittle, N. L., Zakhosha, V., et al. (2005). Epidemiology of psychiatric and alcohol disorders in Ukraine: Findings from the Ukraine World Mental Health Survey. *Social Psychiatry and Psychiatric Epidemiology, 40*(9), 681-690.
- Brown, C., Schulberg, H. C., & Madonia, M. J. (1996). Clinical presentations of major depression by African Americans and whites in primary medical care practice. *Journal of Affective Disorders, 41*(3), 181-191.
- Burr, J., & Chapman, T. (2004). Contextualizing experiences of depression in women from South Asian communities: A discursive approach. *Sociology of Health and Illness, 26*(4), 433-452.
- Calvete, E., & Connor-Smith, J. K. (2005). Automatic thoughts and psychological symptoms: A cross-cultural comparison of American and Spanish students. *Cognitive Therapy and Research, 29*(2), 201-217.
- Calvete, E., & Connor-Smith, J. K. (2006). Perceived social support, coping, and symptoms of distress in American and Spanish students. *Anxiety, Stress and Coping: An International Journal, 19*(1), 47-65.
- Cardemil, E. V., Kim, S., Pinedo, T. M., & Miller, I. W. (2005). Developing a culturally appropriate depression prevention program: The Family Coping Skills program. *Cultural Diversity and Ethnic Minority Psychology, 11*, 99-112.
- Chang, E. C., Asakawa, K., & Sanna, L. J. (2001). Cultural variations in optimistic and pessimistic bias: Do Easterners really expect the worst and Westerners really expect the best when predicting future life events? *Journal of Personality and Social Psychology, 81*, 476-491.

- Chentsova-Dutton, Y., Chu, J. P., Tsai, J. L., Rottenberg, J., Gross, J. J., & Gotlib, I. H. (2007). Depression and emotional reactivity: Variations among Asian American and European Americans. *Journal of Abnormal Psychology, 116*, 776–785.
- Cheung, S. K. (1997). Self-discrepancy and depressive experiences among Chinese early adolescents: Significance of identity and the undesirable self. *International Journal of Psychology, 32*(5), 347–359.
- Cho, M. J., Kim, J. K., Jeon, H. J., Suh, T., Chung, I. W., Hong, J. P., et al. (2007). Lifetime and 12-month prevalence of DSM-IV psychiatric disorders among Korean adults. *Journal of Nervous and Mental Disease, 195*, 203–210.
- Cooper, L. A., Gonzales, J. J., Gallo, J. J., Rost, K. M., Meredith, L. S., Rubenstein, L. V., et al. (2003). The acceptability of treatment for depression among African-American, Hispanic, and white primary care patients. *Medical Care, 41*(4), 479–489.
- Dmitrieva, J., Chen, C., Greenberger, E., & Gil-Rivas, V. (2004). Family relationships and adolescent psychosocial outcomes: Converging findings from Eastern and Western cultures. *Journal of Research on Adolescence, 14*(4), 425–447.
- Dressler, W. W., Ribeiro, R. P., Balieiro, M. C., Oths, K. S., & Dos Santos, J. E. (2004). Eating, drinking and being depressed: The social, cultural and psychological context of alcohol consumption and nutrition in a Brazilian community. *Social Science and Medicine, 59*(4), 709–720.
- Farruggia, S. P., Chen, C., Greenberger, E., Dmitrieva, J., & Macek, P. (2004). Adolescent self-esteem in cross-cultural perspective: Testing measurement equivalence and a mediation model. *Journal of Cross-Cultural Psychology, 35*(6), 719–733.
- Gallagher, S. M., Allen, J. J. B., Hitt, S. K., Schnyer, R. N., & Manber, R. (2001). Six-month depression relapse rates among women treated with acupuncture. *Complementary Therapies in Medicine, 9*, 216–218.
- Gallagher-Thompson, D., Shurgot, G. R., Rider, K., Gray, H. L., McKibbin, C. L., Kraemer, H. C., et al. (2006). Ethnicity, stress, and cortisol function in Hispanic and non-Hispanic white women: A preliminary study of family dementia caregivers and noncaregivers. *American Journal of Geriatric Psychiatry, 14*(4), 334–342.
- Gehricke, J., & Shapiro, D. (2000). Reduced facial expression and social context in major depression: Discrepancies between facial muscle activity and self-reported emotion. *Psychiatry Research, 95*, 157–167.
- Guarnaccia, P. J., Rivera, M., Franco, F., & Neighbors, C. (1996). The experiences of *ataques de nervios*: Towards an anthropology of emotions in Puerto Rico. *Culture, Medicine and Psychiatry, 20*, 343–367.
- Gutkovich, Z., Rosenthal, R. N., Galynker, I., Muran, C., Batchelder, S., & Itskhoki, E. (1999). Depression and demoralization among Russian-Jewish immigrants in primary care. *Psychosomatics: Journal of Consultation Liaison Psychiatry, 40*(2), 117–125.
- Hardin, E. E., & Leong, F. T. L. (2005). Optimism and pessimism as mediators of the relations between self-discrepancies and distress among Asian and European Americans. *Journal of Counseling Psychology, 52*(1), 25–35.
- Hasin, D. S., Goodwin, R. D., Stinson, F. S., & Grant, B. F. (2005). Epidemiology of major depressive disorder: Results from the national epidemiologic survey on alcoholism and related conditions. *Archives of General Psychiatry, 62*(10), 1097–1106.
- Heine, S. J. (2001). Self as cultural product: An examination of East Asian and North American selves. *Journal of Personality, 69*, 881–905.
- Heine, S. J., & Lehman, D. R. (1999). Culture, self-discrepancies, and self-satisfaction. *Personality and Social Psychology Bulletin, 25*(8), 915–925.
- Heine, S. J., Lehman, D. R., Markus, H. R., & Kitayama, S. (1999). Is there a universal need for positive self-regard? *Psychological Review, 106*, 766–794.
- Henderson, S., Andrews, G., & Hall, W. (2000). Australia's mental health: An overview of the general population survey. *Australian and New Zealand Journal of Psychiatry, 34*(2), 197–205.
- Inaba, A., Thoits, P. A., Ueno, K., Gove, W. R., Evenson, R. J., & Sloan, M. (2005). Depression in the United States and Japan: Gender, marital status, and SES patterns. *Social Science and Medicine, 61*(11), 2280–2292.

- Iwata, N., & Buka, S. (2002). Race/ethnicity and depressive symptoms: A cross-cultural/ethnic comparison among university students in East Asia, North and South America. *Social Science and Medicine*, 55(12), 2243–2252.
- Jadhav, S., Weiss, M. G., & Littlewood, R. (2001). Cultural experience of depression among White Britons in London. *Anthropology and Medicine*, 8(1), 47–70.
- Karam, E. G., Mneimneh, Z. N., & Karam, A. N. (2006). 12-month prevalence and treatment of mental disorders in Lebanon: A national epidemiologic survey. *Lancet*, 367, 1000–1006.
- Kanazawa, A., White, P. M., & Hampson, S. E. (2007). Ethnic variation in depressive symptoms in a community sample in Hawaii. *Cultural Diversity and Ethnic Minority Psychology*, 13(1), 35–44.
- Karasz, A. (2005a). Cultural differences in conceptual models of depression. *Social Science and Medicine*, 60(7), 1625–1635.
- Karasz, A. (2005b). Marriage, depression and illness: Sociosomatic models in a South Asian immigrant community. *Psychology and Developing Societies*, 17(2), 161–180.
- Kawakami, N., Takeshima, T., Ono, Y., Uda, H., Hata, Y., Nakane, Y., et al. (2005). Twelve-month prevalence, severity, and treatment of common mental disorders in communities in Japan: Preliminary finding from the World Mental Health Japan Survey 2002–2003. *Psychiatry and Clinical Neurosciences*, 59(4), 441–452.
- Kennard, B. D., Stewart, S. M., Hughes, J. L., Patel, P. G., & Emslie, G. J. (2006). Cognitions and depressive symptoms among ethnic minority adolescents. *Cultural Diversity and Ethnic Minority Psychology*, 12(3), 578–591.
- Kessler, R. C., Berglund, P., Demler, O., Jin, R., Merikangas, K. R., & Walters, E. E. (2005). Lifetime prevalence and age-of-onset distributions of DSM-IV disorders in the National Comorbidity Survey Replication. *Archives of General Psychiatry*, 62, 593–602.
- Keyes, C. L. M., & Ryff, C. D. (2003). Somatization and mental health: A comparative study of the idiom of distress hypothesis. *Social Science and Medicine*, 57(10), 1833–1845.
- Kleinman, A. (1977). Depression, somatization, and the new cross-cultural psychiatry. *Social Science and Medicine*, 11, 3–10.
- Kleinman, A. (1982). Neurasthenia and depression: A study of somatization and culture in China. *Culture, Medicine and Psychiatry*, 6(2), 117–190.
- Kohrt, B. A., Kunz, R. D., Baldwin, J. L., Koirala, N. R., Sharma, V. D., & Nepal, M. K. (2005). “Somatization” and “comorbidity”: A study of *jhum-jhum* and depression in rural Nepal. *Ethos*, 33(1), 125–147.
- Koss-Chioino, J. D. (1999). Depression among Puerto Rican women: Culture, etiology and diagnosis [Special issue]. *Hispanic Journal of Behavioral Sciences*, 21(3), 330–350.
- Kroeber, A. L., & Kluckhohn, C. (1952). *Culture: A critical review of concepts and definitions*. Cambridge, MA: Harvard University, Peabody Museum of Archaeology and Ethnology.
- Krueger, R. F., Caspi, A., Moffitt, T. E., & Silva, P. E. (1998). The structure and stability of common mental disorders (DSM-III-R): A longitudinal-epidemiological study. *Journal of Abnormal Psychology*, 107, 216–227.
- Krueger, R. F., Chentsova-Dutton, Y. E., Markon, K. E., Goldberg, D., & Ormel, J. (2003). A cross cultural study of the structure of comorbidity among common psychopathological syndromes in the general health care setting. *Journal of Abnormal Psychology*, 112, 437–447.
- Lagomasino, I. T., Dwight-Johnson, M., Miranda, J., Zhang, L., Liao, D., Duan, N., et al. (2005). Disparities in depression treatment for Latinos and site of care. *Psychiatric Services*, 56(12), 1517–1523.
- Lam, K., Marra, C., & Salzinger, K. (2005). Social reinforcement of somatic versus psychological description of depressive events. *Behaviour Research and Therapy*, 43(9), 1203–1218.
- Lawrence, V., Banerjee, S., Bhugra, D., Sangha, K., Turner, S., & Murray, J. (2006). Coping with depression in later life: A qualitative study of help-seeking in three ethnic groups. *Psychology Medicine*, 36, 1375–1383.
- Lee, C. K. (2001). *The epidemiological survey of psychiatric illnesses in Korea*. Seoul, Korea: Ministry of Health and Welfare.

- Lester, D., Castromayor, I. J., & Icli, T. (1991). Locus of control, depression, and suicidal ideation among American, Philippine, and Turkish students. *Journal of Social Psychology, 131*(3), 447-449.
- Lin, K.-M., Lau, J. K., Yamamoto, J., Zheng, Y.-P., Kim, H.-S., Cho, K.-H., et al. (1992). Hwa-Byung: A community study of Korean Americans. *Journal of Nervous and Mental Disease, 180*(6), 386-391.
- Madianos, M. G., & Stefanis, C. N. (1992). Changes in the prevalence of symptoms of depression and depression across Greece. *Social Psychiatry and Psychiatric Epidemiology, 27*, 211-219.
- Mak, W. W. S., & Zane, N. W. (2004). The phenomenon of somatization among community Chinese Americans. *Social Psychiatry and Psychiatric Epidemiology, 39*(12), 967-974.
- Malyszczak, K., & Szechinski, M. (2004). Comorbidity of different forms of anxiety disorders and depression. *Psychiatria Polska, 38*(4), 603-609.
- Melartin, T. K., Rytsälä, H. J., Leskelä, U. S., Lestelä-Mielonen, P. S., Sokero, T. P., & Isometsä, E. T. (2002). Current comorbidity of psychiatric disorders among DSM-IV major depressive disorder patients in psychiatric care in the Vantaa Depression Study. *Journal of Clinical Psychiatry, 63*(2), 126-134.
- Merikangas, K. R., Angst, J., Eaton, W., Canino, G., Rubio-Stipec, M., Wacker, H., et al. (1996). Comorbidity and boundaries of affective disorders with anxiety disorders and substance misuse: Results of an international task force. *British Journal of Psychiatry, 30*, 58-67.
- Mesquita, B., & Karasawa, M. (2002). Different emotional lives. *Cognition and Emotion, 16*, 127-141.
- Miranda, J., Bernal, G., Lau, A., Kohn, L., Hwang, W.-C., & LaFromboise, T. (2005). State of the science on psychosocial interventions for ethnic minorities. *Annual Review of Clinical Psychology, 1*(1), 113-142.
- Mirowsky, J., & Ross, C. E. (1984). Mexican culture and its emotional contradictions. *Journal of Health and Social Behavior, 25*(1), 2-13.
- Murray, C. J. L., & Lopez, A. D. (1997). Alternative projections of mortality and disability by cause 1990-2020: Global Burden of Disease Study. *Lancet, 349*, 1498-1504.
- Neff, J. A., & Hoppe, S. K. (1993). Race/ethnicity, acculturation, and psychological distress: Fatalism and religiosity as cultural resources. *Journal of Community Psychology, 21*, 3-20.
- Ohayon, M. M. (2007). Epidemiology of depression and its treatment in the general population. *Journal of Psychiatric Research, 41*(3-4), 207-213.
- Ohayon, M. M., & Hong, S.-C. (2006). Prevalence of major depressive disorder in the general population of South Korea. *Journal of Psychiatric Research, 40*(1), 30-36.
- Okazaki, S., & Kallivayalil, D. (2002). Cultural norms and subjective disability as predictors of symptom reports among Asian Americans and white Americans. *Journal of Cross-Cultural Psychology, 33*(5), 482-491.
- Oquendo, M. A., Lizardi, D., Greenwald, S., Weissman, M. M., & Mann, J. J. (2004). Rates of lifetime suicide attempt and rates of lifetime major depression in different ethnic groups in the United States. *Acta Psychiatrica Scandinavica, 110*(6), 446-451.
- Organista, K. C., Muñoz, R. F., & Gonzalez, G. (1994). Cognitive-behavioral therapy for depression in low-income and minority medical outpatients: Description of a program and exploratory analyses. *Cognitive Therapy and Research, 18*, 241-259.
- Pang, K. Y. (1995). A cross-cultural understanding of depression among elderly Korean immigrants: Prevalence, symptoms and diagnosis. *Clinical Gerontologist, 15*(4), 3-20.
- Pikhart, H., Bobak, M., Pajak, A., Malyutina, S., Kubinova, R., Topor, R., et al. (2004). Psychosocial factors at work and depression in three countries of central and Eastern Europe. *Social Science and Medicine, 58*(8), 1475-1482.
- Raguram, R., Weiss, M. G., Keval, H., & Channabasavanna, S. M. (2001). Cultural dimensions of clinical depression in Bangalore, India. *Anthropology and Medicine, 8*(1), 31-46.
- Ramel, W., Goldin, P. R., Carmona, P. E., & McQuaid, J. R. (2004). The effects of mindfulness meditation on cognitive processes and affect in patients with past depression. *Cognitive Therapy and Research, 28*(4), 433-455.
- Rieckmann, T. R., Wadsworth, M. E., & Deyhle, D. (2004). Cultural identity, explanatory style, and depression in Navajo adolescents. *Cultural Diversity and Ethnic Minority Psychology, 10*(4), 365-382.
- Sakamoto, S., & Kambara, M. (1998). A longitudinal study of the relationship between attributional style, life events, and depression in Japanese undergraduates. *Journal of Social Psychology, 138*(2), 229-240.

- Sastry, J., & Ross, C. E. (1998). Asian ethnicity and the sense of personal control. *Social Psychology Quarterly*, 61(2), 101-120.
- Sawchuk, C. N., Roy-Byrne, P., Goldberg, J., Manson, S., Noonan, C., Beals, J., et al. (2005). The relationship between post-traumatic stress disorder, depression and cardiovascular disease in an American Indian tribe. *Psychological Medicine*, 35(12), 1785-1794.
- Segal, Z. V., Williams, J. M. G., & Teasdale, J. D. (2002). *Mindfulness-based cognitive therapy for depression: A new approach to preventing relapse*. New York: Guilford Press.
- Sellers, S. L., Ward, E. C., & Pate, D. (2006). Dimensions of depression: A qualitative study of wellbeing among black African immigrant women. *Qualitative Social Work: Research and Practice*, 5(1), 45-66.
- Simon, G. E., Goldberg, D., Tiemens, B. G., & Ustün, T. B. (1999). Outcomes of recognized and unrecognized depression in an international primary care study. *General Hospital Psychiatry*, 21, 97-105.
- Simon, G. E., Goldberg, D. P., Von Korff, M., & Ustün, T. B. (2002). Understanding cross-national differences in depression prevalence. *Psychological Medicine*, 32, 585-594.
- Simon, G. E., Von Korff, M., Picvinelli, M., Fullerton, C., & Ormel, J. (1999). An international study of the relation between somatic symptoms and depression. *New England Journal of Medicine*, 18, 1329-1335.
- Sloan, D. M., Strauss, M. E., Quirk, S. W., & Sajatovic, M. (1997). Subjective and expressive emotional responses in depression. *Journal of Affective Disorders*, 46, 135-141.
- Slone, L. B., Norris, F. H., Murphy, A. D., Baker, C. K., Perilla, J. L., Diaz, D., et al. (2006). Epidemiology of major depression in four cities in Mexico. *Depression and Anxiety*, 23(3), 158-167.
- Stewart, S. M., Kennard, B. D., Lee, P. W. H., Mayes, T., Hughes, C., & Emslie, G. (2005). Hopelessness and suicidal ideation among adolescents in two cultures. *Journal of Child Psychology and Psychiatry, and Allied Disciplines*, 46(4), 364-372.
- Stompe, T., Ortwein-Swoboda, G., Chaudhry, H. R., Friedmann, A., Wenzel, T., & Schanda, H. (2001). Guilt and depression: A cross-cultural comparative study. *Psychopathology*, 34(6), 289-298.
- Takeuchi, D. T., Chun, C.-A., Gong, F., & Shen, H. (2002). Cultural expressions of distress. *Health: An Interdisciplinary Journal for the Social Study of Health, Illness and Medicine*, 6(2), 221-235.
- Teasdale, J. D., Segal, Z. V., Williams, J. M. G., Ridgeway, V. A., Soulsby, J. M., & Lau, M. A. (2000). Prevention of relapse, recurrence in major depression by mindfulness-based cognitive therapy. *Journal of Consulting and Clinical Psychology*, 68(4), 615-623.
- Tousignant, M., & Maldonado, M. (1989). Sadness, depression and social reciprocity in highland Ecuador. *Social Science and Medicine*, 28(9), 899-904.
- Tsai, J. L., Knutson, B., & Fung, H. H. (2006). Cultural variation in affect valuation. *Journal of Personality and Social Psychology*, 90, 288-307.
- Tung, M. P. M. (1994). Symbolic meanings of the body in Chinese culture and "somatization." *Culture, Medicine and Psychiatry*, 18, 483-492.
- Unger, J. B., Li, Y., Johnson, C. A., Gong, J., Chen, X., Li, C. Y., et al. (2001). Stressful life events among adolescents in Wuhan, China: Associations with smoking, alcohol use, and depressive symptoms. *International Journal of Behavioral Medicine*, 8(1), 1-18.
- Van Hemert, D. A., Van de Vijver, F. J. R., & Poortinga, Y. H. (2002). The Beck Depression Inventory as a measure of subjective well-being: A cross-national study. *Journal of Happiness Studies*, 3(3), 257-286.
- Vasiliadis, H.-M., Lesage, A., Adair, C., Wang, P. S., & Kessler, R. C. (2007). Do Canada and the United States differ in prevalence of depression and utilization of services? *Psychiatric Services*, 58, 63-71.
- Waza, K., Graham, A. V., Zyzanski, S. J., & Inoue, K. (1999). Comparison of symptoms in Japanese and American depressed primary care patients. *Family Practice*, 16(5), 528-533.
- Weissman, M. M., Bland, R., Canino, G. J., Faravelli, C., Greenwald, S., Hwu, H.-G., et al. (1996). Cross-national epidemiology of major depression and bipolar disorder. *Journal of the American Medical Association*, 24, 293-299.
- Whitbeck, L. B., McMorris, B. J., Hoyt, D. R., Stubben, J. D., & LaFromboise, T. (2002). Perceived discrimination, traditional practices, and depressive symptoms among American Indians in the upper Midwest. *Journal of Health and Social Behavior*, 43(4), 400-418.

- Williams, D. R., Gonzalez, H., Neighbors, H., Nesse, R., Abelson, J. M., Sweetman, J., et al. (2007). Prevalence and distribution of major depressive disorder in African Americans, Caribbean blacks, and non-Hispanic whites: Results from the National Survey of American Life. *Archives of General Psychiatry*, 64(3), 305–315.
- Witichen, H.-U., & Jacobi, F. (2005). Size and burden of mental disorders in Europe—a critical review and appraisal of 27 studies [Special issue]. *European Neuropsychopharmacology*, 15(4), 357–376.
- Woolery, A., Myers, H., Sternlieb, B., & Zeltzer, L. K. (2004). A yoga intervention for young adults with elevated symptoms of depression. *Alternative Therapies in Health and Medicine*, 10, 60–63.
- World Health Organization World Mental Health Survey Consortium. (2004). Prevalence, severity, and unmet need for treatment of mental disorders in the World Health Organization World Mental Health Surveys. *Journal of the American Medical Association*, 291, 2581–2590.
- Zintzaras, E. (2006). C677T and A1298C methylenetetrahydrofolate reductase gene polymorphisms in schizophrenia, bipolar disorder and depression: A meta-analysis of genetic association studies. *Psychiatric Genetics*, 16(3), 105–115.