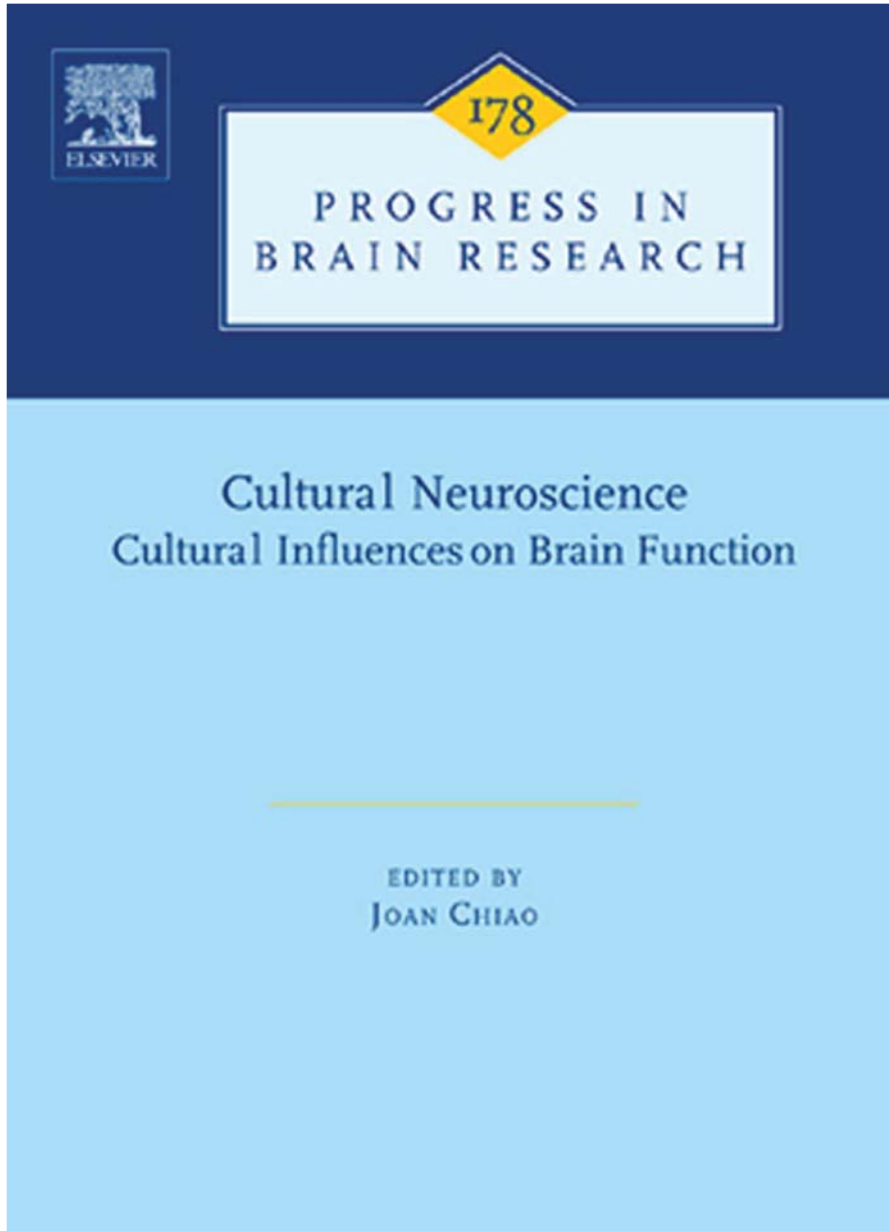


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CHAPTER 16

Culture and social support: neural bases and biological impact

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Abstract: Social support is an effective means by which people cope with stressful events, and consequently, it beneficially affects health and well-being. Yet there are profound cultural differences in the effectiveness of different types of support and how people use their support networks. In this paper, we examine research on the impact of culture on social support, the neural underpinnings of social support, and how cultural differences in social support seeking are manifested biologically. We focus on cultural factors that may affect individuals' decisions to seek or not to seek social support and how culture moderates the impact of support seeking on biological and psychological health outcomes. We also examine recent research on the interaction between genes and culture in social support use. Discussion centers on the importance of developing an overarching framework of social support that integrates health psychology, cultural psychology, social neuroscience, and genetics.

Keywords: culture; social support; emotion regulation; expression

In recent years, researchers have begun to integrate cultural with biological approaches to a wide range of psychological processes (for reviews see Chiao and Ambady, 2007; Han and Northoff, 2008; Levenson et al., 2007). Such integration is important because it enables researchers to understand a phenomenon at both a micro-level, by examining its neural correlates and biological effects, as well as the macro-level, by examining the cultural context within which the psychological process operates. In this spirit, we present

research from health psychology, social neuroscience, and cultural psychology that addresses the specific act of social support use.

In this article, we focus on two aspects of the social support process. One aspect involves cultural influences on psychological and biological tendencies that affect individuals' decisions to seek or not to seek social support. Specifically, we discuss cultural divergences in the attention that individuals pay to the social context, in the regulation of emotions, and in the value of expression. The second aspect addresses how culture moderates the impact of support seeking on biological and psychological health outcomes. In particular, we discuss the neural pathways by which social support may modulate stress

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responses and how different types of social support may affect biological stress responses as a function of culture. We also discuss recent research and theorizing on the interaction between culture and genetics in social support use.

Cultural factors affecting the likelihood of seeking social support

Social support exists within the context of relationships, both between individuals as well as between individuals and their respective communities (Cutrona, 1986). Indeed a basic definition of social support emphasizes the embedded nature of individuals within their social context: Social support is information from others that one is loved and cared for, esteemed and valued, and part of a network of communication and mutual obligations (Cohen and Wills, 1985). Thus, all aspects of the support seeking process should be considered within the context of how an individual perceives the role of the self in relationship to others, as well as how people normatively communicate their thoughts and feelings to others; these psychological tendencies vary considerably across cultures (Triandis, 1989; Markus and Kitayama, 1991).

To set the context for this discussion, we focus on the distinction between collectivistic and individualistic cultures and the interpersonal and cognitive differences between them. In individualistic cultures, such as the United States, the dominant model of the self is an independent self that regards a person as possessing a set of self-defining attributes, which are used to take action in the expression of personal beliefs and the achievement of personal goals (Markus and Kitayama, 1991). Relationships also assume an independent form — they are thought to be freely chosen and with relatively few obligations (Adams and Plaut, 2003). Within individualistic cultures, people tend to be analytic in their cognitive style and attend to focal objects more than the context (Nisbett et al., 2001; Kim et al., in press). By contrast, in collectivistic cultures, such as in many parts of Asia, the dominant model of the self is an interdependent self who is a flexible, connected entity who is bound to others, who

conforms to relational norms, and who views group goals as primary and personal beliefs, needs, and goals as secondary (Markus and Kitayama, 1991). In these cultures, relationships also assume an interdependent form — they are viewed as less voluntary than in individualistic cultures and more “given.” Within collectivistic cultures, people are more holistic in their cognitive styles than in individualistic cultures and are more likely to attend to the social context (Nisbett et al., 2001; Kim et al., in press).

These cultural differences in social and cognitive orientation have implications for whether people use social support, the mode of social support they use, and the effectiveness of social support seeking. These cultural differences can lead to differences in the use and effectiveness of social support by affecting many of the processes that a person goes through in seeking support: recognizing a stressor, experiencing emotions related to the stressor, deciding whether to express a need for support, and ultimately, requesting help from others (Bolger and Amarel, 2007). Across many different types of stressors, including academic, social, and health stressors, Asians and Asian Americans are less likely to seek social support to cope with stressors than are European Americans (see Kim et al., 2008 for a review). This cultural difference has been observed both in self-reported use of social support as well as in support seeking behavior in dyadic interactions (Sherman et al., 2009). Moreover, for European Americans, social support seeking is associated with greater resolution of the stressor, whereas for Asian Americans, social support seeking is associated with *less* successful resolution of the stressor (Kim et al., 2006). In the present article, we examine several psychological factors that are related to these cultural differences in support seeking, and research that has been conducted on their neural bases and biological impact.

Cultural differences in attention to context

A person who asks a friend for help, for example, by requesting a ride to the airport, may be attending primarily to the problem (a need for a

ride) and the solution (the friend who can drive). However, a person who decides not to ask the friend for help, but rather, decides to take the bus to the airport, may be attending more to the situational context facing his or her friend. The bus taker may be aware of constraints on the friend's time, and the potential inconvenience that asking for a ride could cause. Thus, differences in attention to contextual factors could play a role in deciding to seek social support.

Of course, in the above example, people may have different motivations (i.e., to receive comfort, or to not burden a friend) that may influence how they perceive the availability of the friend and their willingness to ask for help. However, we propose that cognitive distinctions in terms of locus of attention are relevant as well, and suggest one reason why cultures may differ in seeking support. These cognitive differences could manifest themselves in cultural differences in paying attention to the focal event versus paying attention to the social context. Consistent with this possibility research findings on culture and cognition have demonstrated that Asians and Asian Americans pay attention to situational factors more than European Americans do, as they are more attuned to the background of a focal object and the social context of an event (Ji et al., 2001; Masuda and Nisbett, 2001; see Nisbett et al., 2001 for a review). For example, in one study, Japanese participants were more likely than European American participants to attend to and recall contextual factors when viewing underwater or nature scenes, whereas European Americans were more likely to attend to and recall aspects of the focal object (Masuda and Nisbett, 2001). These cultural differences are rooted in differences in basic perceptual processes. In a study that measured the eye movements of American and Chinese participants, the Americans fixated on the focal object, whereas the Chinese made more saccades, that is, rapid eye movements, to the background (Chua et al., 2005).

What are the neural correlates of these cultural differences in attention? Previous research has found that East Asians perform better on tasks with contextual demands, whereas European Americans perform better on context-independent

tasks (Kitayama et al., 2003). Building on these findings the researchers (Hedden et al., 2008) conducted a functional imaging study comparing cultural groups during such tasks to provide convergent evidence and examine the neural underpinnings of these attentional differences. Increased activation in frontal and parietal brain regions was associated with attentional control when participants engaged in the culturally incongruent tasks, that is, context-dependent tasks for European Americans and context-independent tasks for Asian Americans (Hedden et al., 2008). Thus, similar brain regions were activated among people from different cultures during the culturally non-preferred activity, which indicates that greater attention may be needed for those activities (Hedden et al., 2008). This study raises intriguing questions about the neural pathways underlying attentional focus during social support interactions. For example, one possibility is that it requires greater attention for European Americans to focus on contextual factors when deciding whether or not to seek support. Not seeking support because a support provider is burdened could require, for those who do not habitually focus on the context, additional cognitive resources, as in the context-dependent tasks used by Hedden et al. (2008). This possibility was examined directly in a study that compared the effectiveness of culturally preferred versus not preferred forms of social support (Taylor et al., 2007), a study we shall describe in a later section.

Within a social support transaction, one relevant contextual factor concerns the potential provider of support. A study by Coan et al. (2006) examined whether different neural regions associated with threat are activated depending on from whom a person is seeking support. In the study, female participants anticipated possible electric shock while in the scanner; in a within-subjects design, the women were either threatened with shock or not and either held their husband's hand, a stranger's hand, or engaged in no hand-holding. Thus, this study provides an opportunity to examine whether people are sensitive to the type and quality of the relationship between the support provider and support recipient.

The shock (vs. no-shock) trials revealed increased activation in a network of brain regions associated with threat, pain, and negative affect, including the ventral anterior cingulate cortex (vACC), right dorsolateral prefrontal cortex left caudate (RDLPFC), superior colliculus, posterior cingulate, left supramarginal gyrus, and right postcentral gyrus. These same regions showed reduced activation during threat when the participants held the hands of their husband or a stranger, relative to no hand-holding (Coan et al., 2006). Although there was strong similarity between the two hand-holding conditions in threat-reducing effects, areas related to emotion regulation centers (such as RDLPFC and caudate) showed attenuated activation in the spouse condition than in the stranger condition. Finally, marital quality moderated the relationship between spousal hand-holding and neural threat response, as those with higher marital quality had less threat-related activation in the right anterior insula, superior frontal gyrus, and hypothalamus, suggesting that people are sensitive to the quality as well as the type of relationship when seeking support (Coan et al., 2006).

Although culture was not examined in the study by Coan et al. (2006), based on the analysis just offered, one might expect that Asian Americans would be more affected by the differences in whether a close other versus a stranger held their hand. Our research has demonstrated that in deciding whether to seek social support, Asians and Asian Americans are more sensitive to relational constraints than are European Americans. Asians and Asian Americans believe that seeking help can negatively affect the harmony of the group, can make other people concerned for them, and raises fears that they could lose face with others by asking for social support (Taylor et al., 2004). An important aspect of the interdependent notion of the self, then, is a greater concern and awareness about one's impact on close others.

Asian Americans are also more affected by the nature of the relationship that is activated to meet social support needs than are European Americans (Kim et al., 2006). Several studies have shown that Asian Americans are less likely to

seek support when a closer relationship is primed than when a more distant relationship is primed, whereas European Americans seek the same amount of support regardless of the prime (Kim et al., 2006). This difference occurs because of Asian Americans' concern about the negative relational implications of support seeking, that is, their greater attention to the context within which the support-seeking act occurs. European Americans, by contrast, seem to focus less on context, and more on the focal issue, the problem or stressor requiring support or assistance.

If Asian Americans are more attuned to the context facing potential support providers, then they may modulate their support seeking to a greater extent when potential support providers are themselves occupied, relative to European Americans. This hypothesis was examined in a recent study (Sherman et al., 2009) with European American and Asian American romantic couples. One partner prepared and delivered a speech, a stressful task, and their partner, the potential support provider, was given an easy or a difficult task to perform at the same time. The Asian Americans were more impacted than the European Americans by this manipulation: They sought support (i.e., asked for help and/or consolation) when their partner had an easy task, and presumably, more resources to help, but did not seek support when their partner had a more difficult task and was presumably more taxed. The European Americans, by contrast, sought help to the same extent regardless of what their partner was doing. This study provides behavioral evidence that Asian Americans are more attentive to contextual factors than European Americans when considering whether or not to seek social support.

Cultural differences in the importance of expression

The research on attention to context indicates that greater social and contextual awareness can affect whether a person seeks social support. Intrapersonal factors are also relevant in deciding to seek support. When a person experiences stress, how

that person feels about expressing thoughts, and how much emotion the person is willing to express to others, could determine the amount and type of social support the person seeks. Considerable research has examined cultural differences in the value an individual places on expression of thoughts and the process of emotion regulation.

Cultural values of expression

Expressing one's thoughts and feelings may feel to some people like an automatic, natural response, but to others, it may feel effortful and distracting. Indeed, the very notion of expression is viewed and practiced differently in different cultures. In more individualistic cultures, the expression of thoughts, preferences, and needs is viewed as an expression of selfhood, and thus, freedom of expression is a sign of individual freedom and an independent self. By contrast, in more collectivistic cultures, private and internal thoughts are relatively insignificant in defining the self, as roles and relationships are readily recognizable by others without being expressed (Kim and Ko, 2007). In this context, self-expression may not convey core aspects of the self, and an act of expression may not have the same implications for the self. The appropriateness and desirability of expressing one's thoughts and feelings when in need, then, may vary considerably as a function of an individual's cultural context.

Research supports this theorizing about cultural differences. European Americans value verbal expression to a greater extent than Asian Americans (Kim and Sherman, 2007; Ashton-James et al., 2009). European Americans also become more invested in their choices when they are allowed to express their preferences compared to Asian Americans (Kim and Sherman, 2007). These cultural differences in the value of expression have cognitive and biological effects as well. In a series of studies, Asian American participants completed a cognitive problem-solving task either in silence or while verbalizing their thoughts, and their performance and cortisol response to the task were measured (Kim, 2002, 2008). The verbalization of thoughts consistently impaired the cognitive performance of Asian Americans,

but not the performance of European Americans. The results also indicated that verbalization led to significantly lower cortisol levels [an indicator of stress-related hypothalamic pituitary adrenocortical (HPA) activation] in response to the problem-solving task among European Americans, but did not yield such benefits to Asian Americans (Kim, 2008). Thus, for European Americans, talking can reduce stress, and this may account for their greater expressivity in the form of support seeking when they experience stress.

Emotion regulation

Asking for help, particularly for emotional problems, leads people to reveal their emotions. Cultural differences in emotion regulation strategies, then, could lead to differences in support seeking. For example, Gross and John (2003) have shown that Asian Americans are more likely to report using emotion regulation strategies of suppression than European Americans. People are also less accurate in judging the emotions of Asian Americans than European Americans (Okazaki, 2002), suggesting that Asian Americans may regulate their emotions by not exhibiting distress that could be picked up by others. Indeed, Asian Americans consider the expression of negative emotions with casual acquaintances as less appropriate behavior than do European Americans (Matsumoto, 1993).

Within European American cultural contexts, utilizing suppression as an emotional regulation strategy is associated with both personal and social costs. Emotional suppression leads to decreased memory (Richards and Gross, 1999), and is associated with decreased likability within one's social group, reduced social support, and decreased relationship closeness (Gross and John, 2003; John and Gross, 2004). Within dyadic interactions, suppression by one person led the other person to have increased negative feelings about the interaction and worse coordination among the interaction partners (Butler et al., 2003). However, Asian Americans do not seem to experience the same interpersonal costs of emotional suppression as do European Americans

(Butler et al., 2007). These findings suggest that, in a cultural context that values personal reserve over personal expression, emotional suppression may be less costly.

Recent research examining the neural basis of different emotion regulation strategies may have implications for these cultural differences. Research on two emotion regulation strategies, cognitive reappraisal and suppression, suggests that cognitive appraisal is instigated earlier than emotional suppression (Goldin et al., 2008). Using functional MRI, the researchers found that instructions to reappraise disgusting images led to prefrontal cortex activity earlier and decreased amygdala and insular responses, whereas instructions to suppress the emotion produced prefrontal cortex activity later, but with increased amygdala and insula responses. Other research has found that another emotion regulation strategy, labeling one's affective responses during negative emotional experiences diminishes activation of the amygdala and other limbic regions (Lieberman et al., 2007). Both findings are potentially related to social support seeking to the extent that talking about affective experiences is a way in which people seek support and suppression of emotions is a way in which people cope without seeking social support.

As the neural pathways and temporal sequences underlying different emotion regulation strategies are elucidated, an important question centers on how individual and cultural differences may moderate these processes. Mauss et al. (2008) propose that people vary in their automatic, that is, non-deliberative, responses to emotional-provoking situations, in part, through the activation of different knowledge structures, schemas, and norms. Culture plays a key role in determining and shaping the knowledge structures that are activated in different emotional-evoking situations (Kitayama et al., 2004), and thus different emotion regulation strategies may be automatically activated as a function of an individual's cultural context.

This approach suggests some future directions for research examining the neural basis of emotion regulation strategies. For example, if suppression is a more habitual response for Asian

Americans (Butler et al., 2007), then there may be a different time course for the activated brain regions for this emotion regulation strategy among Asian Americans than for European Americans and they may not experience an increase in amygdala activity when they use this strategy (Goldin et al., 2008). Questions of this sort represent an exciting line for researchers interested in integrating cultural and neural approaches.

Culture and different forms of social support

Social support has clear beneficial effects. It can reduce the likelihood of illness, speed recovery from illness when it does occur, and reduce the risk of mortality from serious disease (Berkman and Syme, 1979; House et al., 1988). Higher levels of social support have been tied to reduced cardiovascular reactivity and HPA axis activity to laboratory stressors (e.g., Eisenberger et al., 2007; Uchino et al., 2001). Indeed, social support is one of the most effective ways by which people protect themselves from the adverse mental and physical health effects of stress (Taylor, 2007).

Still, research has documented some costs to drawing on the social network for help, and considerable research indicates that the mere perception that social support is available is sufficient to engage many of its benefits (see Taylor, 2007, for a review). When people are experiencing stressors, sometimes the support network can only be imagined (Smith et al., 2004). People think of their families during difficult times at work, or look at pictures of their children when they are away from home. This aspect of social support, it is important to point out, does not require the verbal expression or disclosure that characterizes the more explicit support seeking of asking for instrumental help or emotional consolation that yield the cultural differences previously described (Kim et al., 2008).

Accordingly, we contrast *explicit social support*, people's specific recruitment and use of their social networks in response to specific stressful events, with more *implicit social support*, which we define as being in the company of close others

without disclosing or discussing one's problems vis à vis specific stressful events. Implicit support can also take the form of reminding oneself of close others; this conceptualization particularly emphasizes the absence of explicit disclosure and sharing of the stressful events.

Neural pathways for social support effects

An important question, then, is how social support can buffer people when supportive networks are absent. People may reflect upon their social support networks, and research has shown that thinking about supportive ties (relative to acquaintances) can be sufficient to reduce heart rate and blood pressure responses during acute laboratory stressors (Smith et al., 2004). Eisenberger et al. (2007) also examined whether people who interact with more supportive others on a daily basis experience reduced stress responses during threatening tasks. Using an experience sampling paradigm, participants were beeped at random intervals over a 9-day period and reported how supportive their most recent interaction partner was; support was summed, yielding a measure of supportiveness of their social networks. Participants then came to the laboratory and engaged in a virtual ball tossing task while in the scanner that led them to feel socially excluded; this task has been associated in previous research with distress and increased activation in threat regions of the brain including the dorsal portion of the anterior cingulate cortex (dACC; Eisenberger et al., 2003). In the third part of the study, participants engaged in the Trier Social Stress Test (Kirschbaum et al., 1993) and had to give a speech and engage in a mental arithmetic challenge in front of a hostile audience. Salivary cortisol levels were assessed before and after these challenging tasks. People who reported more supportive social networks had lower cortisol levels during the social stress task than people with less supportive networks, even though their networks were not physically present in the laboratory during the stressful activity.

The researchers then examined the relationship between the supportiveness of the social network,

neural activation during social exclusion, and cortisol reactivity during the social stressor. People with more supportive social networks had reduced dACC activation during the social rejection task as well as reduced cortisol levels during the social stress task. Furthermore, the individual differences in dACC activation mediated the relationship between having a supportive social network and stress-reactivity during the lab stressor, providing evidence as to one neural pathway by which social support can reduce stress (Eisenberger et al., 2007).

Based on the cultural analysis offered earlier, one would predict that Asians and Asian Americans would be especially benefitted by social support that involves awareness of and reflection on supportive ties (i.e., by implicit support) but not by explicit social support that involves asking for aid or solace. By contrast, European Americans may benefit more from the explicit seeking of solace. To test these predictions, Asian Americans and European Americans (Taylor et al., 2007) were primed with different forms of support prior to engaging in a lab stressor (Kirschbaum et al., 1993). They were instructed to think about a group that they are close to and write about the aspects of that group that are important to them (in the implicit support condition) or to think about people they are close to and to write a letter directly asking for advice and support for the upcoming tasks from one of these people (in the explicit support condition). Participants in no support control condition completed a neutral writing activity. After the writing task, participants engaged in the stressful lab tasks; cortisol levels were assessed from saliva samples before and after the task.

Asian Americans who merely wrote about a group that they are close to without asking for help reported less stress and had lower cortisol levels following the stressors than Asian Americans who explicitly wrote to close others and sought support. Explicit support led European Americans to experience less stress and have lower post-task cortisol levels than did implicit support. In fact, the results suggest that the culturally inappropriate form of social support (i.e., explicit for Asian Americans and

implicit for European Americans) actually exacerbated stress.

The distinction between implicit and explicit support, and its differential effects on stress-reactivity as a function of culture, suggest important questions for future research examining the neural pathways of social support. For example, consider the measure of social support utilized in the Eisenberger et al. (2007) study that found associations between social support and reduced dACC activation during a social rejection task. The study asked participants about the supportiveness of their recent contacts. The culture and social support research suggests that different types of support may be seen as most supportive and may have influenced those judgments. European Americans may have felt most supported after receiving explicit support, whereas Asian Americans may have felt most supported after merely being in the company of close others without disclosing a stressor. Thus, there may be similar associations between possessing a socially supportive network and reduced biological responses to stress, but what is considered a socially supportive network may be moderated by culture.

Genes X culture interactions in social support use

To date, research on the interaction of cultural and biological bases of social support has focused on how culture moderates biological responses, such as how different types of social support affect people during stress as a function of their culture (Taylor et al., 2007). An alternative approach is to examine how biological factors, such as genetic predispositions, can interact with culture in leading people to pursue social support. We have begun to examine these questions by focusing on the serotonin system, in which certain polymorphisms have been associated with different emotional regulation patterns, especially in stressful life situations (Caspi et al., 2003; Lenze et al., 2008; Taylor et al., 2006).

Studies focused on the serotonin transporter polymorphism (5-HTTLPR) have found a greater propensity for distress in high stress circumstances

among people with a particular variant, the s/s genotype (e.g., Caspi et al., 2003); this s/s genotype occurs in disproportionately high frequency among Asians/Asian Americans relative to European Americans (Gelernter et al., 1997). One study examined the propensity to experience depressive affect as a function of the supportiveness of their environment among participants including Asian Americans and European Americans (Taylor et al., 2006). People who were s/s genotype (and who were disproportionately Asian Americans) were more likely to experience depressive affect when they grew up in a stressful environment, but in a significant reversal, experienced a greatly reduced risk of depressive affect if they grew up in a supportive environment. These findings suggest that the supportiveness of the family environment could significantly offset a genetic risk for distress that may be especially experienced by Asian Americans. Given these findings, it may be the case that the well-documented tendency of interdependence among Asians (Markus and Kitayama, 1991) may have arisen in part to modulate potential genetic risks, for example, the higher frequency of s/s genotype in Asian populations (Taylor et al., 2007).

In addition to this idea of gene-culture coevolution, another possibility to consider is the interaction between the gene and culture, that is, how culture moderates the behavioral outcomes of genetic predispositions. In one recent study (Kim et al., 2009), we examined the cultural and genetic basis of the use of social support, focusing on a serotonin 1A receptor gene (5-HTR1A) and the oxytocin receptor gene (OXTR). 5-HTR1A is an autoinhibitor of serotonin release, and the G allele of the polymorphism prevents binding of putative repressor proteins (Huang et al., 2004; Lemonde et al., 2003). The G allele is associated with greater proneness for an array of psychological disorders, such as depression and anxiety disorder (Huang et al., 2004; Lenze et al., 2008). A few studies have examined the connection between OXTR gene and social behavior phenotypes; one animal study shows that mice with a null mutation in the OXTR gene tends to be more aggressive (among males), less maternally nurturing (among females), less distressed by social

isolation, and have impaired social memory (Takayanagi et al., 2005). The amount of research on this polymorphism with humans is relatively limited, but one study shows that the frequency of the A/A genotype for SNP rs53576 was higher among autistic individuals (Wu et al., 2005).

Similar to the case of 5-HTTLPR, we found the gene by environment interaction with 5-HTR1A (Kim et al., 2009). Individuals with the G/G genotype showed a greater association between the degree of environmental risk and psychological distress, compared to individuals with the C/G genotype, who in turn showed a greater association than individuals with the C/C genotype. Given this finding, we examined the roles of culture and OXTR in influencing the use of social support. We found that European Americans with the G/G genotype of OXTR reported seeking greater social support as a function of distress experienced, compared to the G/A or A/A genotypes. By contrast, Koreans with the G/G genotype did not seek social support as a function of stress any more than those with the other genotypes, as it is not the culturally normative way in which people cope with their stress and affiliate with close others. In summary, we obtained a gene X culture interaction in social support use. It appears that those who are more genetically affiliation-prone seek social support more, but only when it is a culturally sanctioned way of coping (Kim et al., 2009). These findings demonstrate the importance of examining the interaction of genetic and cultural influences in conjunction with documented cross-cultural differences.

Conclusions

The impact of social support on health and well-being has stimulated considerable research on its neural underpinnings and biological impact. Research has also uncovered profound cultural differences in how social support is experienced. Culture plays a large role in the decision to seek social support, the form in which social support is sought, and the extent to which social support can attenuate stress. Moreover, recent research has

begun to examine the neural underpinnings of processes highly relevant to social support, such as how people see the self in relationship to others, the distinction between possessing an analytic or holistic cognitive style, the value of expression, and how people regulate their emotions.

In the present review, we aimed to connect research on social support and related processes from multiple perspectives. In so doing our goal was to not only integrate different levels of analysis, but to show how they interact with each other in determining the use and effectiveness of social support. The integration of health psychology, cultural psychology, social neuroscience, and genetics in the study of social support is in its early stages. Although elements of these approaches have been integrated in some studies, an overarching framework that incorporates these multiple perspectives has yet to emerge. The present review represents an attempt to develop such a framework.

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