Being left out of a friend’s birthday gathering can throb like a smashed finger, and a new volume on social pain helps us to understand why. Proven experts and promising newer scholars summarize key findings and present them in approachable and informative ways in *Social Pain: Neurophysiological and Health Implications of Loss and Exclusion*, edited by Geoff MacDonald and Lauri Jensen-Campbell.

In the nascent field of social neuroscience, mammalian responses to social stress, loneliness, separation, and social evaluation are drawing considerable attention. Researchers have warmed to a notion that Panksepp and his colleagues suggested in the 1970s: that social separation produces pain akin to the pain from a physical injury (Herman & Panksepp, 1978; Panksepp, 2003). Some researchers have gone so far as to claim that physical pain is basically “an emotion with sensory features” (Chapman & Nakamura, 1999, p. 416).

Neuroscientists are enthusiastic about the possibility that the two types of pain share neurophysiological underpinnings. Furthermore, there is mounting evidence for some common genetic links between physical and social pain (Boomsma, Willemsen, Dolan, Hawkley, & Cacioppo, 2005).

Regarding neurophysiological and behavioral associations, this new book provides an excellent overview of the research to date. Readers learn about key regions in the mammalian nervous system that process the “PAIN/GRIEF” (see Chapter 1 by Panksepp) associated with physical and social injuries. In addition, in Part I, the book offers a synopsis of genetic links to social pain in language that is basic enough for non-neuroscientists and nongeneticists.

In Part I readers naïve about genetics might not discriminate between terms like *gene* (e.g., OPRM1) and *polymorphism* (e.g., A118G), but we feel confident that they will use Way and Taylor’s guiding paragraph (p. 97) and, perhaps, will seek further information from among Chapter 4 references. Admittedly, a tutorial about types of polymorphisms (such as *minisatellites* and *microsatellites*) would be hard to give in this relatively brief book of just 258 pages.

Numerous mentions, across chapters, of Eisenberger’s work emphasize its criticality. To experts, these multiple citations might seem slightly redundant, but they are complementary. Moreover, they are most certainly warranted, as the study by Eisenberger, Lieberman, and Williams (2003) was defining—harking back to Panksepp’s contention that all pain is emotional and heralding in a new era of understanding about the role of the anterior cingulate cortex (ACC; see Panksepp, 2003).

Are people with high trait-aggression less or more sensitive to socioemotional slights? With her colleagues, Eisenberger (see Chapter 2) has demonstrated that those with genetic variant MAOA-L (reduced expression of MAOA receptors) may very well be more sensitive to social pain, as is indicated by higher levels of dorsal ACC activity when they are excluded.
during an experimental task (i.e., the “cyberball game”; Eisenberger, Way, Taylor, Welch, & Lieberman, 2007).

Some hormones (e.g., oxytocin) and neurotransmitters (e.g., catecholamines) most certainly play a part in the experience of social pain. When one is denied social contact, these chemicals might also affect one’s response to being alone. Puzzling—and fodder for additional research—are some gender differences relating to single genetic variants. There appear to be gender-by-gene interactions leading to higher social sensitivity for women and lower social sensitivity for some men. Several chapter authors discuss genetic determinants of the reactions to social loss and/or exclusion.

In keeping with the theme that there are common neurophysiological underpinnings of social and physical pain, Panksepp (Chapter 1) cites the evidence for opioid involvement in social pain. He contends that buprenorphine might be used to treat depression from separation/social loss without producing sedation. Also nicely situated in this volume is the well-publicized work of DeWall, Pond, and Deckman (Chapter 5) about taking acetaminophen to squelch psychological hurt and implicating cannabinoid receptors (CB1) in social pain (e.g., Association for Psychological Science, 2009; Brittany, 2009; Grohol, 2009).

Going beyond neurophysiological and genetic foundations, authors in Parts II and III address critical applications of the research in development, health, and education—such as interactions between biology, psychology, and the social self in physical pain; associations between health and social stress; and social pain links to peer bullying. Adeptly integrated from developmental psychology (e.g., Bowlby, 1982) and from social psychology (e.g., Williams, 2001), the discussion of attachment issues in adulthood highlight their potential influence on one’s tendency to approach social interactions with hypersensitivity to threaten or to avoid them—being biased to expect low reward potential (as in MacDonald, Borsook, and Spielmann’s Chapter 6).

Overall, the best use of this book might be to quickly deliver a review of the literature to nonexperts (e.g., beginning students in social neuroscience, researchers, and/or clinicians who want a quick, readable summary). Students and psychologists in many subdisciplines will find this book helpful, and a particularly interesting feature of several authors’ contributions is embedded research questions within the text of content paragraphs. The effect is to bring a reader back to the critical issues in an engaging, active manner. These can be talking points when the book is used as a course text.

Most chapters accent evidence for common underlying mechanisms in physical pain and social pain—something that has been a hard sell to some (physical) pain researchers and some social psychologists. Chapter 7 by Chen and Williams makes an intriguing departure by indicating some differences between physical pain and social pain. We are curious whether chronic pain from a mild/moderate injury (i.e., even after physical wounds have healed) is akin to “remembering” a social slight or loss?

Chen and Williams (p. 168) have argued, consistent with numerous studies, that “social pain is more easily relived than physical pain.” However, there are copious accounts in many journals (Pain, Headache, and European Journal of Pain) devoted to the study of chronic physical pain—when all signs of one’s physical wounds are gone. We suggest that chronic pain represents an important aspect of a “memory” for physical pain: being the sensory “reexperience” of the pain (Morley, 1993).

Studies comparing pain memory for social and physical pains typically use verbal/textual cues for remembering—cues that are unlikely to trigger the sensory component of a chronic (physical) pain response (Morley, 2007). It is rare to find a study that assesses somatosensory aspects of pain memory (e.g., Katz & Melzack, 1990) and, perhaps, even more unusual to find a study in which an attempt is made to trigger physical pain by touching or applying pressure to an area of the body that was previously wounded (Morley, 2007).

We wonder whether studies that attempt to trigger pain memories should compare cues that are consistent with the original injury: (a) for social pain, being primarily cognitive (as in deducing that one has been excluded after learning that friends attended a party to which he or she was not invited); and (b) for physical pain, being primarily sensory (such as applying touch or pressure to a foot that has since healed after being broken during a fall). Thus, a study to assess commonalities between memories of social and physical pain should include conditions with cognitive triggers and conditions with somatosensory triggers.
There are many points of agreement in this book, but at least one area of contention becomes apparent: the effects of socially painful events on subsequent painful experiences. Is an instance of social pain followed by a period of increased pain sensitivity or by numbing? Multiple chapters present different reactions to a study conducted by DeWall and Baumeister (2006), who presented a “fortune-telling” scenario after a fake personality inventory had been administered. Some subjects were informed that they would face the future alone. Those participants displayed higher thresholds to pain, greater physical pain tolerance, more of a tendency toward neutral affect when forecasting the future, and less empathy (i.e., compared with subjects who were informed that they would spend the future in a good relationship or who were told they would be accident prone in the future).

In an attempt to reconcile this finding with other existing research, Eisenberger (Chapter 2) proposes that mild pain may increase sensitivity, while analgesia may result from more severe pain (e.g., a future alone). On the other hand, Dickerson (Chapter 3) and Knack, Gomez, and Jensen-Campbell (Chapter 10) suggest that repeated, intense, acute social pain and chronic social pain may be related to increased sensitivity.

Furthermore, Chen and Williams’s (Chapter 7) evidence for a difference in ability to forecast social versus physical pain is used to question DeWall and Baumeister’s (2006) use of a predicted physically painful future as a control condition. These varied opinions highlight the need for additional research about changes in pain sensitivity immediately following social versus physical pain—with intensity and repetition of the pain-inducing stimulus having the potential to influence subsequent experiences of pain.

Overall, we have praise for this timely volume that will undoubtedly serve as a manual for beginning social pain researchers and as a text for seminars on social pain. Too, it has great promise as a work that will energize cross-talk between social, health, and neuroscience fields. Does the inherited mammalian physiology invoke a pain “emotion” whether one’s foot has been broken snow-boarding or one’s heart has been broken by a friend? The authors and editors of this book seem to be responding with “mostly, yes.”

**References**


