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Commentary

The socialization of pain: Peer influences in adolescence

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Adolescence is characterized by multiple social and developmental shifts that facilitate the transition from childhood to adulthood. Peers are particularly important during this time and contribute to the socialization of attitudes and behaviors, including those related to health. How the socialization processes of adolescence impact pain experiences remains relatively under-studied in the pain literature. The following sections highlight important developmental and social components of pain that make the adolescent pain experience both unique and worth further investigation.

Developmental issues in adolescence

During adolescence young people experience significant biological, cognitive, psychological and social changes (Lerner & Spanier, 1980). Amidst these changes, adolescents also experience a variety of recurrent pains such as headache/migraine, oral/dental pain, stomach/abdominal pain, limb pain, back pain or multiple coexisting pain problems (Goodman & McGrath, 1991; Perquin et al., 2000; Rhee, 2000; Fichtel & Larsson, 2002). Developmental shifts are also apparent in the experience and expression of pain. Craig (2002) asserts that "...there are rapid transformations in the nature of the (pain) experience and in its expression through childhood and adolescence. These changes reflect rapid maturation of the biological substrates serving pain, emotion, cognition, language, behavioral competence and social interaction acting

in conjunction with the powerful impact of life experiences...In consequence, any understanding of children's pain must be developmentally appropriate and sensitive to the social contexts of the infant, child or adolescent's life" (p. 305). Put simply, in order to understand the psychosocial aspects of adolescents' pain experiences, we must first understand the developmental nuances of adolescence.

During adolescence, the acquisition of autonomy and individuation is characterized by less time spent with parents and family and more time spent with peers (Josselson, 1980; Larson & Richards, 1991). Parents no longer serve as the primary source for social values; increased dependence on peers provides young people with additional information to develop their own attitudes, behaviors and social values – essential components of self-identity (Connolly et al., 1987; McGrath & Craig, 1989). These changes in social development affect many attitudes and behaviors, not the least of which is how pain is experienced. However little research has focused on how the psychosocial shifts during adolescence might impact pain experiences.

Early socialization of pain

How children learn about pain expression begins from a very early age. For example, the feedback caregivers and/or parents give to young children during everyday pain episodes provides

children with important information about danger, pain expression and the responsiveness of others (Fearon et al., 1996; von Baeyer et al., 1998). Pain is often experienced in a social setting and social learning processes, including modeling and reinforcement, are the primary mechanisms through which pain expression is shaped. Parents' own experience of pain episodes provide children with opportunities to model pain behaviors, and this is particularly the case when parental pain episodes are frequent (Campbell, 1978). This has been demonstrated in both community and clinical samples (Osborne et al., 1989; Goodman et al., 1997; Thastum et al., 1997) as well as in lab-based studies (Goodman & McGrath, 2003).

Social display rules

In addition to learning *how* to express pain, modeling and reinforcement provide children and adolescents with information about *where* and *when* to express pain – or the situational appropriateness of pain expression. From a very early age children differentiate between pain symptoms that are associated with or without an organic cause and perceive pain in the presence of organic disease as more severe. These perceptions have been shown to be associated with children's overall impressions of their peers, legitimacy of peer pain expression and the extent to which peers should be excused from responsibilities (Guite et al., 2000). Children's response to pain in peers also reflects a facet of how children learn social display rules for pain expression. Children as young as 9 years old have been found to moderate emotional responses as a function of the audience present, with emotional responses displayed in front of peers being dampened significantly more than those displayed in front of parents (Zeman & Garber, 1996).

How children learn about pain and pain expression likely follows a Piagetian developmental course similar to that described for children's illness concepts (Bibace & Walsh, 1980; McGrath & Craig, 1989). An increased understanding of the physiological complexities underlying illness, treatment and pain, as well as an increased awareness of the social rules guiding pain expression, will likely impact heavily on adolescents' own pain expression.

Gender differences

Gender differences associated with pain are also socialized from a very early age and may also have a significant impact on adolescents' pain experience. Although the pain literature indicates that females experience more recurrent pains (Unruh, 1996) and multiple pain types in more body regions (Berkley, 1997) than men, the modeling literature suggests that socialization processes may account for the gender differences. Females report more pain models that are also more frequently female, and thus encounter a more supportive environment in which to express pain than their male peers (Koutantji et al., 1998). This finding has been demonstrated among young girls as well. In their study of emotional expressiveness, Zeman and Garber (1996) found that girls were more likely than boys to overtly express pain regardless of the audience. In addition, gender differences have been found for children's ratings of peer likeability and granting of relief from responsibility due to pain (Guite et al., 2000). These findings begin to provide insight into how young children are socialized to perceive their peers pain experiences, how they expect their peers to behave in pain situations and how those perceptions and expectations are influenced by gender. While mechanisms involved in establishing the psychosocial aspects of children's pain experiences are relatively well understood, how these mechanisms may shift during adolescence, and consequently impact the adolescents' pain experience, remains unclear.

The role of peers in pain expression

Parents undisputedly influence young children's pain behaviors and the social rules around pain expression that are acquired in childhood are often maintained throughout adulthood. However, little research has attempted to describe how the social constructs of pain are maintained during the transition from childhood to adulthood.

During adolescence, young people spend less time with their parents and more time with their peers (Larson & Richards, 1991). With respect to health-risk behaviors, adolescents report that peer modeling and perceptions of peer approval or disapproval out-weigh parental influences in the acquisition of or abstinence from risky health behaviors (Beal et al., 2001). But just how influential are peers

in adolescents' pain experiences? Merlijn and colleagues (2003) assessed the impact of reinforcement and modeling on adolescents with and without chronic pain and reported that both social constructs are essential components of the adolescents' pain experience. Adolescents with chronic pain reported more pain models than adolescents without chronic pain. However, the authors did not indicate the relationship of those pain models to the adolescent and whether the pain models may have been family members and/or peers. Although parental rewarding for pain behavior was more frequently reported than peer rewarding, regression analysis indicated that for female adolescents, more peer rewarding (as well as more pain models) was predictive of chronic pain. Although this study attempts to look at the social influences of peers, limitations make it difficult to draw specific conclusions about the role of peers in modeling and reinforcement of adolescents' pain behaviors.

Directions for research

Adolescence is a critical developmental period for young people. Influences in the acquisition of

attitudes and behaviors increasingly become part of the peer domain. The social impact of peers may mediate disability in adolescents with chronic pain. To date, the pain literature lacks a thorough assessment of this.

Future directions might include research that broadens our understanding of the social variables that are most influential in adolescents' pain responses. Further understanding of modeling and reinforcement within peer contexts may contribute to our understanding of effective versus ineffective coping strategies employed by adolescents with chronic pain. By understanding adolescents' pain experiences within the peer context, additional strategies may be implemented to enhance existing treatment models to support pain coping and optimal health care.

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