

Social Development

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Social factors related to the development of anxiety disorders in children have received renewed research attention over the past decade. Publications addressing the influence of parents and peers on the development and maintenance of anxiety have been appearing with ever increasing frequency in recent years. In this time frame we have also witnessed the growing prominence of *developmental psychopathology* (Cicchetti & Cohen, 1995). Kazdin (1989) described developmental psychopathology as “the study of clinical dysfunction over the course of development” (p. 180). The developmental psychopathology perspective constitutes a guiding framework through which information from diverse fields (e.g., behavior genetics, learning theory, developmental psychology, etc.) may be integrated to provide a more complete conceptualization of the origin and course of disorders across the lifespan. The perspective stresses the assumptions of multicausality and multifinality—essentially the notion that there are multiple entry points (i.e., risk factors) that may place a child on the path toward anxiety disorder and, conversely, multiple points at which a child may be diverted from the path (i.e., protective factors). Importantly, associations are not all considered linear, and the possibility of multiple entry points allows for tremendous diversity in individual etiological pathways.

By way of illustration, one potential pathway to social anxiety disorder would be that of a behaviorally inhibited infant being reared by an anxious parent who is unable to appropriately attend to the child’s needs in a warm and responsive fashion. Poor fit between parent and child

temperament styles may result in diminished quality of infant-caregiver attachment (Thomas & Chess, 1977). As the parent-child relationship serves as the model on which all other social relationships are formed, this inhibited and poorly attached child may have difficulty initiating and maintaining successful peer interactions. Social withdrawal and isolation from peers further restricts the child's opportunities for establishing and practicing effective social skills. This process serves to increase the child's inhibition and discomfort in social settings, thus perpetuating a vicious cycle.

Although issues of multicausality present a methodological challenge to our understanding of the etiology of anxiety disorders, we must keep in mind that multicausality also allows for multiple opportunities for intervention at virtually any developmental stage. However, given that the effects of risk factors tend to compound over time, interventions provided earlier in an individual's life course may have a greater likelihood for success.

This chapter provides a brief overview of the relevant literature with respect to the primary influences on children's social development: parents and peers. For a more extended discussion of processes related to the development of anxiety, the reader is referred to Vasey and Dadds (2001) and to other chapters in this volume.

PARENT-CHILD INTERACTION

Attachment

Children's earliest social interactions occur with their primary caregivers. Parent-child attachment has been the focus of much theoretical and empirical inquiry. Ainsworth, Blehar, Waters, and Wall (1978) identified three specific patterns of infant-caregiver attachment—secure, insecure-ambivalent, and insecure-avoidant—based on responses to the classic "Strange Situation" laboratory task. The "Strange Situation" entails observation of the infant or toddler's behavior during a series of separations and reunions with the caregiver, as well as his or her interactions with a stranger both in the presence and in the absence of the caregiver (Ainsworth, Bell, & Stayton, 1972). A considerable body of research has demonstrated associations between insecure infant-child attachment and later development of psychiatric disorders (e.g., Erickson, Sroufe, & Egeland, 1985; Kobak, Sudler, & Gamble, 1991; Muris & Meesters, 2002). For example, Warren, Huston, Egeland, and Sroufe (1997) evaluated 172 adolescents who had participated in the Strange Situation 16 years earlier (i.e., at 12 months of age). Not surprisingly anxious-resistant attachment style in infancy was associated with increased risk for anxiety disorders in childhood and

adolescence (28% of the anxious-resistant infants, and 11% of securely attached infants). Furthermore, attachment classification over and above measures of maternal attachment, increased attention is being ment and to adult romantic attachment (Berman, Heiss, & Sperling, 1994; Hazan & Bakermans-Kranenburg, 1996).

Parenting Style

Childhood anxiety has been associated by limited expressions of care and warmth and overprotection (e.g., Duggan, Shar, Wiborg & Dahl, 1997). Although most of these studies are retrospective in nature (e.g., Arrindell, F, 1983; Arrindell et al., 1989), the observational interaction conducted to date have yielded consistent results (Rapee, 2001; Hummel & Gross, 2001). In mother-child dyads working together on tasks, high-anxious girls tend to be more controlling than anxious girls. Dumas, LaFreniere, and Sroufe (1991) found a bidirectional influence, with mothers controlling their children by being coercive and children trying to manage their mothers. Similarly, Greco and Morris (2002) observed that anxious children exhibited more controlling behavior than fathers of children who evince low anxiety. In sum, children in the high-social-anxiety group do not differ from one another in their responses to the task.

Family Sociability

Developmentalists have established a strong link between parental influence on children's social development (Krasnor, McKinnon, & Rubin, 1994; Sroufe, 1991; Darling & Steinberg, 1993; Profitt, 1990). Young children are almost entirely dependent on their parents in terms of opportunities for social interaction (Bryant & DeMorris, 1992; Ladd, Pr

adolescence (28% of the anxious-resistant infants, 16% of the avoidant infants, and 11% of securely attached infants met criteria for an anxiety disorder). Furthermore, attachment classification predicted anxiety disorder over and above measures of maternal anxiety and infant temperament. Although most of the attachment literature has focused on infant-caregiver attachment, increased attention is being paid to parent-adolescent attachment and to adult romantic attachment (Armsden & Greenberg, 1987; Berman, Heiss, & Sperling, 1994; Hazan & Shaver, 1987; Van IJzendoorn & Bakermans-Kranenburg, 1996).

Parenting Style

Childhood anxiety has been associated with parenting styles characterized by limited expressions of care and warmth and extreme displays of control and overprotection (e.g., Duggan, Sham, Minne, Lee, & Murray, 1998; Wiborg & Dahl, 1997). Although most of the research in this area has been retrospective in nature (e.g., Arrindell, Emmelkamp, Monsma, & Brilman, 1983; Arrindell et al., 1989), the observational studies of parent-child interaction conducted to date have yielded similar results (e.g., Hudson & Rapee, 2001; Hummel & Gross, 2001). Krohne and Hock (1991) observed mother-child dyads working together on a puzzle task and found mothers of high-anxious girls to be more controlling than were mothers of low-anxious girls. Dumas, LaFreniere, and Serketich (1995) found a pattern of bidirectional influence, with mothers of anxious children attempting to control their children by being coercive and unresponsive and anxious children trying to manage their mothers by being resistant and coercive. Similarly, Greco and Morris (2002) observed that fathers of highly socially anxious children exhibited more controlling behavior during an origami task than fathers of children who evinced low levels of social anxiety. Notably, children in the high-social-anxiety versus low-social-anxiety groups did not differ from one another in their responses toward their fathers during the task.

Family Sociability

Developmentalists have established a strong foundation of research related to parental influence on children's social development (Booth, Rose-Krasnor, McKinnon, & Rubin, 1994; Cohn, Patterson, & Christopoulos, 1991; Darling & Steinberg, 1993; Profilet & Ladd, 1994; Russell & Finnie, 1990). Young children are almost entirely dependent on their parents in terms of opportunities for social interaction (Bhavnagri & Parke, 1991; Bryant & DeMorris, 1992; Ladd, Profilet, & Hart, 1992; Putallaz &

Hefflin, 1990). That being the case, it is not a far reach to propose that parents who are anxious in social situations may be less likely to facilitate their children's social engagement. Indeed, parental reports of their own social networks have been found to be associated with the extent of their children's social networks (e.g., number of playmates, quality of after-school activities, self-reported loneliness). Adults with social phobia characterize their parents as less socially engaged and more socially avoidant than do normal controls (Bruch & Heimberg, 1994; Bruch, Heimberg, Berger, & Collins, 1989; Rapee & Melville, 1997).

It is commonly accepted that children of parents with anxiety disorders are themselves at risk for the development of anxiety disorders. Parents with anxiety disorders inevitably model poor coping strategies and engage in behavior that may promote heightened states of arousal and hypervigilance. Dadds, Barrett, and colleagues have conducted a series of investigations that provide support for the role of parental influence in the development of anxiety. In these studies, parents of anxious children were more likely to model threat interpretations to ambiguous cues and to provide and reinforce avoidant solutions in response to hypothetical social scenarios than were parents of aggressive or nonclinical control children (Barrett, Rapee, Dadds, & Ryan, 1996; Dadds, Barrett, & Rapee, 1996; Dadds, Barrett, Rapee, & Ryan, 1996). Continued work in laboratory and natural contexts is needed to expand our knowledge base with respect to potential causal factors in the development of social anxiety, as well as to provide information that may assist in the development of intervention programs that incorporate the family (see Barrett, Dadds, & Rapee, 1996, for a discussion of family anxiety management).

PEER RELATIONSHIPS

Children's interactions with peers are crucial for the optimal development of social and emotional competency (see Berndt & Ladd, 1989; Hartup, 1979). Peer interaction not only supplements familial influences but also contributes unique variance to the child's social and intellectual functioning (Hartup, 1979). The literature on adult and child psychopathology is replete with references to relations between social withdrawal and psychological impairment (e.g., Bellack & Hersen, 1979; Cowen, Pederson, Babigian, Izzo, & Trost, 1973; McFall, 1982; Roff, 1961).

Importantly, peer interaction provides opportunities for learning specific skills that are not attainable through adult-child interaction. Animal models have provided support for the developmental importance of peer interaction. For example, Suomi and Harlow (1975) found that monkeys

reared in isolation from peers early in life showed deficient social interactive behavior. Suomi and Harlow identified two important functions: (1) it provides opportunities for social interaction leading to appropriate adult functioning and (2) it reduces aggression through less aggressive behavior.

Although most of the literature on childhood psychopathology has focused on externalizing disorders (e.g., conduct disorder, comb, Bukowski, & Pattee, 1993), the past few years have seen efforts toward extension of this work to internalizing disorders and colleagues have found peer acceptance to be a significant predictor of anxiety in children and adolescents (La Greca & Lopez, 1998; Stone, 1988; La Greca & Lopez, 1998; Rapee & Melville, 2001) reports the results of a 5-year longitudinal study of children's social relationships and the development of anxiety. Significant associations were found between children's first grade and self-reports of anxiety in adolescence.

The role of social withdrawal in the development of anxiety to discussions of developmental factors. Social withdrawal and anxiety may lead to social withdrawal, which may interfere with the development of social relationships, which may in turn lead to internalizing disorders (e.g., Vernberg, Abwender, Ewell, & Beitchman, 1996).

Assessing Peer-Group Relations

Children's social relationships with peers can be assessed at dyadic levels. At the group level, a child's social standing within the peer group can be conceptualized as a dyadic relationship between two specific individuals. Assessment at both levels is likely to yield a more comprehensive picture of the child's social world.

Peer Status

Group acceptance typically is assessed using sociometric methods. The standard sociometric nomination procedure asks children to nominate up to three classmates they like best and three classmates that he or she "likes the least." These nominations are then sorted into five social status groups (i.e., popular, average, rejected, socially isolated, average) based on the extent to which they are nominated by peers. Similarly, sociometric rating procedures

reared in isolation from peers early in life failed to develop appropriate social interactive behavior. Suomi and Harlow suggest that play serves two important functions: (1) it provides opportunities to practice behaviors leading to appropriate adult functioning, and (2) it acts to mitigate social aggression through less aggressive behaviors exhibited in play.

Although most of the literature concerning peer relationships and psychopathology has focused on externalizing behavior problems (see Newcomb, Bukowski, & Pattee, 1993), the past decade has witnessed concerted efforts toward extension of this work to anxiety and depression. La Greca and colleagues have found peer acceptance to be inversely related to social anxiety in children and adolescents (La Greca, Dandes, Wick, Shaw, & Stone, 1988; La Greca & Lopez, 1998; La Greca & Stone, 1993). Morris (2001) reports the results of a 5-year longitudinal investigation to examine children's social relationships and the developmental progression of anxiety. Significant associations were found between children's peer status in first grade and self-reports of anxiety in fifth grade.

The role of social withdrawal in peer contexts is particularly relevant to discussions of developmental factors for anxiety. As noted previously, anxiety may lead to social withdrawal, and, conversely, social withdrawal may interfere with the development of social skills and interpersonal relationships, which may in turn lead to increased anxiety in social situations (e.g., Vernberg, Abwender, Ewell, & Beery, 1992).

Assessing Peer-Group Relations

Children's social relationships with peers have been examined at group and dyadic levels. At the group level, a child's peer status denotes his or her social standing within the peer group at large, whereas friendship is conceptualized as a dyadic relationship requiring mutual and voluntary selection between two specific individuals. As such, peer assessment conducted at both levels is likely to yield a more complete picture of the child's social world.

Peer Status

Group acceptance typically is assessed through nomination or rating methods. The standard sociometric nomination procedure involves having children nominate up to three classmates that he or she "likes the most" and three classmates that he or she "likes the least." Children are then classified into five social status groups (i.e., popular, rejected, neglected, controversial, average) based on the extent to which each is liked or disliked by peers. Similarly, sociometric rating procedures involve asking children to

rate their classmates on various dimensions of social acceptance using Likert-type scales. In the revised class play technique (Matsen, Morrison, & Pelligrini, 1985), children are asked to assign peers to various roles in an imaginary play (e.g., which classmate is the most shy, bossy, smart, etc.).

Friendship Quality

Friendships vary greatly in terms of perceived closeness, social support, and conflict. Friendship quality most often is assessed using questionnaire measures, such as the Network of Relationships Inventory (Furman & Buhrmester, 1985), the Friendship Quality Questionnaire (Parker & Asher, 1993), and the Friendship Qualities Scale (Bukowski, Hoza, & Boivin, 1994). Qualitative aspects of children's close friendships also may be assessed through semistructured interviews (e.g., the Friendship Interview; Berndt & Perry, 1986).

Romantic Relationships

The formation and maintenance of romantic attachments often takes precedence over platonic friendships in adolescence. This may be a particularly painful transition for anxious adolescents, as elevated levels of anxiety interfere with the development of close, intimate bonds. Although a small body of research is available on dating and interpersonal functioning among anxious adults, empirical information for adolescents is scant at best.

Social Cognition

School-age children become increasingly adept at anticipating future events, including developing elaborate schemas concerning potential harm and catastrophic outcome (Magnusson, 1985; Piaget & Inhelder, 1966; Vasey & Borkovec, 1992; Vasey, Crnic, & Carter, 1994). As such, expressions of anxiety become increasingly characterized by social evaluative concerns and generalized worry. During this developmental period, children and adolescents become highly sensitive to issues of social acceptance and peer-group conformity. Self-awareness, self-consciousness, and the perceived subjective import of peer relationships increase throughout middle childhood, with the latter reaching its zenith in adolescence (Flavell, 1977; Panella & Henggeler, 1986). Short, Barrett, Dadds, and Fox (2001) examined the influence of parent behavior on the social cognitions of 101 children with anxiety disorders. Consistent with their previous research, the authors found that anxious children were more likely to interpret ambiguous hypothetical social scenarios as threatening. Further, many of these

children's parents actually promoted avoidance of discussion of the hypothetical scenarios.

INCORPORATING SOCIALIZATION AGENTS IN THE TREATMENT

Including important socialization agents in the treatment process may enhance generalization of treatment gains. In cases in which parents are reluctant to be necessary to solicit their active participation in therapy if one hopes to make substantive gains in behavior in child clients.

Family Therapy

Recognizing the impact of anxiety on the family, it is important for family members to inadvertently reinforce the anxiety. Forward incorporating parents in treatment is essential (Barrett et al., 1996; Spence, Donovan, & Rapee, 2001; Toren et al., 2000). Family anxiety management (FAM; Barrett, 1992) is based on behavioral family interventions in the treatment of disruptive behavior problems (Markie, 1992). In family anxiety management, the principles of reinforcement, child management, and communication are used to enhance communication and family functioning.

Peer-Mediated Treatment

Peer-pairing interventions involve strategic use of similar, socially skilled peers and instructing them to work together, including special free-play time and structured cooperation in service of a superordinate goal. Peer-mediated interventions involve training of peers to model appropriate social behavior on the part of the child. Role-play partners in social skills training and peer-mediated techniques are less time-consuming than individualized training of peers is not necessarily more effective in treatment program (Morris, Messer, & Fox, 2001) and that both types of interventions lead to increased rates of positive interaction, and decreased rates of negative interaction.

children's parents actually promoted avoidant responses during family discussion of the hypothetical scenarios.

INCORPORATING SOCIALIZATION AGENTS IN THE TREATMENT PROCESS

Including important socialization agents (parents, classmates, friends) in the treatment process may enhance generalizability and social validity of treatment gains. In cases in which parents also suffer from anxiety, it may be necessary to solicit their active participation throughout the course of therapy if one hopes to make substantive progress in remediating anxious behavior in child clients.

Family Therapy

Recognizing the impact of anxiety on the family system and the potential for family members to inadvertently reinforce anxious behavior, efforts toward incorporating parents in treatment are becoming more common (Barrett et al., 1996; Spence, Donovan, & Brechman-Toussaint, 2000; Toren et al., 2000). Family anxiety management (Dadds, Heard, & Rapee, 1992) is based on behavioral family intervention strategies proven effective in the treatment of disruptive behavior disorders (Sanders & Dadds-Markie, 1992). In family anxiety management, parents are trained in principles of reinforcement, child management, and selective inattention to their children's anxious behavior. Contingency management strategies are utilized to enhance communication and problem-solving skills within the family.

Peer-Mediated Treatment

Peer-pairing interventions involve strategically matching clients with popular, socially skilled peers and instructing them to engage in various activities together, including special free-play time or completion of tasks that require cooperation in service of a superordinate goal. In contrast, peer-helper interventions involve training of peers to initiate, model, and reinforce appropriate social behavior on the part of target children and to serve as role-play partners in social skills training sessions. In general, peer-pairing techniques are less time-consuming than peer-helper interventions, as specialized training of peers is not necessary prior to implementation of the treatment program (Morris, Messer, & Gross, 1995). Research suggests that both types of interventions lead to improved social status, increased rates of positive interaction, and decreased rates of solitary behavior.

CONCLUDING COMMENTS

Research on social development and its relation to anxiety in children and adolescents is advancing rapidly. Even so, this accumulating body of work is but a drop in a pond in comparison with what remains to be learned. This bold frontier presents an exciting challenge for researchers and clinicians. Each incremental gain in our understanding of causal factors allows for the possibility of more targeted delivery of intervention and prevention efforts. Explication of developmental pathways undoubtedly will enhance our ability to provide effective intervention across all stages of the lifespan. At this point, however, it appears safe to draw a general conclusion that incorporating relevant members of children's social networks into the therapeutic process enhances acquisition, generalization, and maintenance of treatment gains, and we strongly encourage practitioners to explore creative solutions in this regard.

ACKNOWLEDGMENTS

Preparation of this chapter was supported in part by Grant No. MH-61518 from the National Institutes of Health.

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Behavioral C

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Anxiety is common in children and adolescents. Children who experience anxiety to some extent, appropriate to their age, are at risk to have an anxiety disorder (Bird, Canino, Dulcan, & Costello & Angold, 1988). As well as comorbidity, it has been associated with more serious consequences, such as impaired functioning (Ialongo, Edelsohn, Werthan, & Spitzer, 1994) and suicide (Statham, Heathcote, & Heathcote, 1994). The seriousness of the condition, its prevalence, and the anxiety are unraveled so that risk factors and protective factors are identified. Effective preventive methods and treatments developed.

Behavioral genetic research has provided information concerning the origins of childhood anxiety disorders. This chapter outlines the key findings in respect to the etiology of anxiety and then explores some sources of heterogeneity in the disorder. It then explores some sources of heterogeneity in the disorder. These include differences between comorbidity, age and sex, and the role of environmental measures. A research investigating childhood anxiety disorders is also a search for specific genes and studies that investigate the role of environmental measures. It is hoped that the genetics of childhood anxiety, preventive measures, and targeted and tailored treatments can be developed.