A greater understanding of the origins of social phobia is much needed. The research to date is limited by the relatively small number of studies that sample clinical populations of individuals with social phobia. There is, however, research derived from related areas such as shyness, social anxiety, self-consciousness, peer neglect, and social withdrawal that contributes to a richer understanding of the etiology of social fears. Combining these areas of research, this review addresses four main factors that may be important to the origins of social phobia: (a) genetic factors; (b) family factors; (c) other environmental factors; and (d) developmental factors.

The Origins of Social Phobia

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Social phobia has only begun to receive extensive attention in the literature in the past decade. Within that time, the focus of research has been on understanding the nature and maintenance of the disorder (Clark & Wells, 1995; Rapee & Heimberg, 1997; Schlenker & Leary, 1982). However, it is also important for research to attempt an understanding of the origins of the disorder of social phobia. The pathways that lead an individual to such a diagnosis may be quite varied. The role of research, then, is to discover the possible pathways that may be involved in the development of this condition. This article will attempt to put together some of the recognized components that contribute to this disorder. However, it is important, first, to briefly examine the psychopathology of social phobia and discuss some definitional issues.

Social phobia is defined in the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV) as a "marked and persistent fear of

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one or more social or performance situations in which the person is exposed to unfamiliar people or to possible scrutiny by others" (American Psychiatric Association, 1994, p. 416). The DSM-IV also specifies a subtype of social phobia referred to as the *generalized* subtype. Generalized social phobia is characterized by fear in most social situations whereas nongeneralized social phobia, sometimes referred to as specific social phobia, is characterized by a narrower range of fears. A further diagnosis in the DSM-IV that relates to social fears is *avoidant personality disorder,* which is characterized by a "pervasive pattern of social inhibition, feelings of inadequacy and hypersensitivity to negative evaluation" and is evident before the individual reaches adulthood (American Psychiatric Association, 1994, p. 416). Findings in the literature consistently suggest that generalized social phobia does not differ qualitatively from avoidant personality disorder (Heimberg, Holt, Schneier, Spitzer, & Liebowitz, 1993; Herbert, Hope, & Bellack, 1992; Holt, Heimberg, & Hope, 1992; Turner, Beidel, & Townsley, 1992) but rather differs in severity, with avoidant personality disorder being a more severe expression of the disorder. Turner et al. (1992) have noted that the common thread connecting these conditions is a fear of negative evaluation. Therefore, it may be helpful to consider these diagnoses on a continuum, with nongeneralized social phobia situated at one end and avoidant personality disorder at the more extreme end, rather than perceiving the two disorders as qualitatively distinct phenomena.

Research into the origins of social phobia is only in the beginning stages. There have been a relatively small number of studies specifically examining the etiology of the disorder. However, there has been research about similar, related constructs that will be important in a discussion of the origins of social phobia. Concepts such as shyness, social anxiety, self-consciousness, social isolation, social withdrawal, audience sensitivity, and peer neglect may share significant overlap with the symptomatology of social phobia (Turner, Beidel, & Townsley, 1990; Turner, Beidel, & Wolff, 1996). The main difference is that an individual may experience these phenomena without necessarily meeting full criteria for a diagnosis of social phobia. Due to the similarities between these constructs, their inclusion is important in our discussion and in the further understanding of the etiology of

social phobia. However, when the research has been carried out specifically in one of these areas, the corresponding terminology will be used.

AGE OF ONSET

In discussing the origins of social phobia, it is first important to determine a relevant time frame on which research should focus. Age of onset is therefore a very important variable. It is interesting that determination of the age of onset for social phobia is far from clear.

Retrospective reports indicate an average age of onset of social phobia between early and late adolescence (American Psychiatric Association, 1994; Amies, Gelder, & Shaw, 1983; Liebowitz, Gorman, Fyer, & Klein, 1985; Mannuzza, Fyer, Liebowitz, & Klein, 1990; Turner, Beidel, Dancu, & Keys, 1986). Liebowitz et al. (1985) and Öhman (1986) suggest an onset period in early adulthood. However, in a large epidemiological study, almost one half of the sample reported having suffered from the disorder all of their lives or since before the age of 10, suggesting that the age of onset may in fact occur earlier than adolescence (Schneier, Johnson, Hornig, Liebowitz, & Weissman, 1992). In anxiety-disorder clinics for children, the prevalence rate of social phobia is between 9% and 15% (Last, Strauss, & Francis, 1987), which is supportive of the reports of adult social phobics who recall always having suffered from the disorder. It would appear, then, that data from retrospective reports indicating an average age of onset in adolescence and early adulthood may be misleading, and it would be more useful to allow for a much earlier age (Rapee, 1995).

An alternative way to approach the question of the age of onset of social phobia may be to examine the age at which children first develop social-evaluative concerns or become self-conscious, as it is these themes that appear to be central to the disorder of social phobia. Several researchers have studied this area, but some confusion still remains as to when social-evaluative concerns are first evident in children.

Buss (1980) referred to a type of shyness called self-conscious shyness that is evident once a child has developed a sense of himself or

herself as a social object, that is, the child's ability to become acutely aware of himself or herself and aware that others may also view him or her. Self-conscious shyness is characterized by public self-awareness as a result of being scrutinized, being uniquely different, a breaching of privacy, or being in a formal situation. This shyness is also transient and supposedly a relatively universal experience. To determine when self-conscious shyness is first evident in children, Buss, Iscoe, & Buss (1979) carried out a retrospective study to examine the ages when children first experienced embarrassment. Buss hypothesized that when a child is capable of experiencing embarrassment, the child must possess a social self, that is, possess the ability to see himself or herself as a social object. The study found that around the age of 4 or 5, there appeared to be a definitive increase in a child's ability to experience embarrassment. This led Buss to conclude that children develop self-conscious shyness at around the age of 4 or 5. However, further studies have provided evidence that conflicts with the results of the Buss et al. (1979) study.

Lewis, Stanger, Sullivan, and Barone (1991), in an observational study, were able to elicit embarrassment in roughly one half of the 2-year-old children and in the majority of 3-year-old children. The differences, however, may be a result of the method of obtaining data: maternal retrospective reports (Buss et al., 1979) versus observational data (Lewis et al., 1991). It is also unclear whether the evidence of embarrassment at this age is indicative of a child's ability to feel self-conscious, as there have been studies that have found evidence suggesting that self-consciousness or concerns about negative evaluation do not occur until about 8 years of age (Bennett, 1989; Bennett & Gillingham, 1991; Crozier & Burnham, 1990). For example, Bennett and Gillingham (1991) found that 8 year olds became embarrassed in front of a supportive audience whereas 5 year olds only became embarrassed in front of a derisive audience, suggesting that the emotions of 8 year olds are influenced by a self-awareness that is not evident in 5 year olds.

In summary, it appears that negative feelings over criticism or disapproval can be seen in children as young as 2 to 3, whereas the ability to experience self-consciousness or to anticipate negative evaluation from others may not occur until somewhat later (8 years of age).

Understanding the development of self-consciousness and social evaluative concerns in children is crucial to understanding the etiology of social phobia. However, it is beyond the scope of this article to discuss these issues in greater detail. Further study of the relationship between the development of self-consciousness and social phobia will be critical in achieving a much richer understanding of the origins of social phobia. The remainder of this article will address four major factors that may be important to the origins of social phobia: (a) genetic factors; (b) family factors; (c) other environmental factors; and (d) developmental factors.

THE ROLE OF GENETIC FACTORS IN THE ORIGINS OF SOCIAL PHOBIA

There is considerable evidence to suggest that genetic factors play an important role in the development of social phobia. Several adoption, twin, and family studies have examined genetic factors in social phobia and shyness. Twin and adoption studies provide specific information about genetic influences, as they tease out contributions made by the environment. Family studies, however, measure both genetic and environmental factors, and therefore, family studies do not provide a pure genetic contribution and thus will be considered separately. The results from temperament studies are also relevant here, as they follow from the suggestions supported by the twin and adoption research.

TWIN AND ADOPTION STUDIES

Results from twin studies on anxiety disorders have consistently failed to find evidence for the specific heritability of anxiety disorders (Andrews, Stewart, Allen, & Henderson, 1990; Andrews, Stewart, Morris-Yates, Holt, & Henderson, 1990; Jardine, Martin, & Henderson, 1984; Torgersen, 1983; Tyrer, Alexander, Remington, & Riley, 1987). For example, Andrews et al. (1990) carried out a large twin study, using structured interviews and experienced interviewers, to diagnose the occurrence of anxiety and depression. The sample included 33 adult twin pairs with social phobia. There was no evi-

dence for the specific heritability of individual anxiety disorders; rather the data supported a conclusion that what is inherited is a propensity for general neurosis. One twin study provided some evidence for a small proportion of the variance in social phobia being accounted for by specific genetic factors. In a sample of 2,163 female twin pairs, Kendler, Neale, Kessler, Heath, and Eaves (1992) found a concordance rate for social phobia that was higher for monozygotic twins (24%) than for dizygotic twins (15%). The study suggested that 21% of the variance in liability to social phobia was a result of genetic factors specific to the disorder and a further 10% was due to genetic factors shared by all phobias. However, Kendler et al. (1992) remark that the results of the study could also fit a model in support of a pathway common to the anxiety disorders. Thus, there may be some evidence for the involvement of specific genetic factors in the etiology of social phobia and other phobias, but the bulk of the evidence at this stage seems to be more consistent with a suggestion that what is inherited is a general predisposition toward anxiousness.

Although there have been few genetic studies examining the heritability of social phobia specifically, there have been numerous studies that have examined genetic factors involved in shyness and socially related fears (Buss & Plomin, 1975; Buss, Plomin, & Willerman, 1973; Canter, 1973; Cohen, Dibble, & Grawe, 1977; Daniels & Plomin, 1985; Horn, Plomin, & Rosenman, 1976; O'Connor, Foch, Sherry, & Plomin, 1980; Osborne, 1980; Plomin & Rowe, 1977, 1979; Rose & Ditto, 1983; Scarr, 1969; Torgersen, 1979). The only adoption study of shyness examined correlations between infant shyness and shyness measured in both biological and adopted mothers (Daniels & Plomin, 1985). The study found that infant shyness was correlated with shyness in biological mothers at 24 months but was not significantly correlated with shyness in adopted mothers at either 12 or 24 months. These data suggest a genetic influence on infant shyness. Similarly, two twin studies have demonstrated higher concordance for monozygotic than for dizygotic twins on measures of social fears (Rose & Ditto, 1983; Torgersen, 1979).

Thus, based on twin and adoption studies, the genetic contribution to social phobia and other related constructs is evident. The bulk of research suggests that what is transmitted is a genetic predisposition

toward anxiousness rather than the transmission of specific anxiety disorders. So, how does this predisposition manifest itself? In answering this question, it is important to examine behavior in young children, as patterns of behavior relevant to general anxiousness could be identified at this age before specific psychopathology develops. Evidence for this can be found in the vast amount of research on childhood temperament.

STUDIES OF TEMPERAMENT

The term *temperament* has generally been used to refer to the "intrinsic behavioral characteristics of a child that can be modified through interaction with the environment" (Sanson, Prior, Garino, Oberklaid, & Sewell, 1987, p. 97). Several researchers therefore suggest that temperament may have a biological and genetic basis (Derryberry & Rothbart, 1985; Prior, Sanson, Oberklaid, & Northam, 1987; see also Prior, 1992). Theorists have proposed a number of consistent temperamental dimensions. For example, the Revised Infant Temperament Questionnaire (Carey & McDevitt, 1978) assesses nine temperamental factors: approach, activity/reactivity, food fussiness, rhythmicity, cooperation/manageability, placidity, threshold, irritability, and persistence. Buss and Plomin (1984) refer to three factors of temperament: sociability, activity, and emotionality. As noted by Sanson, Pedlow, Cann, Prior, and Oberklaid (1996), one particular factor that is common to most temperament models is a dimension that refers to the typical behavior of the child in strange situations and with strange people. This factor has variously been referred to as fearfulness, withdrawal, approach, shyness, and behavioral inhibition.

Behavioral Inhibition (BI) is an area of temperament research that has received a great deal of attention in recent years. Garcia Coll, Kagan, and Reznick (1984) and Reznick et al. (1986) have defined BI in terms of reactions of withdrawal, wariness, avoidance, and shyness in novel situations. More recent studies have linked BI with the anxiety disorders and, in particular, with social phobia and panic disorder (for a thorough review of the link between BI and the anxiety disorders, see Turner et al., 1996).

There have been several studies that suggest a link between social-evaluative concerns and BI in young children; however, at this stage, the evidence is not conclusive. For example, Rosenbaum, Biederman, Hirshfeld, Bolduc, and Chaloff (1991) found increased rates of social phobia in the parents of behaviorally inhibited children, compared to the parents of uninhibited and normal children (inhibited children: 18%, uninhibited children: 0%, control children: 3%). This study also found that the parents of behaviorally inhibited children were more likely than the parents of uninhibited children and normal children to have a history of childhood avoidant disorder (inhibited children: 15%, uninhibited children: 0%, control children: 0%) and overanxious disorder (inhibited children: 38%, uninhibited children: 11%, control children: 9%). A similar result was evident in another study, which found increased rates of social phobia in the parents of behaviorally inhibited children as compared to the parents of children without BI and without anxiety (Rosenbaum et al., 1992). These results suggest that parents of behaviorally inhibited children are more likely to have an anxiety diagnosis that is related to social fear.

Rates of anxiety disorders have also been examined in behaviorally inhibited children, and the findings suggest an increased risk for anxiety disorders that have a social basis. For example, Biederman et al. (1990) examined children whose parents were receiving treatment for panic disorder with or without agoraphobia and with or without major depressive disorder, and they found that behaviorally inhibited children had significantly higher rates of overanxious disorder (inhibited: 27.8%, uninhibited: 0%, control: 0%). A trend toward higher rates of avoidant disorder (inhibited: 16.7%, uninhibited: 0%, control: 5%), separation anxiety disorder (inhibited: 16.7%, uninhibited: 8.3%, control: 10%), and phobic disorders (inhibited: 11.1%, uninhibited: 0%, control: 0%) was found in behaviorally inhibited children, compared to uninhibited children and normal controls. Biederman et al. (1990) also examined the Kagan longitudinal sample (Kagan, Reznick, & Snidman, 1987, 1988; Kagan, Reznick, Snidman, Gibbons, & Johnson, 1988; Reznick et al., 1986) and found that phobic disorders were significantly more common in inhibited children than in uninhibited children (31% vs. 5.3%). The fears reported by children diagnosed with phobic disorders included fear of standing up and

speaking in front of the class (55.5%), fear of animals or bugs (55.5%), fear of strangers (44.4%), fear of the dark (44.4%), fear of being called on in class (33.3%), fear of crowds (33.3%), fear of elevators (22.2%), and fear of physicians (22.2%). Some of these fears are clearly socially related.

The findings from a 3-year follow-up of behaviorally inhibited and uninhibited children suggest that an inhibited child is significantly more likely than an uninhibited child to have avoidant disorder, separation anxiety disorder, and agoraphobia at baseline and is also more likely to develop avoidant disorder and separation anxiety disorder over the 3-year period (Biederman et al., 1993). Children with stable BI over the 3-year period were more likely than unstable, behaviorally inhibited and uninhibited children to develop avoidant disorder. This result suggests that stability of BI may be an important factor in the development of anxiety.

Thus, it appears from the research that BI marks an increased risk for anxiety disorders, including those disorders related to social fears, for both children and their parents. Clearly, the presence of an anxious temperament (such as high BI) is not a specific risk factor for social fears but marks an increased risk for anxiety disorders in general. In the following sections, we will examine possible ways this broad risk for anxiety may become channeled into a specific disorder such as social phobia.

FAMILIAL STUDIES

A handful of studies have examined the familial contribution to social phobia (Fyer, Mannuzza, Chapman, Liebowitz, & Klein, 1993; Fyer, Mannuzza, Chapman, Martin, & Klein, 1995; Last, Hersen, Kazdin, Orvaschel, & Perrin, 1991; Reich & Yates, 1988). These studies have consistently found significantly higher rates of social phobia in the relatives of socially phobic probands, compared to nonclinical controls (Fyer et al., 1993; Last et al., 1991; Reich & Yates, 1988). It is important that some studies indicated a specific inheritance for social phobia, suggesting that social phobia may run in families (Fyer et al., 1995; Reich & Yates, 1988). For example, Fyer et al. (1995) found an increased risk for social phobia rather than an increased risk for simple

phobia or agoraphobia in the relatives of socially phobic probands, suggesting a familial loading for social phobia that is etiologically discrete. Reich and Yates (1988) found an increased risk for social phobia in the relatives of socially phobic probands and significantly less generalized anxiety disorder and panic disorder as compared to the relatives of panic disordered probands. By contrast, at least one study has failed to find results in support of the previous findings. Last et al. (1991) found that the relatives of children with social phobia were no more likely to have social phobia than were the relatives of children without social phobia. The study also found that there were no differences in the rates of social phobia in the relatives of anxious children, compared to children with attention deficit hyperactivity disorder. However, the study used a very small sample of children with social phobia ($n = 9$), which may account for why a specific relationship was not found between socially phobic children and their relatives.

Whereas the twin studies have provided evidence for a general genetic predisposition toward anxiousness, the research from family studies provides evidence that suggests a specific familial transmission for social phobia. Given that the twin studies measure primarily genetic factors and the family studies measure both genetic and environmental factors, it could be hypothesized that family environment rather than genetics is the key to this specific transmission.

THE ROLE OF THE FAMILY IN THE ORIGINS OF SOCIAL PHOBIA

In considering environmental factors that may be involved in the etiology of anxiety—in particular, social phobia—the family environment is likely to be important. As mentioned earlier, it is possible that the specific familial transmission of social phobia, evident in the results of the family studies reviewed above, is a product of the family environment rather than specific genetic factors. The three major avenues that are likely to be important in the family's contribution to the development of social phobia are the child-rearing styles of the parents of socially phobic individuals, parental modeling of social concerns, and restricted exposure to social situations. A difficulty with this research, however, is that many of the studies have tended to use

problematic methods of obtaining data (Rapee, 1997). Much of the research has been carried out retrospectively, and is therefore open to memory bias. Retrospective report may not be an accurate reflection of the family's actual contribution to the development of social phobia.

CHILD-REARING FACTORS

Retrospective Studies

Studies have shown that socially phobic populations tend to perceive their parents as having been overprotective, lacking in warmth, rejecting, less caring, and more likely to use shame tactics as compared to normal controls (Arrindell, Emmelkamp, Monsma, & Brilman, 1983; Arrindell et al., 1989; Bruch & Heimberg, 1994; Parker, 1979; Rapee & Melville, 1997). Similar findings have surfaced in the literature examining the perceived parenting styles of shy and socially anxious individuals (Eastburg & Johnson, 1990; Klonsky, Dutton, & Liebel, 1990; Siegelman, 1965). For example, Eastburg and Johnson (1990) found that shy female college students were more likely to rate their mothers as having been less accepting and more controlling. Klonsky et al. (1990) found that compared to females with low social anxiety, socially anxious female college students reported that their fathers were more rejecting, more neglecting, and more likely to use authority discipline and that their mothers were more neglecting and overprotective.

Although these studies suggest that socially phobic, shy, or socially anxious individuals perceive their parents differently than do nonclinical controls, they do not provide information as to whether these perceptions are specific to social fears or whether they occur in other anxiety conditions. Unfortunately, there have been few studies that have made such comparisons, making it difficult to come to any conclusions. Parker (1979) compared socially phobic and agoraphobic patients' reports of their parents' overprotectiveness and care. He found that social phobics rated their parents as less caring and more overprotective, whereas agoraphobics only rated their mothers as having been less caring than normal controls. In another study, a similar

result was found in that agoraphobics rated their parents as lacking in emotional warmth and their mothers as rejecting, but social phobics rated both parents as rejecting, lacking in emotional warmth, and overprotective (Arrindell et al., 1989). A further study compared three phobic groups: agoraphobics, social phobics, and simple (height) phobics (Arrindell et al., 1983). Agoraphobics reported greater maternal rejection and both paternal and maternal lack of emotional warmth, compared to nonclinical controls. Both social phobics and simple (height) phobics reported greater parental lack of emotional warmth, rejection, and overprotection, compared to a nonclinical control group. Similarly, Rapee and Melville (1997) found slightly greater reports of maternal control in social phobics, compared to subjects with panic disorder.

The research suggests that socially phobic groups differ from agoraphobic and panic disorder groups in their reports of perceived parental overprotection. However, it would seem that parental overprotection is a factor general to anxiety, with perhaps more consistency in the disorder of social phobia.

Child Studies

The studies reviewed so far have been retrospective in nature and have also tested perceived parenting practices rather than actual parenting practices. Studies that assess children's perceptions of parenting styles and observational studies of parent child interactions will contribute to obtaining a clearer and more precise picture of parenting styles. However, there have been no published studies of this type that have used a clinical sample of socially phobic children. Some observational studies and child studies have used populations that are relevant to social phobia such as socially anxious, socially withdrawn, audience-sensitive, socially unsuccessful, and peer-neglected children.

In one study, Attili (1989) observed interactions between preschool children and their parents and found that children who were being overcontrolled by their parents without being given a reason and children who were ignored by their parents and treated as though they did not exist tended to be socially unsuccessful at preschool. The study

also found that being isolated and uneasy at school was associated with parental overprotection. This result provides further evidence that overprotection may be important in the development of social phobia, as isolation and uneasiness in social interactions are typical factors associated with social phobia.

In a longitudinal study, Kagan and Moss (1962) found that socially withdrawn behavior in female adults was significantly and positively related to the mother's report of protection of the child between birth and 3 years of age, suggesting that the more protective the mother is of her daughter, the more socially withdrawn the daughter will be later in life. Another study found that mothers of socially withdrawn, preschool-age children were more likely to believe that social skills should be taught and managed in a directive and coercive way than mothers of aggressive or average children (Rubin & Mills, 1990). Other observation studies have found similar results when examining social desirability (Allaman, Joyce, & Crandall, 1972), audience sensitivity (Paivio, 1964), and fear of failure (Teevan & McGhee, 1972) in children.

In an effort to address some of the limitations of previous research on childrearing and the anxiety disorders, Hudson and Rapee (1997) have directly observed parental involvement in a sample of clinically anxious children. In this study, children were asked to complete complex puzzle tasks while their mothers were given the answers to the task and told to help only if they felt the child really needed it. The study found that mothers of children with anxiety disorders gave more help and were more intrusive during the tasks than mothers of nonclinical children. Athough not analyzing parental involvement specifically for socially phobic children, the study provides support for the previous research linking maternal overinvolvement/overprotection and the anxiety disorders in general.

Taken together, the studies reported here show that there seems to be a trend indicating that certain parenting styles of control/overprotection or neglect may be related to socially anxious behaviors. Similarly, retrospective studies have linked these perceived parenting styles to social phobia. This research has highlighted possible differences between the perception of parenting in socially phobic, panic, and agoraphobic groups, with the differentiating factor likely to be

parental overprotection. Further research is necessary, however, to determine whether these parenting practices are specific to social phobia, compared to other psychopathology.

A possible mechanism by which parental overprotection becomes associated with anxiety is the message conveyed to the child that the world is harmful and the child needs to be protected because he or she is incapable of defending himself or herself. This instills in the child a sense of inability to cope. These factors of threat and perceived inability to cope are fundamental to the experience of anxiety.

It is difficult to come to a conclusion as to the causal nature of the relationship between anxiety and parenting practices. It may be that a child has a difficult temperament and the parent then responds in a rejecting or overprotecting way. Based on an amalgam of the data, the most likely scenario is a cyclical relationship between temperamental factors and child rearing (Rapee, 1997). That is, children born with anxious temperaments may influence the way parents respond to them. This is likely to occur in a context in which a parent is anxious and therefore more likely to overprotect. The parental response may further contribute to the molding of anxious beliefs in the child.

MODELING AND RESTRICTED EXPOSURE

Restricted exposure to social situations and modeling of social-evaluative concerns may also play important roles in the development of social phobia (Arbel & Stravynsky, 1991; Bruch & Heimberg, 1994; Bruch, Heimberg, Berger, & Collins, 1989; Buss, 1980, 1986; Daniels & Plomin, 1985; Paivio, 1964; Rapee & Melville, 1997). The degree to which a family socializes with other people may be important in that, if the child has limited exposure to social situations, then the child rarely has the opportunity to learn that social situations are not harmful. Not only does restricted exposure to social situations teach the child that these situations are best avoided, but it limits the child's opportunity to develop relationships with same-age peers and to develop appropriate social skills. In addition, parents who are socially anxious may teach their child, through modeling of social concerns, that social situations are harmful and best avoided. Parents who stress the importance of other people's opinions may teach the

child to fear the opinions of others and instill in the child a preoccupation with social concerns. Buss (1986) refers to this as "excessive socialisation training in the importance of the social self" (p. 45).

There is some support for the suggestion that modeling and restricted exposure are involved in the development of social phobia. Some studies have found that people with social phobia retrospectively reported their parents as overemphasizing the opinions of others, de-emphasizing family sociability, and wanting to isolate them, compared to reports of agoraphobic groups and nonclinical controls (Bruch & Heimberg, 1994; Bruch et al., 1989). The research also suggests that there may be differences between the reports of nongeneralized and generalized social phobics, as one study found that generalized social phobics perceive their parents as more likely to isolate them from others and as placing less emphasis on family sociability, compared to nongeneralized social phobics (Bruch & Heimberg, 1994). Of course, it is possible that this is a difference of degree rather than a qualitative difference (Rapee, 1995). The research suggests that socially phobic individuals—in particular, generalized social phobics—perceive their mothers as more avoidant of situations that are likely to cause social anxiety than do nonclinical controls (Bruch & Heimberg, 1994; Bruch et al., 1989). Arbel and Stravynski (1991) also found that in comparison to nonclinical controls, people with avoidant personality disorder remembered their parents being less sociable, less comfortable in social situations, and less likely to encourage them to socialize. In a study examining the reports of anxious adults as well as the reports of their mothers, Rapee and Melville (1997) found that social phobics, in agreement with their mothers, reported significantly lower parental socialization, compared to a nonclinical control group. Panic disordered subjects also reported significantly lower parental socialization than nonclinical controls, but this result was not found in the mother's reports.

Audience sensitivity of children has been linked to parental sociability: For girls, greater sociability reported by the mother was linked to lower audience sensitivity in the daughter, and, for boys, the sociability of both the mother and the father were significantly and negatively correlated with audience sensitivity (Paivio, 1964). In the adop-

tion study by Daniels and Plomin (1985), infant shyness was found to be significantly correlated with low sociability in adopted mothers when the infants were 12 and 24 months of age. In this study, infant shyness was also negatively correlated with the family's personal growth, that is, involvement in cultural events, learning new and different things, having friends to visit, and so on.

A study highlighting the role of family enhancement in childhood avoidant behavior was conducted by Barrett, Rapee, Dadds, and Ryan (1996). In the study, children were given ambiguous situations and asked what they would do in the situation. For example, subjects responded to the following: "You see a group of students from another class playing a great game. As you walk over and want to join in, you notice that they are laughing . . . . What would you do?" The children responded to this stimulus and then provided another response following a brief family discussion. Following the family discussion, the percentage of anxious children providing avoidant solutions considerably increased, whereas nonclinical and oppositional children decreased their avoidant responses following discussion with their parents.

The role of parental modeling and restricted exposure to social situations in the development of social phobia is worthy of further research. It is possible, however, that the connection between social fears in children and parental modeling and restricted exposure is due to shared genetics. Thus, it is crucial that replication of these results be carried out using adopted offspring.

THE ROLE OF OTHER ENVIRONMENT FACTORS IN THE ORIGINS OF SOCIAL PHOBIA

There are several other environmental experiences that may further shape cognitions and lead the individual to fear the negative evaluation of others. These experiences may include common factors such as traumatic social experiences, childhood illness, social isolation, being bullied or teased by peers, or being the firstborn or only child. These factors will be discussed in more detail.

TRAUMATIC SOCIAL EXPERIENCES

The results of two studies have suggested that the origins of social phobia may lie in an initial conditioning experience that is socially traumatic. Öst and Hugdahl (1981) found that 58% of their socially phobic sample reported that the onset of their phobia was the direct result of a conditioning experience. Stemberger, Turner, Beidel, and Calhoun (1995) carried out a study that found that 56% of individuals with specific social phobia and 40% of generalized social phobics recalled a traumatic event that marked the onset or a marked increase in symptoms. The traumatic experiences included being laughed at or making a mistake in situations such as being called on to talk in class, being on a first date, speaking in public, or being at a party. Only the specific socially phobic group differed significantly from the normal control group. Of course, findings such as these beg the question of why some individuals remember these events as traumatic whereas others might recall them as benign.

SOCIAL ISOLATION/PEER NEGLECT

A child's traumatic experiences may include being teased, bullied, laughed at, rejected, neglected, or isolated from other children. There has been some research, including longitudinal research, that addresses the relationship between those experiences and various constructs related to social anxiety or sociability (Gilmartin, 1987; Hymel, Rubin, Rowden, & LeMare, 1990; Ishiyama, 1984; Rapee & Melville, 1997; Rubin, Hymel, & Mills, 1989; Vernberg, Abwender, Ewell, & Beery, 1992). The results of a study carried out by Rapee and Melville (1997) revealed that socially phobic and panic disordered adults and their mothers retrospectively reported having fewer friends between 8 and 12 years of age than nonclinical controls, with the differences being more consistent in the socially phobic group.

The Waterloo longitudinal project, which studied children in kindergarten through Grade 2 and then in Grade 5, found that peer isolation in Grade 2 was significantly correlated with self-rated social incompetence, teacher ratings of shyness, and unpopularity in Grade 5 (Hymel et al., 1990). The study also found that passive, solitary play in kindergarten and Grade 2 was associated with perceived social incom-

petence and a negative perception of general self-worth in Grade 5 (Rubin et al., 1989).

In another study, Gilmartin (1987) asked "love shy" older (35 to 50 years) and younger (19 to 24 years) men to retrospectively report on their childhood experiences. The study found that compared to men who were not love shy, love shy men reported greater frequencies of bullying when they were children (older: 99%, younger: 81%, nonshy: 0%); bullying and harassment in Years 10, 11, and 12 (older: 62%, younger: 48%, nonshy: 0%); being picked last for sport teams at school (older: 91%, younger: 70%, nonshy: 3%); and never having any friends throughout their life (older: 75%, younger: 53%, nonshy: 0%). The study highlighted the importance of peer rejection, bullying, and social isolation in the development of shyness and perceived social competence.

It is important to note that the relationships highlighted above may not necessarily be causal but may simply reflect temperament. That is, a child with an anxious temperament may behave in a particular way that sets him or her apart from other children, and, thus, in being different, he or she is more susceptible to teasing, bullying, and being rejected by other children. Nevertheless, social isolation may affect a child's perception of himself or herself and also may affect subsequent social interactions. Isolation from peers may also inhibit the development of the child's social skills. A deficit in social skills or a perceived deficit in social skills may further contribute to the child's isolation. Being bullied, neglected, and having few or no friends to play with at school may further contribute to the child's perception of himself or herself as incompetent.

One interesting study examined peer relationships and social anxiety among early adolescents who had recently changed schools (Vernberg et al., 1992). The study found that social anxiety was influenced by the development of new friendships and the degree of intimacy in the friendships. Social anxiety, in turn, appeared to vary according to the degree of companionship, degree of intimacy, and the number of peer-rejection experiences. These results suggest that reciprocal causal relationships possibly exist between social anxiety, companionship, intimacy, and peer-rejection experiences (Vernberg et al.,

1992). The study generates further interest in enhancing the understanding of the possible connection between these variables.

ILLNESS

It has been suggested in the literature that childhood illness may be a contributing factor to social anxiety and shyness. Determining the direction of this relationship, however, is difficult. It is possible that certain illnesses may simply reflect the child's temperament. It is also possible that being ill sets a child apart from other children and may make him or her feel different or perhaps put under more pressure at school to catch up on missed work. The child may feel under scrutiny, and, thus, social anxiety may result (Buss, 1980).

It is also possible that illnesses reported by the child are symptoms of anxiety rather than causal factors. Anxious children often complain of headaches or stomachaches as a result of worrying or in an effort to avoid feared situations. Further research is needed to examine the link between illness and anxiety—in particular, social anxiety.

BIRTH ORDER

There have been several claims in the literature that social fears and shyness may be related to the position a child holds in his or her family. For example, Greenberg and Stravynski (1985) found that 63% of male patients and 36% of female patients whose main complaints were social anxiety and avoidance were only or firstborn children. Greenberg and Stravynski suggest that an older sibling may serve the function of a social role model, and firstborn and only children are without such a model.

Some studies have shown increased rates of shyness in firstborn and only children, compared to later-born children (Klonsky et al., 1990; MacFarlane, Allen, & Honzik, 1962; Zimbardo, 1996). Zimbardo (1996) suggests that firstborn children are more likely to be shy because of the pressure often placed on firstborn children to succeed. Zimbardo also proposes that later-born children, as a matter of social survival, develop more effective social skills than firstborns, as they do not have the power advantage that firstborns have. Thus, some

research suggests that being a firstborn or only child may be a contributing factor to the development of social anxiety. However, Rapee and Melville (1997) failed to find significant differences in offspring family position between socially phobic, panic disordered, and nonclinical control groups. Further research in this area is essential before conclusions about the role of birth order are drawn.

THE ROLE OF DEVELOPMENTAL FACTORS IN THE ORIGINS OF SOCIAL PHOBIA

There are some shared developmental experiences that may be involved in the etiology of social phobia. In the discussion of the age of onset of social phobia earlier in this article, some developmental issues were addressed. It seems, based on a summary of the research, that from a very early age (2-3 years), children possess the ability to experience negative feelings as a result of being criticized or disapproved of; however, the ability to feel self-conscious may not occur until about 8 years. In addition to the issues already addressed, there may be developmental periods of importance to the etiology of social phobia, such as the onset of adolescence, late adolescence, and early adulthood.

The developmental period of adolescence marks the beginning of many physical, cognitive, and social changes. Bruch (1989) noted that with adolescence comes the "onset of puberty; entering a new school situation and the onset of formal operations thinking in which the child is able to distinguish between the perspectives of other's and one's self-view" (p. 43). Research suggests that early adolescence is a period of increased self-consciousness during which the individual becomes more aware of the evaluation of others (Bruch, Giordano, & Pearl, 1986; Elkind & Bowen, 1979). Adolescence begins at the age that according to some studies, corresponds with the age of onset of social phobia. It may be that the increase in self-consciousness is a trigger for the onset of increased social fears. In addition to increased self-consciousness, there are changes in the adolescent's social environment: in particular, the school environment. New friendships may need to be formed, and the novelty of this new situation may trigger

fears of not being liked by the other children and fears of being laughed at.

Following adolescence, when the young adult enters the workplace or continues further education, a novel social situation again arises. The individual has to establish himself or herself in another social environment, so it is likely that this time may be important in the development of social phobia. Early adulthood sparks a period of increased independence, during which reliance on the family is reduced and the young adult learns to cope on his or her own. There may be more pressure on the young adult to perform as he or she obtains more responsibility. Social anxiety may further increase if the adult's cognitions consist of negative beliefs such as thinking he or she is unable to provide the desired or required impression.

Ethological theorists have suggested that social phobia has its onset in adolescence and early adulthood because that is the time when the individual finds his or her place within the social system (Öhman, 1986; Trower & Gilbert, 1989). It has been suggested that social anxiety occurs as a result of social conflict and that social anxiety acts as a gesture of submissiveness to ward off attack from more dominant members of the same species (Öhman, 1986). Therefore, it is suggested that social anxiety has a role in maintaining social order and creating more cohesion within the social system, as submission brings compliance. Adolescence and early adulthood may be a time when social anxiety is more likely to emerge because social conflicts are more likely to arise as the individual struggles to determine his or her role in the dominance hierarchies.

SUMMARY AND CONCLUSIONS

The majority of research into genetic factors in anxiety points to an inherited genetic predisposition that is not specific to social phobia; rather, it is a predisposition to general anxiousness. In support of this hypothesis, research into temperament has indicated a temperamental construct (BI) that has been linked to an increased risk for anxiety disorders. Studies that measure the prevalence of psychopathology in the relatives of individuals with social phobia suggest that social phobia

may in fact run in families in a relatively specific fashion. Thus, if there is not a specific genetic predisposition responsible for this finding, it would seem that family environment is instrumental in this transmission.

Based on the research reviewed in this article, it appears that the family may be significantly involved in the molding of a child's attitudes toward social threat. Research has indicated two aspects that may be important: (a) child-rearing styles of overprotection/control, rejection, and lack of warmth and (b) family characteristics of restricted exposure and parental modeling of socially related concerns. However, at this stage, the research into both of these factors provides evidence that is not overwhelming. Most of the studies have used retrospective data, with few studies using observational methods to identify parenting practices specifically in socially phobic individuals. The child studies that have been carried out measuring constructs relevant to social phobia seem to support the results of the retrospective research. However, further research that examines socially phobic individuals and their parents in comparison to people with other anxiety disorders and other psychopathology is necessary to determine if these family factors are specific to social phobia. It is also important for adoption studies to be conducted to rule out the possibility that these findings are due to shared genetics. It could be predicted that the family factors likely to show up in future research as specifically related to social phobia will include modeling of social concerns (including excessive socialization) and restricted exposure to social situations. In addition, although perceived parenting styles related to overprotection are evident in socially phobic populations as compared to agoraphobic and panic populations, it is unlikely that overprotection is restricted to the parenting of individuals with social phobia; it may be involved in other anxiety disorders or psychopathology.

Aside from family environment, there appears to be other environmental factors that may be involved in the etiology of social phobia, such as peer rejection, social isolation, childhood illness, and birth order. However, as current research is limited, the role of these factors is still uncertain. Peer rejection and social isolation may be consequences of the individual's temperament; however, it could be that this relationship is cyclical, as experiences of peer rejection may, in turn,

affect subsequent social interactions and social anxiety. This may also be true for the role of childhood illness, as it may reflect temperamental variables as well as further contributing to an increase in the child's feelings of being different or being under scrutiny. An additional factor that may be important in the development of social phobia is the position the child holds in his or her family. Some research suggests that a larger proportion of individuals with social anxiety are firstborn or only children, although other studies have failed to find such an effect. Further research into these specific environmental factors is much needed to more clearly define their role in the development of social phobia.

Developmental factors have also been discussed as playing a role in the origin of social phobia. There are some developmental periods that appear to create opportune environments for nurturing the maturation of social concerns and fear of negative evaluation. The research suggests that at around 8 years of age, an individual develops the ability to anticipate negative evaluation. Also, the onset of adolescence accompanies the onset of increased self-consciousness. Adolescence and early adulthood invite changes in the individual's social situation in which the individual needs to regain his or her place, opening up the possibility of increased social concerns and increased fear of not being liked. Further understanding the role that these developmental periods play in the etiology of social phobia will contribute to a much richer understanding of the disorder.

A major contribution to this discussion of the origins of social phobia has come from research into related areas such as shyness, social anxiety, social withdrawal, social isolation, audience sensitivity, and peer neglect. It is important for future research to make use of populations of socially phobic individuals and even more important that comparisons are carried out between groups of socially phobic individuals and individuals with other anxiety disorders to determine whether the features highlighted in this article are specific to social phobia. Understanding the origins of social phobia is much-needed: In understanding the factors that contribute to the development of this disorder, further steps toward prevention will be possible.

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