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NORMAL FEAR IN PEOPLE WITH A PHYSICAL OR INTELLECTUAL DISABILITY

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ABSTRACT. *Normal fear constitutes an adaptive reaction to a real or imagined threat and is an integral part of development. The developmental pattern of normal fear has significant clinical importance, particularly in relation to establishing norms of fearfulness against which excessive or "phobic" fears can be identified. In contrast to people without a disability, only limited research has been carried out with people who have hearing, visual, physical, intellectual, and health impairments. Nonetheless, the research that has been done shows that, as with nondisabled people, those with disabilities are most likely to fear situations and stimuli which pose survival danger. Also consistent with the nondisabled population, females demonstrate higher fear levels than males. However, people with disabilities generally demonstrate a wider variety and more intense fears, albeit, of a developmentally less mature nature than people without disabilities. It has not been determined whether these differences are mostly the result of biological factors, social factors, or a combination of both. These are questions for future research.* Copyright © 1996 Elsevier Science Ltd

NORMAL FEAR, defined as an adaptive reaction to a real or imagined threat, is seen to be an integral part of development. During the past century, an enormous amount of research energy has been placed into the investigation of normal fear. In the child and adolescent literature alone there have been over 100 investigations that have examined the content, prevalence, and development of normal fear (Gullone & King, 1993). This is not surprising given that normal fear has been identified as one of our most important emotions. Throughout our lives, fear motivates us to behave in ways that promote our survival and, ultimately, the survival of our species.

NORMAL FEAR RESEARCH IN PEOPLE WITHOUT DISABILITIES

Research in the area has focused on determining what children fear, how their fears develop, and on establishing the relationship between children's fears and demographic variables, such as age, gender, location, and socio-economic status (King,

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Hamilton, & Ollendick, 1988; Morris & Kratochwill, 1983). As a result of this research, it is now commonly accepted that fear occurring as part of general development can be differentiated from clinical fear or phobia on the basis of several criteria, including whether or not the expressed fear is age or stage specific and whether or not it persists over an extended period of time (Miller, Barrett, & Hampe, 1974). Thus, research in the area is also considered to have significant clinical importance, particularly in relation to establishing norms of fearfulness against which excessive or "phobic" fears can be identified (King et al., 1988; Morris & Kratochwill, 1983).

AGE AND GENDER PATTERNS

Several explanations have been advanced to account for the acquisition, maintenance, and development of normal fear. Among these are several factors that are of central importance. These include learning through operant, classical, or vicarious conditioning (Bandura, 1977; Rachman, 1991), the prepotency and preparedness of stimuli (Marks, 1969, 1987; Seligman, 1971), individual difference variables such as temperament (Kagan, 1989; Kagan & Snidman, 1991), and cognitive-developmental factors (Miller, 1983). Fear research has determined that, during infancy, children become fearful of stimuli in their immediate environment such as loud noises or loss of support (e.g., Scarr & Salapatek, 1970). These fears have been argued to be prepotent or biologically preprogrammed and to occur in the absence of learning (Marks, 1987). Toward the end of the first year of life there is an increase in fear of strange persons, strange objects, and also of heights (e.g., Campbell, 1986; Kagan, 1978). At this time, there is also the emergence of separation anxiety. Thus, in contrast to fears expressed in earlier months, these fears require cognitive maturation including the capacity to remember and to distinguish the novel from the familiar.

Development into the school years coincides with emergence of fears relating to supernatural phenomena, failure and criticism, and bodily injury (e.g., Angelino, Dollins, & Mech, 1956; Bauer, 1976; Gullone & King, 1993; Hall, 1897; King, Ollier et al., 1989). Global fears, including economic and political concerns, are more characteristic of older adolescents (Angelino & Shedd, 1953). Thus, whereas in infancy children generally become fearful of stimuli in their immediate environment such as loud noises or loss of support, or stimuli of a concrete nature, with increasing age, the infant's fears change to include anticipatory events and stimuli of an imaginary or abstract nature (Campbell, 1986).

However, cognitive development and learning pathways do not sufficiently explain normal fear experiences. In particular, they cannot account for the distribution of fears. Given their prevalence in the environment, fears of certain stimuli or situations are far too common to be explained as having occurred through conditioning whereas others are far too rare (Rachman & Seligman, 1976). For example, a fear of snakes is frequently reported by people who have had no contact with the animal (Agras, Sylvester, & Oliveau, 1969). In contrast, there are potentially life-threatening stimuli that are frequently encountered yet do not as commonly arouse fear such as motor vehicles. The preparedness concept (Seligman, 1971) enables explanation of the distribution of fears. According to Seligman, certain stimuli are biologically significant. Evolution has predisposed organisms to easily acquire associations that facilitate survival of the species. The organism is, therefore, prepared to learn to fear biologically significant stimuli.

Preparedness is conceptualized as an ease of learning continuum. A prepared association is characterized by ease of acquisition and *belongingness*. *Belongingness* refers to

the ease with which CS-US combinations are learned. Prepared associations are also argued to be resistant to extinction and to have an enhanced noncognitive component (McNally, 1987).

However, McNally (1987) questions assumptions of preparedness theory claiming that it is difficult to determine whether fears of evolutionary significance were acquired rapidly and with ease because most emerge in early childhood. An additional criticism is that not all common fears meet the criterion of evolutionary danger. McNally gives the example of cockroaches, which are commonly feared but have not posed any threat to humans throughout history. This apparent contradiction to preparedness theory was somewhat resolved by Bennet-Levy and Marteau (1984), who proposed that humans are biologically prepared to fear specific perceptual features of stimuli rather than the specific stimuli themselves. Certain feature configurations, then, are more fear arousing than others. These include, features that are discrepant from the human form and characterized, for example, by slimness and abrupt movements. Such an hypothesis successfully explains why, for example, humans are more likely to fear cockroaches than dogs, even though dogs pose more threat than cockroaches.

Thus, it is generally agreed that certain perceptual features acquire their fear-eliciting properties through prepared conditioned associations (Bennet-Levey & Marteau, 1984) or that certain perceptual features are prepotent in their fear-eliciting properties (Marks, 1969, 1987).

In addition to other sources of empirical support, proposals for preparedness and prepotency have been supported by normative fear research which has consistently demonstrated that stimuli most feared pose or signal a threat to survival, or have posed a threat in the evolutionary history of the species. Such stimuli include earthquakes, dead people, and not being able to breathe (Gullone & King, 1993; King, Ollier et al., 1989).

Other consistent findings of normative fear research include an overall decrease in the number of fears with a corresponding increase in age, and gender differences such that girls overwhelmingly report or are reported to express more fears than boys (e.g., Angelino et al., 1956; Gullone & King, 1993; King, Ollier et al., 1989; Ollendick, 1983; Scherer & Nakamura, 1968). These gender differences are not necessarily an indication that females have a greater fear reactivity. Rather, they may be a reflection of gender role expectations, such that fearful behavior is more acceptable for females than males (Pierce & Kirkpatrick, 1992). Females may also be more likely to report their fears than males. The latter behavior is also consistent with the feminine stereotype (Graziano, DeGiovanni, & Garcia, 1979).

Thus, there are well-documented norms of fearfulness in people without a disability. These have also been demonstrated to have cross-national validity (e.g., Bamber, 1974; Burnham, 1995; Gullone & King, 1993; King, Ollier et al., 1989; Klingman & Wiesner, 1982, 1983; Ollendick, King, & Frary, 1988; Ollendick & Yule, 1990; Sidana & Sinha, 1973). In contrast, there has been considerably less research examining normative fear in special populations even though the data that are available indicate such research has special significance for people who have a disability because they are particularly vulnerable to increased levels of emotional disturbance (e.g., McNally & Ascher, 1987).

NORMAL FEAR RESEARCH IN PEOPLE WITH A DISABILITY

Investigations in special populations have included assessment of normative fear in people with intellectual disabilities, visual impairments, hearing impairments, health

impairments, and autism. Of all disabilities, that to receive the greatest research attention has been *intellectual disability*. However, for all disabilities, the total number of investigations approximates 20. Furthermore, the only research that has investigated fearfulness in adults with disabilities has been in the intellectual disability area. It is, therefore, clearly evident that only little progress has been made in comparison to that for people without a disability. This article reviews the available research and provides an evaluative account of current knowledge in the area.

Hearing Impairments

To date, there has only been one published study that has examined fearfulness in hearing-impaired children (King, Mulhall, & Gullone, 1989). This is particularly surprising given that children with hearing impairments have been reported to be less psychosocially well-adjusted (Prior, Glazner, Sanson, & DeBelle, 1988). As noted by King, Mulhall, and Gullone (1989), because of their sensory deficit and resulting difficulties in communication, people with hearing impairments may perceive the world as a more frightening place than nondisabled people. Children, in particular, because they are still developing emotionally, cognitively, and physiologically, are at risk of experiencing increased vulnerability. Thus, knowledge of the patterns of fearfulness in these children constitutes an essential part of understanding their development.

The study conducted by King and colleagues provides useful information toward this end. These researchers administered Ollendick's (1983) revised Fear Survey Schedule for Children (FSSC-R) to a sample of 138 prelingually deaf children aged between 8 and 16 years, and a sample of 134 matched age controls without a hearing impairment.

Unexpectedly, no differences in total fear score were found between the two groups of children. However, some differences on the five factors of the FSSC-R were found. In particular, children with hearing impairments reported significantly more fears of the unknown and of injury and small animals. In contrast, children without hearing impairments reported more fear of failure and criticism. As previously noted, for individuals without a disability, fears of the unknown and of animals are particularly characteristic of younger children, whereas those of failure and criticism are more characteristic of middle childhood and adolescence (e.g., Gullone & King, 1993; in press). This finding may therefore indicate that fears of children with hearing impairments compare more closely with those of younger nondisabled children than with their own age nondisabled peers. Nevertheless, some age patterns were found to be consistent within both groups with lower levels of self-reported fears of the unknown and of injury and small animals being found for the older children.

Significant gender differences were also found. Within each sample, females scored higher than males. Interestingly, there were some differences in gender-based patterns of fearfulness between the two groups. Essentially, differences between males and females without a hearing impairment were greater than those in children with a hearing impairment. This was the case for overall fear and for fears of the unknown, death and danger, and failure and criticism. As proposed by the authors, this finding may indicate differences between the two groups in gender-role socialization processes such that they may be less polarized for children with hearing impairments than for children without. Further investigation of this finding may have potentially significant implications for better understanding the gender differences that have consistently been reported in normative fear investigations.

In general, children without a hearing impairment were found to be more fearful of stimuli that could be argued to arouse psychological distress such as "having my parents

argue,” “failing a test,” and “getting poor grades.” In contrast, children with a hearing impairment were more fearful of stimuli posing a threat to physical well-being (i.e., snakes, spiders, and guns). The latter fears are also more prominent in younger nondisabled children whereas the former are more characteristic of the middle childhood to adolescent years. Nevertheless, the most common fears of the two groups of children were found to be very similar and mostly related to death and danger. They included being hit by a car or truck, bombing attacks—being invaded, snakes, earthquakes, getting a shock from electricity, not being able to breathe, fire—getting burned, death or dead people, getting lost in a strange place, and a burglar breaking into their house.

Visual Impairments

As with hearing-impaired children, visually-impaired children are more likely than nondisabled children to find mastering developmental tasks more difficult and more challenging. The stigmatization that their disability is likely to bring about also increases the likelihood of difficulties for otherwise normal developmental experiences and processes. As a result, it has been proposed that blind children are more likely to develop higher levels of fearfulness and anxiety than are normally sighted children.

Ollendick, Matson, and Helsel (1985) pointed out that several investigations have shown a higher prevalence of psychopathology in people with disabilities (e.g., Harvey & Greenway, 1984; Rutter, Tizard, Yule, Graham, & Whitmore, 1976) and proposed that the higher incidence may be directly related to the presence of the disability itself and also to poor physical health, a lack of social acceptance, and paucity of contacts outside of the home environment. In line with Wiemer and Kratochwell (1991), Ollendick et al. proposed that increased fearfulness would also be expected in children with visual impairments.

They tested their proposal through individual administration of the FSSC-R to each of 176 children ranging in age from 10 to 18 years. Seventy of the children had visual impairments and the remaining 106 were normally sighted. The study outcomes indicated that children with visual impairments scored significantly higher on total fear score than children without, however, the two groups only differed on one (i.e., fear of death and danger) of the five factors of the FSSC-R. Again, children with visual impairments scored significantly higher than children without visual impairments.

Specific fear items on which the two groups of children differed included items loading onto the death and danger factor and the injuries and small animals factor on which children with visual impairments scored higher. In contrast, children without visual impairments scored higher on fears relating to failure and criticism and to medical situations.

The 10 most common fears were reported to be consistent across the two groups of children, however, the rankings differed. They included being hit by a car or truck, not being able to breathe, bombing attacks—being invaded, fire—getting burned, a burglar breaking into their house, getting a shock from electricity, falling from high places, looking foolish, getting poor grades, and earthquakes. As with King, Mulhall, and Gullone’s (1989) findings relating to children with hearing impairments, whereas nondisabled children were more likely to report being afraid of psychologically harmful situations, visually impaired children were more likely to respond with fear to physically harmful situations.

Age differences were not found nor were there any interactions found between age and impairment. According to Ollendick et al. (1985), this may have been due to the limited age range. Gender differences were not investigated.

Matson, Manikam, Heinze, and Kapperman (1986) administered several scales (including French, Graves's & Levitt [1983] Children's Manifest Anxiety Scale; Scherer & Nakamura, 1968's, Fear Survey Schedule; Spielberger's [1973] State-Trait Anxiety Inventory) to 75 children with visual impairments who ranged in age from 9 to 22 years. No gender differences were found on any of the scales, however, some age-differences were found on the State anxiety scale with younger children reporting higher levels of anxiety than older children.

King, Gullone, and Stafford (1989) investigated fears of Australian children and adolescents with visual impairments as compared to normally sighted individuals. Given the similarity of American and Australian cultures and school systems, it was expected that results would be similar to those reported by Ollendick et al. (1985). The FSSC-R was administered to a total of 258 individuals ranging in age from 8 to 16 years, of whom, 129 were youth with visual impairments and the remaining 129 were a normally sighted sample matched for age and gender. Children with visual impairments were reported as being partially blind, legally blind, or totally blind.

In contrast to Ollendick et al.'s (1985) findings, the two groups of respondents did not differ significantly in total fear score. However, sample differences were found for fears relating to failure and criticism and to death and danger. Somewhat inconsistent with the findings of Ollendick et al. (1985), normally sighted children were found to be significantly more afraid of death and danger-related fears. Whereas no significant age differences were found on total or factor scores, consistent with general findings in the area, females were found to report more fear than males.

The authors also reported some interesting interaction effects between disability group and gender on fears relating to the unknown and to medical situations. For both of these fear factors, gender differences were not as great for children with visual impairments when compared to sighted children. As with King, Mulhall, and Gullone's (1989) study, this finding perhaps reflects subtle differences between visually impaired and sighted children regarding the socialization of boys and girls.

In their investigation, Wiemer and Kratochwill (1991) examined the number, content, and intensity of fear for a subset of the sample with visual impairments involved in Wilhelm's (1989) study. Of a total of 101 children, a final sample of 42 (18 girls, 24 boys) with visual impairments participated in the study. They ranged in age from 5 to 18 years and were all enrolled in day or residential programs. The sample was also described as ranging in cognitive level from having a high average intellectual ability to having an intellectual disability. However, most students were described as falling within the average range. A majority of the children's visual impairments were caused by more than one type of eye disorder and all but two students had some vision.

Wiemer and Kratochwill used the Fear Survey for Children with and without Mental Retardation (FSCMR; Ramirez & Kratochwill, 1990) to assess fear, arguing that it is a more comprehensive survey than others which have been used. Wiemer and Kratochwill (1991) made several modifications to the FSCMR, including substitution of the 10 items reported by Ollendick et al. (1985) to be the most commonly feared items for children with visual impairments, with items considered inappropriate for such a sample. Such items included, for example, "the dark" and "shadows." The modified questionnaire comprised 80 items and 2 open-ended questions. It was administered orally and individually.

Mean number of fears was found to be 27 and, on average, girls reported 35 fears whereas boys reported 21, the difference between which was statistically significant. On fear intensity, two measures were considered, first "severe" fear score and second "mild" fear score. Whereas males and females were not found to differ on "mild" fear,

females scored significantly higher on "severe" fear. The open-ended questions revealed that 21% of children were afraid of death and dying, 7% of nuclear war, 7% of thunder and lightning, and 5% of heights. Information provided by child care counsellors about the most difficult fear for each child, revealed that 5- to 8-year-olds were most concerned with animals or natural events whereas the 12- to 18-year-olds were reported to be most fearful of animals, humans, water, and the unknown.

Two-week test-retest was conducted on 20% of the children who were identified as being the most fearful. Over the 2-week period, 30% of the 10 most common fears reported in the first sitting were also among the 10 most common for the second sitting. These included someone you love getting hurt, strangers, falling from high places, getting lost, sharks, someone hurting you, war, being hit by a car or truck, tornadoes, and getting or losing a boyfriend or girlfriend. There was considerable similarity in the 10 most common fears between the 5- to 11-year-olds and the 12- to 18-year-olds.

Although research has suggested that children with visual impairments differ from those without in relation to level or number of fears, prior to Ollendick et al.'s (1985) and King and colleagues' (1989) studies, qualitative fear differences had not been clearly shown. Differences in the content of fears between children with and without visual impairments have been proposed to be a function of the usefulness of such fears. For example, children with visual impairments are most likely to fear those stimuli or situations for which vision might be the most useful sense for detecting them. To the extent that people's fears reflect a constitutional impaired ability to detect danger, their increased fears of such stimuli must be regarded as adaptive.

Thus, research investigating normal fear in children with visual impairments has included two studies that involved no comparison group and two which did involve a comparison group of children without a disability. The latter two yielded inconsistent findings with regard to number and intensity of fears, one finding that children with visual impairments report experiencing higher levels of fearfulness and the other finding no overall difference. Nevertheless, research appears to be in agreement that children with visual impairments are more likely to fear animals and physical injury and less likely to fear psychologically harmful stimuli such as those relating to failure and criticism. This is an important finding when considering developmental fear patterns because fears relating to psychic stress and social-evaluative situations have been found to increase during the pre-adolescent and adolescent years for youth without disabilities. Thus, it may be that, given their impairment, enhanced fears of animals and physical injury have realistic survival value. Nevertheless, strong consistencies have been demonstrated between the two populations. First, the most common fears tend to be related to death and danger, and second, females are more fearful than males, albeit less so than in nondisabled populations. Generally, no age differences have been found on fearfulness, however, Wiemer and Kratochwill (1991) did report some content differences and Matson et al. (1986) did find that anxiety levels decreased as age increased.

INTELLECTUAL DISABILITIES

In large part, the neglect of research in the intellectual disability area may be due to the pragmatic difficulties posed in collecting information, in addition to potential problems involved in obtaining reliable and valid data.

Studies With Children and Adolescents

Among the earliest studies to consider intellectual disability as an influential factor in normal fear patterns was that by Maurer (1965). However, this investigation only

included a small number (i.e., $n = 18$) of people with disabilities in comparison to those in the sample who were of average intelligence ($n = 130$). The children were aged between approximately 6 and 15 years. Following administration of the WISC, subjects were asked; "What are the things to be afraid of?" Results indicated that children with an intellectual disability showed similar developmental fear trends as nondisabled children. In particular, they were found to demonstrate a sharp drop in fear of the dark and of imaginary creatures after the mental age of 8 years. Fear of animals dropped substantially after the mental age of 12 years.

A subsequent study in which intellectual functioning was considered was that by Guarnaccia and Weiss (1974). Their sample comprised 102 individuals with intellectual disabilities ranging in age from 6 to 21 years. To obtain data pertaining to the sample's fears, they required that parents complete the Louisville Fear Survey for Children (Miller, Barrett, Hampe, & Noble, 1972). Unlike other such studies, their main objective involved determining the factor structure of fears in people with disabilities. They factor analyzed their data using Principal Components analysis with Varimax rotation. This resulted in four factors which were labelled as: I, Separation; II, Natural Events; III, Physical Injury; IV, Animals. The factor structure was, in fact, not found to differ from that reported by the authors of the Louisville Fear Survey for Children apart from the Separation factor. Surprisingly, they found IQ and fearfulness to be positively related, hence, stating that those with an intellectual disability have fewer fears than those without; a finding that has not been supported by subsequent research.

Derevensky (1979) examined the fears of 133 exceptional children (classified as Educable Mentally Retarded; Trainable Mentally Retarded, and Specific Learning Disabled) and compared them with 106 children without an intellectual disability. The sample ranged in age from 7 to 18 years. As in Maurer's investigation, each child was individually interviewed and prompted to give responses to the question: "What are the things to be afraid of?" Responses demonstrated that many fears were consistent between both samples. This was true for several fear categories (i.e., the dark, imaginary creatures, natural hazards, machinery, people, and miscellaneous) except that of "animals" and "spooks." Within these latter categories, children classified as disabled reported a higher percentage of fears. Also children with a disability were found to report fewer fears in the "people," "machinery," and "death and injury" categories.

Vandenberg (1993) examined fears of 112 nondisabled 4- to 12-year-old children as compared to fears of 42 children aged between 7 and 12 years identified as having an intellectual disability. It was found that the fears of nondisabled children varied with age such that older children reported significantly fewer fears of imaginary creatures and more fears of events involving human agency. Animal fears were found to be prominent for all children and, surprisingly, no age differences were found for these fears. In relation to gender, girls reported twice the number of animal fears than did boys. In contrast, boys reported twice the number of fears relating to human agency events than did girls.

When fears of disabled children were compared to their same chronological age nondisabled peers, it was found that more fears of imaginary creatures were reported by children with a disability. Conversely, children of average intelligence were more likely to report fears of human agency-related events while only about half of the disabled children demonstrated such fears. Vandenberg concluded that fears of children with an intellectual disability were more like those of younger children of average intelligence. When matched on mental age as opposed to chronological age, the two groups of children were comparatively similar. This finding indicates that normal fears are closely linked with level of cognitive functioning.

In a recent Australian study, Gullone, Cummins, and King (1996) conducted the first investigation using an instrument demonstrated to have sound reliability and validity in youth with and without an intellectual disability. They used the Fear Survey Schedule for Children and Adolescents (FSSC-II; Gullone, King, & Cummins, 1996) and took several steps to minimize acquiescence and enhance the validity of responding. In contrast to past studies with nondisabled youth, which have administered the FSSC-II on a group basis (Gullone & King, 1992, 1993), in this study, the FSSC-II was individually administered to both groups of students. In addition, each stimulus item was read aloud while simultaneously presenting a photograph or illustration of the corresponding item. Finally, a visual analogue (facial expressions of fear) scale was used to assist in the fear ratings (cf. Gullone, King, & Cummins, 1996).

Their sample included 187 youth with a mild or moderate intellectual disability and 372 youth of average intelligence. The former group were found to report a higher level of fearfulness and a greater number of fears than youth of average intelligence. Overall, however, findings indicated a great deal of similarity in developmental patterns of normal fears for both samples. Foremost, the strongest fears were death and danger-related. Such fears are also those reported to be most stable throughout development. Whereas the two samples differed with regard to fear intensity, prevalence, and content, it was on fears relating to death and danger that the two samples were most similar. A second similarity related to the finding that females in both samples reported a greater range of fears and more intense fears than males. As noted earlier, this is a finding that has consistently been reported in the normative fear literature for youth and adults without intellectual disabilities.

Nevertheless, there were some marked differences in normal fear between the two samples. First, the differences in fear content which strongly differentiate childhood from adolescence in youth without disabilities were not found in youth with disabilities. In particular, the age-related decrease in fears of supernatural phenomena or fears of the unknown such as ghosts or spooky things, and strange looking people was not evidenced to the same degree in youth with disabilities. Also, the finding that social-evaluative fears increase during the adolescent years whereas demonstrated for the nondisabled sample, was not found for youth with disabilities.

Studies With Adults

Sternlicht (1979) surveyed fears of 22 adults classified as having a moderate intellectual disability. Importance of directly questioning subjects about their fears was noted because low correlations have been found between self and other reports of fear (e.g., Croake & Hinkle, 1976). Hence, subjects were individually interviewed using a similar methodology to that used by Derevensky (1979). Responses given by subjects were overwhelmingly within the animal or supernatural fear categories. Conceptualizing responses within a Piagetian perspective, Sternlicht concluded that disabled adults were significantly more likely to respond with pre-operational fears (characterized by an egocentric perspective) than concrete operational fears (characterized by realistic cause and effect thinking).

Duff et al. (1981) examined fears of 20 adults who were identified as having a mild intellectual disability. Twenty children without an intellectual disability, matched for gender and mental age constituted the comparison group. A compilation of four self-report measures was used to assess the subjects' fears. The disabled adults reported significantly more fears and a higher intensity of fear than the comparison group. They were more likely than control subjects to report being fearful of thunder and

lightning, cemeteries, being with a man or woman, crossing streets, hell, being kidnapped, being touched by others, and germs. These items represent a combination of supernatural fears (i.e., hell, cemeteries) and others which are perhaps realistic given the respondents' life circumstances. For example, being institutionalized may inhibit development of independent living skills, such as crossing streets and life experiences such as being with a man or woman. Also, given that the group with disabilities included adults and that the comparison group included children, it is not surprising that there were differences in items such as "being with a man or woman." On the other hand, fears such as "being kidnapped" are more characteristic of younger respondents.

In all, these findings indicate sufficient similarity between individuals with an intellectual disability and those without to suggest that processes underlying development of normative fear are in large part biologically driven and determined. They are also important in that they point to differences between the two samples sufficiently large to require that the fears of youth with disabilities be evaluated as normal versus clinical only on the basis of fear norms that have been generated from a sample with disabilities.

Foremost of the similarities is that the strongest fears appear to be death and danger-related for both people with and without an intellectual disability. This, therefore, adds further support to the powerful innate basis that normative fear has been proposed to have and suggests that such fears may be less cognitive in nature (Marks, 1987; Seligman, 1971). A second similarity relates to the consistent outcome that females across disability groups have been reported to display a greater range of fears and more intense fears than males.

Nonetheless, some marked differences have been demonstrated in fears of people with intellectual disabilities compared to those without. In particular, findings indicate that age has a far less significant impact on the content and intensity of fears in youth with an intellectual disability (Gullone, Cummins, & King, 1996; Vandenberg, 1993). Given that normal fear is proposed to be strongly associated with cognitive development (Gullone, 1993; Gullone & King, in press), it is not surprising that changes in normal fears related with chronological age are less marked for people with intellectual disabilities. This is most evident in the findings that individuals with an intellectual disability are more fearful of animals, darkness, and supernatural phenomena but less fearful of people and natural hazards. Thus, fears that best discriminate between youth with and without intellectual disabilities, are those that are most characteristic of younger nondisabled youth. Although such fears have been found to decrease with an increase in age for people with and without a disability, they continue to be experienced at a more intense level for those with a disability (Derevensky, 1979; King et al., 1994; Vandenberg, 1993).

Other Disabilities

Matson and Love (1990) noted that while there have been few studies investigating the normal fears of youth with intellectual disabilities, their study is the only one to examine fear in autistic children as compared to children without disabilities. Matson and Love collected parent-reports for a total of 28 children ranging in age from approximately 2-and-a-half years to 17 years, on a modified version of the FSSC-R (Ollendick, 1983). Subjects comprised 14 children with autism and 14 children without disabilities matched on chronological age and gender. They incorporated an additional category of responding to the 3-point Likert type scale of "Not Applicable" as they considered a number of the stimuli depicted by the items on the FSSC-R to be

unfamiliar to the majority of autistic children (e.g., giving an oral report, failing a test, getting a report card). Following the list of 80 items, some space was provided for parents to indicate any other specific fears they believed that their children experienced.

Outcomes indicated that children without a disability scored significantly higher on FSSC-R total fear scores than children with autism. When examining gender differences, findings were not surprising, with females obtaining higher fear scores than males in both the autistic and nonautistic groups of children. Interestingly, more fears were endorsed with the highest fear level for children with autism (6) in comparison with children without autism (4), however, the difference was not significant. Those items most commonly endorsed as not being applicable to children with autism mostly included school-related situations or stimuli.

Additional fears reported by parents of autistic children included, for example, fear of stairways, being outside alone, trucks or machinery, and getting in a shower. Interestingly, it was found that the 10 most commonly feared items for children with autism were characteristic of the diagnostic symptoms of such children. Such items were reported to include fear of noises, being in groups or with other people, and the dark. Only 2 of the 10 most common fears were common to both groups. These were "getting punished by my mom," and "getting a shot from the doctor." Children with autism were reported to have fewer fears related to failure and criticism but more fears related to the unknown compared to children without autism. In fact, 6 of the 10 most common fears reported for the autistic group of children were related to "the unknown." These included, for example, thunderstorms, being in a big crowd, dark rooms or closets, going to bed in the dark, and closed places. Consistent with other research in the disability area, fears of children with autism were found to be characteristic of younger nondisabled children. This study is of particular importance because it identifies differences in fear patterns between children with autism as compared to other groups. Specifically, children with autism reported less intense fear than control group children and their most common fears were not death and danger-related.

King, Gullone, and Ollendick (1990) reported fears of 73 children aged between 7 and 18 years with health impairments compared with those of a control group of 73 children matched for age and gender. Within the group with health impairments, several medical conditions were evident. These included cerebral palsy, peripheral musculoskeletal anomalies, spina bifida, muscular dystrophy, and asthma, conditions which were either congenital or which developed in the early years of life.

Ollendick's FSSC-R was individually administered to children with health impairments and on a group basis to control children. As predicted, children with health impairments were found to report a significantly greater number of fears than control group children. In particular, children with health impairments reported more fears relating to the unknown and to injury and small animals. Age differences were found for both groups of children with older children reporting significantly fewer fears than younger children. Gender differences were also found, with females reporting a significantly greater number of fears than males.

Comparison of Normal Fear Across Different Disability Groupings

More recently, King et al. (1994) conducted a more comprehensive investigation including four samples of children. One sample ($n = 302$), constituting the control group, had no disabilities. The remaining three comprised a sample of children with intellectual disabilities ($n = 302$), visual disabilities ($n = 192$), and hearing disabilities ($n = 218$). There were 1,011 children in total, and all were aged between 7 and 18

years. In contrast to the sampling methods used in similar previous studies (e.g., Maurer, 1965), to avoid potential sample bias, residential special schools were not included in the study. As with previous studies by King et al., the FSSC-R was administered to children on an individual basis.

There were several procedural modifications incorporated depending on the type of disability. Thus, for example, for people with an intellectual disability, photographic or illustrative material was presented simultaneously with each schedule stimulus item. For the sample with a visual impairment, the schedule was reproduced in braille or in large print. Encouragingly, the researchers demonstrated adequate internal consistency on the FSSC-R for the entire sample and for each of the subgroups.

Overall fearfulness (total fear score) was compared between each of the groups and was found to differ significantly with intellectually disabled children obtaining the highest score. Children with a hearing impairment also scored higher than those with a visual impairment. Also, of all the groups, the children with intellectual disabilities reported the greatest number of intense fears. No other group differences were found.

Fears reported by youth with an intellectual disability were also qualitatively different from those of the other groups. Consistent with other research (e.g., Derevensky, 1979; Gullone, Cummins, & King, 1996) children with an intellectual disability reported more fears relating to the unknown (e.g., thunderstorms, dark places and ghosts, or spooky things) and more fears of injury and small animals (e.g., ants, bats, birds). These findings provide further support for the proposal that fears that are evident in youth with disabilities are indicative of a lower level of cognitive sophistication, thereby resulting in less sophisticated evaluations of "reality-based" threat. Other factors, such as parental overprotection, may also contribute to the onset and maintenance of these fears resulting in less opportunity for reality testing and for the development of appropriate coping skills.

METHODOLOGICAL AND THEORETICAL ISSUES

Sampling

Studies that have examined normal fear in people with disabilities have contributed important information regarding developmental patterns of fearfulness in people with physical and intellectual disabilities. These outcomes are of relevance, not only to the disability area but to the normative fear area generally, as they provide further evidence for the strength and generalizability of developmental fear trends. Nevertheless, the research that has been conducted in the disability area is significantly limited in a variety of ways. Apart from there being very few studies, particularly in relation to the fears of people with physical disabilities such as hearing or visual impairments, such studies are limited by a variety of methodological problems including small sample sizes (e.g., Maurer, 1965: $n = 18$; Sternlicht, 1979: $n = 22$; Duff et al., 1981: $n = 20$; Ramirez & Kratochwill, 1990: $n = 59$) and poor sampling techniques. For example, Maurer's sample comprised children who had been referred to a school psychologist for reasons ranging from speech defects to noncompliance.

Wiemer and Kratochwill (1991) also criticized the research on the basis that visually impaired people are characterized by heterogeneity. Thus, extent of impairment and levels of intellectual functioning may differ. This criticism extends to most studies in disability research on normal fear. Researchers should therefore consider levels of physical impairment, levels of intellectual functioning, and sampling techniques. Because such factors have not been taken into account, comparison across research studies and conclusions on the whole are limited.

Another obvious limitation is related to the fact that studies have either only sampled people with a particular disability with no control group (e.g., Guarnaccia & Weiss, 1974; Matson et al., 1986; Sternlicht, 1979; Wiemer & Kratochwill, 1991) or they have compared a sample of people with a particular disability with a sample who have no disability. The study by King et al. (1994) is the only exception. These researchers included several disability groupings and a nondisabled control group. More of such research is required in order that developmental fear norms are determined for different disability groupings. Other problems include limited information about age or methodology (e.g., Maurer, 1965; Ramirez & Kratochwill, 1990; Vandenberg, 1993), and where specified, poor methodology. A particularly critical limitation relates to issues of testing and assessment (Gullone, King, & Cummins, 1996; King et al., 1994).

Testing and Assessment

A variety of assessment methods has been used. Earlier studies (e.g., Derevensky, 1979; Sternlicht, 1979) predominantly used a method originally implemented in the disability area by Maurer (1965). This involved individually asking children or respondents: "What are the things to be afraid of?" King and his colleagues (1994) criticized this technique arguing that it has questionable validity given the limited verbal and cognitive ability of people with intellectual disabilities. Other studies are limited in that they do not specify their data collecting technique (e.g., Vandenberg, 1993). A small number of studies have collected their information through parent interviews or vicarious responding techniques rather than by directly interviewing the child (e.g., Guarnaccia & Weiss, 1974; Matson & Love, 1990). There is a rapidly growing literature on the questionable validity of parent-report data (e.g., Klein, 1991; Matson & Love, 1990; Rende, & Plomin, 1991) and there are serious limitations in comparing results obtained through open-ended interviews.

A major concern when directly interviewing people with an intellectual disability is acquiescent responding (Sigelman et al., 1981, 1982). Questions that may be ambiguous, not easily understood, or that require an answer which is not easily accessed are particularly problematic (Kabzems, 1985; Sigelman & Budd, 1986; Sigelman et al., 1981).

In more recent times, assessment tools have included (e.g., self-report fear survey schedules, such as that developed by Ollendick (1983). Others have used revisions of Ollendick's FSSC-R (e.g., Gullone, Cummins, & King, 1996). Yet others (e.g., Wiemer & Kratochwill, 1991) have used the Ramirez and Kratochwill Fear Survey for Children with and without Mental Retardation (FSCMR, 1990). An Australian study (Duff et al., 1981) used a compilation of four different schedules. Typically, schedules have been administered on an individual basis as compared to group administration, as is usually the case in studies on people without disabilities (e.g., Gullone & King, 1992).

Self-report fear survey schedules provide the advantage that reliability and validity are amenable to empirical assessment. In their discussion of the many methodological problems associated with research in the visual disability area, Wiemer and Kratochwill (1991) argued that comparison of the fears of children with compared to those without visual impairment is problematic. The main reason given in support of this claim is that a test cannot be administered with equal validity to groups of children who differ in level of disability. This criticism is based on the fact that research in the area has typically used instruments that have been standardized on populations without visual impairments. Indeed, this criticism extends to most of the research on fearfulness conducted in the disability area.

Only few of the studies reviewed have determined the psychometric soundness of the instruments used for samples with disabilities relevant to their investigation. For example, in their investigation of the fears of children with visual impairments, Matson et al. (1986) reported acceptable psychometric properties for the measures they used (i.e., Children's Manifest Anxiety Scale, Scherer & Nakamura's Fear Survey Schedule, and Spielberg's State-Trait Anxiety Inventory). These included internal consistency (alpha coefficients), individual item alpha levels, and correlations between the measures (i.e., convergent validity).

Wiemer and Kratochwill (1991) used the Fear Survey for Children with and without Mental Retardation (FSCMR; Ramirez & Kratochwill, 1990). This instrument is a revision of Ryall and Dietiker's Children's Fear Survey Schedule (CFSS, 1979). The revision retains several of the original features including individual administration. However, in an attempt to accommodate the limited cognitive capacities of their sample, Ramirez and Kratochwill (1990) modified the administration procedures by incorporating a read-aloud approach and by changing the 3-point scale to a 2-point scale (i.e., yes/no format). They also added definitions of the items to enhance understanding. A further modification included adding several neutral items (e.g., telephones, mittens, flowers) to test for acquiescent responding. Two-week retest showed a significant decrease in fear. Nevertheless, an 82% overlap of fear content was found between the two administrations, which was argued to be supportive of the reliability of the CFSS with children who have disabilities. Thus, the FSCMR has been reported to be reliable; however, validity issues remain uninvestigated.

More recently, Gullone, King, and Cummins (1996) investigated the psychometric properties of the Fear Survey Schedule for Children and Adolescents (FSSC-II; Gullone & King, 1992) for youth who have an intellectual disability. The FSSC-II is a 78-item schedule on which respondents are required to rate their level of fear for each of the stimulus items on a 3-point scale (i.e., 1 = Not Scared, 2 = Scared, 3 = Very Scared). The schedule has been reported to have high internal consistency with a Cronbach's Alpha coefficient of 0.96 and 0.97 (Gullone & King, 1992; Gullone, King, & Cummins, 1996) and 1 week test-retest reliability of 0.97 and 0.76 for youth of average intelligence and those with an intellectual disability, respectively. Convergent validity of 0.48 and 0.35 has been demonstrated with the Revised Children's Manifest Anxiety Scale (Reynolds & Richmond, 1985) and 0.44 and 0.39 with the Trait Scale of the State-Trait Anxiety Inventory for Children (STAIC; Spielberg, 1970) for youth without and with an intellectual disability, respectively. Divergent validity has also been demonstrated through nonsignificant correlations between the FSSC-II and the State Scale of the STAIC.

One methodology that has yet to be utilized for the assessment of fears in people with disabilities is the observational method. This is not surprising given its paucity of use in research investigating fears of people without disabilities and given the difficulty of observing fears for a wide range of stimuli. Nevertheless, given the many pragmatic difficulties posed in assessing the fears of people with disabilities using self-report techniques, observational techniques may prove a useful adjunctive method if not the sole method.

In the future, researchers of fear in people with disabilities should consider it a basic requirement that they demonstrate the validity of their methodology. Clearly, research to date has overwhelmingly failed to meet this requirement. At present, given the paucity of research, the limited study designs, and lack of comparability in procedures, only gross conclusions are able to be drawn about any differences or similarities that may exist in the developmental fear patterns of the different populations.

CONCLUSIONS AND FUTURE DIRECTIONS

Notwithstanding limitations of the reviewed research, some progress has been made in determining levels and extent of fears in people with disabilities. One consistent finding has been that, as with nondisabled people, those with disabilities are most likely to fear situations and stimuli that pose survival danger. Another consistent finding is that females demonstrate higher fear levels than males. However, King and colleagues did identify some differences in gender patterns, namely, that there were greater differences between males and females without disabilities when compared to those of people with disabilities (King, Gullone, & Stafford, 1989; King, Mulhall, & Gullone, 1989).

It is particularly noteworthy that, on the whole, people with disabilities demonstrate a wider variety and more intense fears, albeit, of a developmentally less mature nature than those demonstrated by people without disabilities. These differences may, in part, be due to what appears to be an overall less sophisticated level of cognitive functioning, be it a result of biological or social factors. The social and family environments experienced by people with disabilities may be very different from those experienced by people without disabilities. For example, child-rearing practices may differ such that children with disabilities tend to be overprotected by their parents. Future research into this area may be able to shed some light on social and environmental differences as well as the specific nature of their influence on developmental fear patterns.

As previously noted in relation to fears of children with visual impairment, it has been proposed that fears in people with disabilities may, in part, reflect the extraordinary adaptive hazards that the disability poses (e.g., Ollendick et al., 1985). Unfortunately, given limitations of studies conducted to date, detailing disability-specific fear content differences in an effort to support this claim is not yet validly possible. For example, Ollendick et al. (1985) suggest that children with visual impairments are more likely to fear phenomena that pose a threat to physical versus psychological well-being and that this may be a reflection of the usefulness of such fears in such a sample. In fact, research tends to show similar content differences in distinct disability samples. Thus, while Ollendick et al.'s proposal may be valid, knowledge to date precludes certainty on this issue. In fact, explanation of the same content differences on the basis of cognitive factors is equally valid. Future studies comparing samples with different disabilities and focusing on fear item differences may yield enlightening data on this issue.

In sum, there is still a great deal of work that needs to be done in this area. In particular, the single studies that have been conducted (e.g., King, Mulhall, & Gullone, 1989; King, Gullone, & Ollendick, 1990; Matson & Love, 1990) need to be replicated using comparable procedures and instruments demonstrated to have sound psychometric properties. Given that a concentration of the research in this area has been conducted in Australia and the United States of America, cross-national studies are needed. Once adequate norms have been derived, the next step is to examine the correlates of fearfulness in people with disabilities. A picture of fear correlates is beginning to emerge in the literature on nondisabled individuals. For example, fear levels have been correlated with self-concept and locus of control (Ollendick, 1983), neuroticism (Scherer & Nakamura, 1968), and risk-taking behavior in adolescents (Gullone, Cummins, & Moore, 1995). Do the fears of people with disabilities correlate with similar constructs? Some recent work has shown that level of adaptive behavior in children with intellectual disabilities is related to anxiety and fearfulness (Gullone, Cummins, & King, 1995). Additional research of this kind is needed.

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