Fear in children with visual impairments from the perspective of their parents

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Fear in children with visual impairments from the perspective of their parents

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**ABSTRACT**

The aim of this study was to investigate fear in children with visual impairments (VI) from the perspective of their parents. The study was conducted in Jordan. One hundred and eight parents were surveyed. Results revealed that the main fear contents in children with VI are fear of voices and social communication fears. There were no statistically significant differences between male and female children. Fear content differed as a function of age: six-year-olds feared certain factors more than five-year-olds; seven-year-olds feared the same factors more than six-year-olds. Furthermore, first-born children fear social communication significantly more than later-born children. Finally, various domains differed significantly according to disability severity.

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**KEYWORDS**

Fear; children; visual impairments; blind; disability

**Introduction**

Fears are common throughout child development (Gullone, 2000; Muris, 2007). Children experience general fears during their development, with animal fears typically occurring in early to middle childhood: from 6 to 10 years of age (Lothmann, Holmes, Chan, & Lau, 2011). Fearfulness may be observed in the child’s facial expressions, gestures and physiology (Gritti et al., 2001; Wennström & Bergh, 2008). Physiological changes consist of sweating, increased respiratory rate and emotional stimuli (Carrion et al., 2002). A fearful child may be anxious, resistant, aggressive or submissive; they may attempt to escape or exhibit sleeping or eating problems (Gritti et al., 2001; Wennström & Bergh, 2008).

Fear is an adaptive response to a real or imagined danger that can trigger attempts to protect the self from what is feared, without interfering in daily functioning (Gullone, 2000; King, Muris, & Ollendick, 2005).

According to the literature, the most salient fears in childhood are of physical harm (Ollendick, Yule, & Ollier, 1991). It has been reported that separation from parents, unfamiliar people and nursing procedures cause fear in pre-school-aged children in hospital (Gozal, Drengren, Levin, Kadari, & Gozal, 2004; Salmela, Salanterä, Ruotsalainen, & Aronen, 2009). Children are afraid of strange environments and equipment, pain (Salmela et al., 2009), rejection, bodily injury, their self-determination being restricted, a lack of discretion, injections and needles (Kettwich et al., 2007). Other reasons for fear include lack of information, unrealistic fears, fears of surgery and experiencing symptoms (Nordfeldt & Ludvigson, 2005; Salmela et al., 2009; Wennström & Bergh, 2008). Fears of particular animals, such as snakes, rats and bees, as well as of the unknown, death and danger (Burnham, Lomax, & Hooper, 2013), darkness and hospitals (Salmela & Salanterä, 2009) are common.
Research has revealed gender differences in fear: at all ages, girls report higher levels of fear than do boys (Gullone & King, 1993; King et al., 1989). Children’s fears differ according to race and culture (Gullone, 2000).

High levels of fear are a threat to psychological well-being, particularly in children and adolescents (Salmela et al., 2009). Fear has a limiting effect on memory, reducing the capacity of the brain to store and process information, perceive stimuli, solve problems and learn in general (Mackie & Hamilton, 1993). Fear is closely related to psychological issues such as anxiety, worry and phobia (Gilmore & Campbell, 2008).

Fear plays a role in externalizing problems: children need the help of adults to express their fears, including the objects of these fears, since they otherwise might express their fear in a contradictory manner, or deny it (Bridgett, Valentino, & Hayden, 2012).

In some children, high levels of fearfulness indicate an anxiety disorder, such as phobia, social phobia, generalized anxiety disorder or separation anxiety disorder (Davis, Ollendick, & Öst, 2009). Since fear is a normal part of development, these children can easily be overlooked (Hirshfeld-Becker & Biederman, 2002). Preventive screening is important to identify highly fearful children, even more so since extensive fear in childhood is an important risk factor for anxiety disorders and psychopathology in later life (Essau, Conradt, & Petermann, 2000).

There is considerable debate about the impact of visual impairment (VI) on the social and emotional development of children. Some authors have concluded that, although the social and emotional development of children who are blind may be delayed, such children nevertheless achieve the same milestones as those without VI (Warren, 1994). Others argue that children with VI are at greater risk for psychological difficulties and that fear is a significant emotional and behavioural problem in people with VI (Salha, 2007). For example, Hobson, Brown, Minter, and Lee (1997) and Brown, Hobson, Lee, and Stevenson (1997) argue that children who are blind are more vulnerable to autism, because of a lack of visual interaction. Prevalence of autism has been estimated at 1% in children who are blind (Tirosh, Shnitzer, Davidovitch, & Cohen, 1998). Comprehensive literature reviews by Kemp (1981) and Tirosh et al. (1998) revealed a significantly higher prevalence of social and psychological problems in children with VI than in those children without disabilities.

Morse (1983) reviewed several studies on the psychosocial adjustment of children with low vision. He concluded that children with low vision tend to be more unsettled by the limits of their vision, when compared to those whose disabilities are more severe. These findings are consistent with Peadboy and Birch (1967), who reported that children with low vision are more likely to underachieve and are prone to fatigue frequently which leads to emotional problems.

Many studies revealed that VI could be a precursor of fear in children and adults (King et al., 1990; Ollendick, Matson, & Helsel, 1985; Salha, 2007). According to Ray, Horvat, Croce, Mason, and Wolf (2008), this group is at a particularly high risk of falls owing to impaired balance, and has difficulty identifying environmental threats. Travel in the community is considered an additional threat for children with VI (McKean-Cowdin, Wang, Wu, Azen, & Varma, 2008). Social factors, such as mobility, literacy, adjustment, making friends and presenting themselves in a socially acceptable manner may be significant challenges in their daily lives (Quinn, 1998). Stigmatization associated with VI, often arising from misconceptions, can also have a negative impact on the developmental experiences of children, and may induce fear (Visagie, Loxton, Ollendick, & Steel, 2013). Arabian children with VI are exposed to discrimination, prejudice and negative attitudes despite regulations issued to protect their rights (Alghaib, 2012). The link between social exclusion and mental health problems is well documented (Social Exclusion Unit, 2004). It thus seems likely that children with VI will experience mental health problems as a direct result of exclusion.

VI may affect a child’s ability to function independently, to perform activities of daily living, and to move safely through the environment (McKean-Cowdin et al., 2008). For example, they are at a particularly high risk of falls owing to impaired balance and have difficulty identifying environmental threats (Ray et al., 2008). Individuals with VI may be afraid to leave home owing to mobility issues. Transportation may be a problem. Clark-Carter, Heyes, and Howarth (1986) reported that most
people with VI who do venture outside their home independently adhere to known routes, as exploration can cause disorientation, fear, stress and panic associated with being lost.

Moore and Miller (2003) discuss possible reasons for fear, suggesting that VI itself may cause physical limitations, which lead to the development of fear in children, as they may find it difficult to function independently in an unfamiliar environment. Undoubtedly, a child with VI experiences some degree of disorientation as a result of being placed in a strange environment. Al-Zboon (2016) reported that the reasons for fear in children with visual impairment include an unsuitable physical environment and lack of training, as well as child-related reasons and family factors. There is therefore a need to develop the orientation and mobility (O&M) skills of people with VI in order to decrease their fears, rendering them as safe, efficient and confident as possible.

A small number of studies, with varying results, have investigated fear in children with VI. Visagie et al. (2013) compared fears in South African children with and without VI. The findings indicated that the most feared item for children with VI was ‘fire–getting burned’ and for sighted children, ‘getting HIV’. The 10 most common fears of both groups related mainly to situations in which the possibility of danger and harm was present, with the majority of fears leading on to fear of danger and death. Gender differences were apparent across the number, level and pattern of fears, with females consistently reporting more fears than males. Additionally, children with severe VI reported more fears, a greater intensity of fears and a more complex pattern of fears than their counterparts with moderate VI.

King et al. (1990) explored fears in children and adolescents with and without VI. The results demonstrated that the two groups did not differ significantly on measures of fear and that the controls in fact reported higher levels of fear – not only of failure and criticism, but also of physical harm. According to Salha (2007), fear is a significant emotional and behavioural problem in people with VI; Weimer and Kratochwill (1991) found that children with VI were more afraid of physical harm or danger than were their sighted peers. In a recent study, Al-Zboon (2016) investigated childhood fears in children who are blind from the perspective of teachers who are blind. Results revealed that the main fear content in children who are blind includes fear of the unknown; fears related to environment, transportation and people; and fear of animals.

Based on the literature, fear in children with VI is an important area of research. There are no existing studies on this topic; specifically, there are no studies of parents of children with VI. Salcuni, Dazzi, Mannarini, Di Riso, and Delvecchio (2015) highlight in their study the importance of involving parents as informants in children’s fear assessment, to contribute to an early screening of normal fears and prevent psychopathological risk.

There is significance evidence cited to suggest that judgements of child fear by parents are robust and reliable, as they are experts in their child’s emotions, such as fear (De, Los Reyes, Alfano, & Beidel, 2010; Salcuni et al., 2015; Weems, Taylor, Marks, & Varela, 2008). Dependence on parents’ reports about child fears has been based mainly on the supposition that children lack the cognitive sophistication to answer suitably in a questionnaire or interview format (Achenbach, 2006). Bondy, Sheslow, and Garcia (1985) reported that parents offer a reliable evaluation of their child’s fears.

Since children with VI might be at greater risk of psychological difficulties, and because fear has been shown to exert a negative effect on such children, the following research questions were investigated in a sample of parents, with regard to their children with VI:

- What do parents perceive to be the content of fears of their children with VI?
- Do parents’ perceptions of fear differ according to their child’s gender, birth order and disability severity?
Methods

Design

A survey research design was implemented. The dependent variables were quality and content of fears in children with VI, from the perspective of their parents. The independent variables were the gender, birth order and disability severity of the children.

Participants

Hundred and twenty children with VI who attended one of three separated day centres (one school and two kindergartens) for children with VI in Jordan were purposively selected to participate in the study. Hundred and eight parents (21 fathers and 87 mothers) expressed an interest in the study and consented to participate in reporting their children’s fears. Most of the children in this study had congenital VI. Children’s disability was divided into three categories of disability severity, to characterize how levels of fear differ according to relative poverty of vision. The first and second categories are low vision; the third is blindness. Vision in the better eye with best possible glasses correction is 6/24-6/39 which is considered mild VI, 6/40-6/60 is considered moderate VI, and less than 6/60 is considered sever VI (blindness). The sample distribution is presented in Table 1.

Data collection

A survey instrument was developed to address the research questions posed in this study. The questionnaire was sent to parents at home for completion. The questionnaire consisted of three sections: Section (1) required parents to provide demographic information by placing a check mark next to items that applied. A 5-point Likert-type scale was used as the response mode for section (2). Parents were asked to rate their perception of fear on 42 items, on scale of 1 = always, 2 = almost always, 3 = usually, 4 = almost never, 5 = never. These items were based on literature review. These items were organized into seven categories relating to fear of animals, social communication, metaphysical things, voices, natural phenomena, dangerous things, and modes of transportation (Appendix). Section (3) included an open-ended question to elicit the perspectives of parents on the contents of their children’s fears.

To enhance the content validity of the survey, instrument content was carefully selected from the literature review (e.g. King et al., 1990; McKean-Cowdin et al., 2008; Moore & Miller, 2003; Ray et al., 2008; Visagie et al., 2013; Weimer & Kratochwill, 1991). In addition, comparing the results of the current study with those of previous studies improves content validity. Reliability was determined

<table>
<thead>
<tr>
<th>Table 1. Characteristics of the sample.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td><strong>Child gender</strong></td>
</tr>
<tr>
<td>Male</td>
</tr>
<tr>
<td>N = 49 (45.4%)</td>
</tr>
<tr>
<td>Female</td>
</tr>
<tr>
<td>N = 59 (54.6%)</td>
</tr>
<tr>
<td><strong>Education level for parents</strong></td>
</tr>
<tr>
<td>Secondary school and less</td>
</tr>
<tr>
<td>N = 40 (37%)</td>
</tr>
<tr>
<td>High than Secondary school</td>
</tr>
<tr>
<td>N = 68 (63%)</td>
</tr>
<tr>
<td><strong>Child age</strong></td>
</tr>
<tr>
<td>5</td>
</tr>
<tr>
<td>N = 28 (25.9%)</td>
</tr>
<tr>
<td>6</td>
</tr>
<tr>
<td>N = 43 (39.8%)</td>
</tr>
<tr>
<td>7</td>
</tr>
<tr>
<td>N = 37 (34.3%)</td>
</tr>
<tr>
<td><strong>Birth order</strong></td>
</tr>
<tr>
<td>First-born children</td>
</tr>
<tr>
<td>N = 24 (12.2%)</td>
</tr>
<tr>
<td>The middle</td>
</tr>
<tr>
<td>N = 63 (32%)</td>
</tr>
<tr>
<td>Later-born children</td>
</tr>
<tr>
<td>N = 84 (42.6%)</td>
</tr>
<tr>
<td><strong>Disability severity</strong></td>
</tr>
<tr>
<td>Mild</td>
</tr>
<tr>
<td>46 (42.6%)</td>
</tr>
<tr>
<td>Moderate</td>
</tr>
<tr>
<td>36 (33.3%)</td>
</tr>
<tr>
<td>Severe</td>
</tr>
<tr>
<td>26 (24.1%)</td>
</tr>
</tbody>
</table>
using Cronbach's alpha. The coefficient for the regular scale was 0.79, reflecting good levels of consistency.

**Ethical considerations**

This study was conducted in accordance with the ethics issued by Institutional Review Board at the Hashemite University. Official approval for the study was obtained from the Ministry of Education. Participants were informed of the aims of the research on initial contact, and their consent was obtained. Interviews were scheduled to take place at place and times convenient to participants. Assurances of anonymity and confidentiality were given.

**Data analysis**

A variety of statistical techniques were used to analyse the data. These techniques included: Means, standard deviations, frequencies, percentages, t-test for independent samples, t-test for paired samples and one-way analysis of variance (ANOVA).

**Results**

To answer the first question, means and standard deviations were obtained. The scale used to measure the sample responses was divided into three levels: Low level of fear with means ranging from 1 to 2.33, average levels of fear with means ranging from 2.34 to 3.66, and high levels of fear with means ranging from 3.67 to 5.00.

Table 2 shows parents’ perceptions of fear content. As indicated, parents cited an average level of fear among children. Fears of voices and social communication were cited as most common, and fear of metaphysical things least common.

Most parents did not answer the open-ended question. However, the little data obtained via the open-ended question support the quantitative results, and confirm that fears of children with VI centre on voices and social communication.

A t-test for independent samples was conducted to determine the differences in mean scores of fear according to child gender. The t-test revealed no statistically significant differences between male and female children on fear ($t = -1.88, p = .063$) (Table 3).

A one-way ANOVA was conducted to help determine whether the age of children significantly affected the content of their fear. No significant differences among age groups were found in terms of fear content ($F = 0.662, p = .518$). Fear of dangerous things and of transportation did, however, differ significantly among age groups ($F = 4.35, p = .015; F = 3.44, p = .036$, respectively). To determine which groups differed significantly, the Scheffé test for post hoc comparisons was performed. Results indicated that parents perceive six-year-old children to be less fearful of dangerous things and transportation than five-year-olds; likewise, they perceive seven-year-old children to fear these factors less than six-year-old children (Tables 4 and 5).

In addition, there were significant differences in fear of social communication ($F = 3.3817, p = .025$), according to birth order. To determine the sources of these differences, the Tukey test for post hoc

<table>
<thead>
<tr>
<th>Domains</th>
<th>M (SD)</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Animals</td>
<td>2.52 (0.670)</td>
<td>5</td>
</tr>
<tr>
<td>Social communication</td>
<td>3.33 (0.707)</td>
<td>2</td>
</tr>
<tr>
<td>Fear of the metaphysical things</td>
<td>1.86 (0.552)</td>
<td>7</td>
</tr>
<tr>
<td>Voices</td>
<td>3.62 (0.756)</td>
<td>1</td>
</tr>
<tr>
<td>Natural phoneme</td>
<td>2.38 (0.750)</td>
<td>4</td>
</tr>
<tr>
<td>Dangerous things</td>
<td>2.38 (0.750)</td>
<td>6</td>
</tr>
<tr>
<td>Transportations</td>
<td>2.96 (0.616)</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td>2.69 (0.389)</td>
<td></td>
</tr>
</tbody>
</table>
comparisons was computed. Results indicate that these differences exist between the first-born children and later-born children; parents perceive the former to be more fearful than the latter (Tables 6 and 7).

In addition, ANOVA revealed no statistically significant differences as a function of disability severity on total fear ($F = 1.573$, $p = .212$), whereas significant differences owing to disability severity related to fear of social communication, fear of the metaphysical things, and dangerous things ($F = 6.77$, $p = .00$; $F = 6.77$, $p = .00$; $F = 6.77$, $p = .00$, respectively) were observed. To determine the sources of these differences, the Scheffé test for post hoc comparisons was performed. Results indicate that the differences are between mild and severe disability: the latter are perceived to be less fearful of social communication and of metaphysical things; the former are less fearful of dangerous things (Tables 8 and 9).

### Discussion

The aim of this study was to investigate the perceptions of parents of children with VI with regard to the content of their children’s fear. The responses of parents suggest an average level of fear. According to the literature, fear is an integral part of the typical development of children (Gullone, 2000; Lane & Gullone, 1999; Last, 2006). Ollendick et al. (1985), King et al. (1990) and Salha (2007) report that VI engenders fear in children. King, Josephs, Gullone, Madden and Ollendick (1994) emphasize that children with VI might feel more threatened. Moore and Miller (2003) discuss possible internal mechanisms for fear, suggesting that VI itself might cause physical limitations that lead to the development of fear in children, as they may find it difficult to function independently in an unfamiliar environment. Al-Zboon (2016) reported that reasons for fear in children with VI were lack of training (hearing, social skills, O&M training) and an unsuitable physical environment.

Parents cited fear of voices as one of the most common fears in their children with VI. This finding was unsurprising, since children with VI cannot see the source of voices, which thus fall under the category, ‘fear of the unknown’ (Ollendick et al., 1985; Varela, Sanchez-Sosa, Biggs, & Luis, 2008). Children with VI display higher levels of fear in situations with a high potential for physical harm or danger and fear of the unknown (Al-Zboon, 2016; Ollendick et al., 1985; Varela et al., 2008).

Parents cited fear of social communication as common in their children with VI. Fehm, Pelissolo, Furmark, and Witchen (2005) reported that the individual primarily fears that he/she will act in a way that will be embarrassing. Qahtani (2012) revealed that frequent exposure to teasing, bullying, frightening, rejection or humiliation were associated with a significantly higher prevalence of social-related fear. However, this could be due to the status of children with VI. Al-Zboon (2016) reported that children with VI develop people-related fears. Various studies have documented negative attitudes towards people with disabilities in Jordan (The National Council for Family Affairs [NCFA], 2007; UNESCO, 2010). Stigmatization associated with VI can also have a negative impact on the social experiences of children, and may induce fear (Visagie et al., 2013).

### Table 3. Difference in fear by gender: means, standard deviations and t-test results.

<table>
<thead>
<tr>
<th>Gender</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>df</th>
<th>t-Value</th>
<th>p Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>49</td>
<td>2.77</td>
<td>.407</td>
<td>106</td>
<td>1.88</td>
<td>.063</td>
</tr>
<tr>
<td>Female</td>
<td>59</td>
<td>2.63</td>
<td>.364</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Table 4. Mean and standard deviation of fear according to child age.

<table>
<thead>
<tr>
<th>Child age</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>28</td>
<td>2.63</td>
<td>.313</td>
</tr>
<tr>
<td>6</td>
<td>43</td>
<td>2.69</td>
<td>.322</td>
</tr>
<tr>
<td>7</td>
<td>37</td>
<td>2.74</td>
<td>.499</td>
</tr>
<tr>
<td>Total</td>
<td>108</td>
<td>2.69</td>
<td>.389</td>
</tr>
</tbody>
</table>
Varela et al. (2008) and Burnham, Lomax, and Hooper (2013) found that children with VI displayed higher levels of fear related to situations with a high potential for danger and fear of the unknown. Novel situations and stimuli may cause fear (Garcia-Coll, Kagan, & Reznick, 1984). Social communication is a novel situation with a high probability of danger and embarrassment.

Metaphysical things were perceived as least feared. This is likely attributable to the fact that children in this stage of development have not yet developed the capacity to understand metaphysical concepts.

There were no statistically significant differences between males and females on fear. This finding is inconsistent with Salcuni et al. (2015); King et al. (1989) and Gullone and King (1993), who revealed differences in fear related to gender, as girls reported higher levels of fear than boys at all ages in their studies. Burkhardt, Loxton, Kagee, and Ollendick (2012) explained gender differences in fearfulness in terms of girls being more willing to report their fears than boys; these differences in fear were expressed by the children themselves. This, however, was not the case in our study, as the participants were parents who likely perceive their children’s fear without their having to vocalize it.

On investigating differences in total fear scores owing to age, we found no statistically significant differences. This result is logical owing to the limited age range of the sample. Children ranged from five to seven years old, and were thus in the same development phase. However, there were significant differences in fear of dangerous things and of transportation as a function of age: six-year-olds were less fearful of these domains than five-year-olds, and seven-year-olds less fearful than six-year-olds. This could be due to the environmental context in which the majority of these children live and grow up. In our community, a child who reaches the age of six and seven years, the age of school attendance, is considered a grown child and is allowed to go out alone and experience crossing the road to play and to attend school. He/she thus might have fears of modes of transportation. This is consistent with previous studies, which indicate that older children process dangerous cues more readily (Westenberg, Drewes, Goedhart, Siebelink, & Treffers, 2004). However, Lothmann et al. (2011) reported that children experience general patterns of normative fear in early to middle childhood; that is, from 6- to 10-years.

In addition, results indicated that first-born children are more fearful of social communication than later-born children. This is reasonable, as a first-born child is raised by younger, more inexperienced parents, and is the only child in his/her family for a time. Those born after the first child begin their life in a more social way, since they have to live and communicate with other members and siblings in their family community. Al-Qahatani (2012) revealed that being the first-born child was associated with higher prevalence of social phobia. However, some studies have shown that there are no differences in general communication development between first-born children and later-born children (Oshima-Takane, Goodz, & Derevensky, 1996; Tomblin, 1990).

Unsurprisingly, significant differences related to fear of social communication, the metaphysical and dangerous things, owing to disability severity, were found. Those with severe disability fear

<table>
<thead>
<tr>
<th>Differences</th>
<th>Sum of squares</th>
<th>df</th>
<th>Mean of squares</th>
<th>F-value</th>
<th>p Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between groups (age effect)</td>
<td>0.202</td>
<td>2</td>
<td>.101</td>
<td>.662</td>
<td>.518</td>
</tr>
<tr>
<td>Within groups (random error)</td>
<td>15.992</td>
<td>105</td>
<td>.152</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Total</td>
<td>16.193</td>
<td>107</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
</tbody>
</table>

Table 6. Mean and standard deviation of fear according to birth order.

<table>
<thead>
<tr>
<th>Birth order</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>First-born children</td>
<td>25</td>
<td>2.77</td>
<td>.454</td>
</tr>
<tr>
<td>The middle</td>
<td>58</td>
<td>2.66</td>
<td>.349</td>
</tr>
<tr>
<td>later-born children</td>
<td>25</td>
<td>2.68</td>
<td>.413</td>
</tr>
<tr>
<td>Total</td>
<td>108</td>
<td>2.69</td>
<td>.389</td>
</tr>
</tbody>
</table>
Visagie et al. (2013) indicated that the number of fears reported by children with severe VI was significantly higher than the number of fears reported by children with moderate VI. One possible explanation is that this group’s visual difficulties might be the most complex and most disabling. Although some of these children had a degree of measurable vision, they may find it difficult to function independently in an unfamiliar environment. Therefore, this uncertainty when faced with novel situations might increase fear reactivity. Children with mild VI typically have enough usable vision to help themselves and to move around independently. However, we should be cautious when reading and discussing fear of dangers, as parents might project some of their own fears if the child is totally blind.

Results indicate that children with mild VI are more fearful of dangerous things than children with severe VI. This can be interpreted in terms of the fact that this subgroup of children with VI has residual vision, which helps them to recognize dangerous things.

**Conclusions, limitations and recommendations**

This study provided some interesting new information on fear content in children with VI. From the results, it is evident that, for those in our study, parents cited fear of voices and of social communication as most prevalent. There were no statistically significant differences between males and females on fear. There are significant differences in fear of social communication as a function of birth order, with first-born children more fearful of social communication than later-born children. Various domains differed significantly according to disability severity.

The results of this study will aid mental health practitioners in the development of prevention and intervention programmes and treatment strategies for this population. The findings may be useful for school and counselling centres in helping children with VI overcome their negative fear reactions. The results of the study provide teachers, parents and others involved in the daily lives of children with VI with a glimpse into the emotional worlds of these children.

The study has various limitations. A main shortcoming is sole reliance on parents’ self-report. The inclusion of child-reported data would certainly have strengthened this research, as this might have yielded important cross-validation information. This is a critically important point of evaluation for future studies on this topic. Furthermore, the generalizability of the results is limited to children aged between five and seven years at schools in Jordan. Future studies should further explore fear

<table>
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<tr>
<th>Differences</th>
<th>Sum of squares</th>
<th>df</th>
<th>Mean of squares</th>
<th>F-value</th>
<th>p Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between groups (birth order effect)</td>
<td>3.623</td>
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<td>1.812</td>
<td>3.817</td>
<td>.025</td>
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<tr>
<td>Within groups (random error)</td>
<td>49.842</td>
<td>105</td>
<td>.475</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Total</td>
<td>53.466</td>
<td>107</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Disability severity</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mild</td>
<td>46</td>
<td>2.73</td>
<td>.408</td>
</tr>
<tr>
<td>Moderate</td>
<td>36</td>
<td>2.60</td>
<td>.333</td>
</tr>
<tr>
<td>Severe</td>
<td>26</td>
<td>2.75</td>
<td>.417</td>
</tr>
<tr>
<td>Total</td>
<td>108</td>
<td>2.69</td>
<td>.389</td>
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<table>
<thead>
<tr>
<th>Differences</th>
<th>Sum of squares</th>
<th>df</th>
<th>Mean of squares</th>
<th>F-value</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between groups (disability severity effect)</td>
<td>.471</td>
<td>2</td>
<td>2.35</td>
<td>1.573</td>
<td>.212</td>
</tr>
<tr>
<td>Within groups (random error)</td>
<td>15.722</td>
<td>105</td>
<td>.150</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Total</td>
<td>16.193</td>
<td>107</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
</tbody>
</table>
using a broader age range, including children in early childhood and adolescents with VI, which might clarify the developmental patterns of childhood fears. The results of the study need to be validated by different methodologies and samples. Larger samples are imperative to improve generalizability. Additional sources of data, such as interviews with the children as well as parent and teacher reports, would also have enriched the data. We recommend that qualitative research be conducted to achieve in-depth knowledge about fear. We also recommend further research comparing fear in children with and without VI.

**Disclosure statement**

No potential conflict of interest was reported by the authors.

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**References**


**Appendix: Survey items**

Is your child afraid of:

- **Animals**
  - Pet animals (sheep, cat, horse…)
  - Non-pet animals (lion, snake…)
- **Birds**
- **Insects**
- **Social communication**
  - Quarrel between parents
  - Big Brother
  - Exposure to criticism
  - Speak before the congregation
- **Father**
- **Mother**
- **Metaphysical (Occult) things,**
  - Death
  - Life After Death
  - Dreams
  - Grave
  - Torments of hell
  - Spirits
  - Elf
  - God
- **Voices**
  - Voices of police cars and ambulance
  - Voices of the explosion
The Voice of the plane

Natural phenomena
Deepwater
Strange sensations
Wind
Fire
Torrent
Darkness
Thunder
Fire
Lightning
Volcanoes
Sea

Dangerous things
High places
Getting a shock
Deep drilling
Needle

Modes of transportation
Car ride
Speeding cars
Boat ride
Getting run over
Car accidents
Traveling in the plane