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SOCIOLOGY | RESEARCH ARTICLE

Using a modified version of locus of control scale to explore children with disabilities' perceived vulnerability to physical and sexual assault in three special schools in Ghana

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Abstract: This cross sectional study examined the locus of control and perceived vulnerability of children with disabilities to sexual and physical assault. One hundred and seven respondents sampled from three special schools in Ghana, comprising of 61 males and 46 females, participated in the study. A modified version of the Locus of Control Scale was used to determine the locus of control levels of the participants followed by a structured interview guide to collect additional data. Analysis of variance and independence *t*-tests indicated a significant difference among children with visual impairment, hearing impairment and intellectual disability in their perception of sexual and physical assault. A significant difference was noted between the male and female participants in their perceived vulnerability to sexual assault. No significant difference was found between children with internal locus of control and external locus of control. Recommendations regarding how to safeguard children with disabilities from sexual and physical assault are provided.

Subjects: Behavioral Sciences; Development Studies, Environment, Social Work, Urban Studies; Social Sciences

Keywords: disability; Ghana; locus of control; sexual and physical assault; vulnerability

1. Introduction

The problem of sexual abuse, physical assault and violence against children is a serious problem in Ghana (Awudi, 2011; Boakye, 2009; Kumoji, 2002; Proulx & Martinez, 2013). In 2007, the Domestic

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PUBLIC INTEREST STATEMENT

This study examined how children with disabilities perceived their exposure to sexual and physical assault in terms of the belief that they have control over what happens to them or everything that happens to them is outside of their control. 107 participants from three special schools in Ghana (61 males and 46 females) participated in the study. The findings showed differences in male and female participants' perspectives regarding exposure to sexual assault but no differences were found between those who believed they have control over their sexual abuse circumstances and those who think outside forces were to be blamed for sexual abuse. Recommendations regarding how to safeguard children with disabilities from sexual and physical assault have been provided.

Violence and Victims Support Unit (DOVVSU) under the Ghana Police Service confirmed 11,147 reported cases of violence against children. Out of these cases, 3,694 (33.12%) were cases of physical assault, 348 (3.12%) represented rape cases, 854 (7.66%) cases of threat and 489 (4.39%) constituted offensive conducts, such as child labour (Tei-Ahontu, 2008). Again, statistics from DOVVSU showed that a total of 666 cases of violence against children had been recorded in the first half of 2010. Many abuse occurrences are not reported so as to protect the perpetrators who are usually people close to the victims, such as family members (Boakye, 2009; Prasad, 2012; Xiao & Smith-Prince, 2015).

The protection of children from abuse has been a major focus in Ghana in recent times. For example, Ghana participated in a 5-year Action Plan on violence against children, from 2008 to 2012, to address child abuse and sexual exploitation of minors. The 5-year Action Plan was initiated by the Information Research and Advocacy Division (IRAD) of the Department of Children in the Ministry of Women and Children's Affairs (MOWAC), and the Child Protection Unit of UNICEF. The goal of the plan was to create a safe environment that protects children from all forms of violence wherever they occur: home, school, institutions, workplace and community. The Government's commitment to this was reflected in new legislative initiatives but even so, there are still increasing cases of sexual and physical assault against children, including those with disabilities in Ghana (Proulx & Martinez, 2013; UNICEF, 2015).

According to the American Academy of Pediatrics (2001), children with physical, sensory, intellectual or mental health impairments are at increased risk of becoming victims of physical and sexual assault. While the amount of research available on this population is limited, particularly for children with disabilities in the developing world, research indicates that violence against children with disabilities occurs at annual rates that are at least 1.7 times greater than their non-disabled peers (American Academy of Pediatrics, 2001).

2. Conceptualizing vulnerability in the Ghanaian context

The social and cultural context in Ghana predisposes children to sexual and physical vulnerability. High levels of poverty coupled with lack of social protection and law enforcement regarding child abuse contributes to this vulnerability. Sexual abuse leading to unwanted pregnancies is common among young girls in institutions (Proulx & Martinez, 2013). In Ghana, there is an increase student-related pregnancy in schools leading to girls discontinuing their education (Ghana News Agency, 2015; Nutsugah, 2015). One of the 10 regions of Ghana mentioned in the report recorded 290 cases of school-girl pregnancies in 2014 with 61 of the cases occurring in one district within two months. Although current national statistics are not available, the combined third to fifth periodic report of Ghana released by the UN Convention on the Rights of the Child in 2015 confirmed:

There is significant evidence of the occurrence of sexual abuse in the family in Ghana. Cases of home-related violence have been reported by the media, whilst records at the Domestic Violence Victim Support Unit of the Ghana Police Service also provide information as to the occurrence of the phenomenon. The most commonly reported sexual abuse cases are defilement, incest, harassment, indecent assault and unnatural carnal knowledge. In a few instances boys become victims of sexual violence; most victims of sexual violence within the family are girls. Incest is the most common sexual violence that occurs in the home. Sexual abuse and harassment are commonly perpetrated against girls at school and in other educational settings. In the same report, 4,504 defilement and 54 incest cases were reported to the police between 2005 and 2010. (United Nations, 2015, pp. 70–71)

Traditional cultural beliefs about how women and children should be treated influence inequality and sexual violence against young people (Fassler, Amodeo, Griffin, Clay, & Ellis, 2005; Gilligan & Akhter, 2006). For instance, nondisclosure or underreporting of child sexual abuse by victims and their families in Ghana is associated with cultural factors including the patriarchal nature of the society, which promotes male dominance and unequal social relations leading to blaming of victims and threatening victims to maintain their silence about child sexual abuse (Proulx & Martinez, 2013). Coupled with this, child rape or disability myth acceptance often leads to rejecting victims' versions

of abuse, and the fear that a girl who discloses to have been sexually abused carries a social stigma that may reduce her chances of getting married, which often serves to maintain the abuse being kept secret (Kumoji, 2002; Proulx & Martinez, 2013). Collective shame for the family also accounts for non-reporting in favour of the common family interest (Pipe, Lamb, Orbach, & Cederborg, 2007). A parent will rather not disclose the abuse in order to protect the victim's future interest and to prevent family shame (Baltimore, Mill, & Anarfi, 2002; Fontes & Plummer, 2010; Xiao & Smith-Prince, 2015). Cultural practices place children with disability at additional risk of sexual assault and vulnerability because of their disabilities, neglect and institutionalisation with poor facilities, minimal protection with greater opportunity to be hidden from the public scrutiny.

2.1. The intersection of locus of control and vulnerability

The theory of locus of control, introduced by Totter (1966), is an essential concept for understanding individual's growth and personality development. Locus of control refers to a person's beliefs about their control over life events (Ajake, Essien, & Omori, 2013; Dickman & Roux, 2005) and as such, forms a personality orientation variable that delineates how individuals attribute outcomes related to their actions (Judge, Erez, Bono, & Thoresen, 2002; Schultz & Schultz, 2005). People who see themselves as being able to control events or their actions are referred to as "internals". Thus, internals may perceive both positive and negative event outcomes as being contingent on their behaviour. Those who are more oriented toward believing that events are outside of their control, such as luck, fate or powerful others, are considered "externals" (Ajake et al., 2013; Ajzen, 2002).

Caplan and Schooler (2003) argued that disability is associated with the development of an external locus of control. Many individuals with disabilities depend on others for regular care, which may make them more vulnerable to inappropriate touching by some carers (Lund & Vaughn-Jensen, 2012; Sobsey, 2002) but this may not necessarily be associated with locus of control. Mackenbach, Borsboom, Nusselder, Looman, and Schrijvers (2001) on the other hand, argued that the type of disability could contribute to the development of an external locus of control but observed that the individuals who are capable of managing their disability could develop an internal locus of control.

Vulnerability to sexual exploitation is the degree to which an individual is susceptible to sexual harm, which may predispose some persons to emotional disturbance (Ajake et al., 2013). Vulnerability is related to emotional disturbance because the former induces fear in the individual. Some researchers have found that children with disabilities are more vulnerable to sexual abuse than their non-disabled counterparts (Lund & Vaughn-Jensen, 2012; Smith & Harrell, 2013). Fear of being sexually abused may reduce an individual's confidence and ability to socialise and explore the neighbourhood (Beevers, 2005; Brown, 2002; Goode, McGee, & O'Boyle, 2003; Scher, Ingram, & Segal, 2005; Timbremont & Braet, 2004). This may have serious consequences on their educational attainment.

3. Theoretical framework

The "situations conducive to crime" theory proposed by Cohen and Felson (1979) was used to guide the study. The focus of this theory is on the factors that create a general willingness or predisposition to engage in crime. Such factors are located in the immediate and larger social environment. In view of this theory, predisposed individuals are more likely to engage in crime in some types of situations than others. Cohen and Felson (1979) specified the types of situations most conducive to crime. They argued that crime is most likely when motivated offenders come together with attractive targets when capable guardians are not available. Children with a disability may be targets that are attractive, visible, accessible, valuable, and easy to access. It is more common for acquaintances to play this role e.g. family members, carers, neighbours, and teachers (Alleyne, Gannon, Ciardha, & Wood, 2014).

Boarding institutions for persons with disabilities that do not have special arrangements for adequate supervision may be fertile grounds for sexual abuse since children with disabilities may require constant care from different people (Dickman & Roux, 2005; Smith & Harrell, 2013). Surveillance and security systems in institutions have been found to prevent motivated sexual offenders (Haffner, 2013; Parent & Demers, 2011). The institutionalisation of children supported with clear policy for

protection can also serve as preventative measures against familiar people such as teachers and social workers to abuse children (Dickman & Roux, 2005). Children with disabilities are more likely to be living outside natural families in foster care, group homes, and large institutions, which may be typically prone to higher levels of risk (Lund & Vaughn-Jensen, 2012). In some cases, children who are vulnerable are placed together with adults or even older children who are known to be violent. This obviously increases the risk of abuse (Sobsey, 2002).

Sobsey and Mansell (1997) conceptualized that the effect of children with disabilities on vulnerability can be divided into direct and secondary effects. Direct effects can be attributed to a specific impairment and the secondary effect, which may play a larger role, results from the environment.

4. Institutional violence

Violence, including physical and sexual assault against children with disabilities, appears to be particularly significant in institutional settings (Haffner, 2013; Parent & Demers, 2011). These patterns of institutional abuse are found not only in developing countries but also across central and south east Europe (Higgins & Swain, 2010; Kvam, 2004; UNICEF, 2007). Evidence from Norway suggests that deaf children are at greater risk than their hearing peers, with 40% of deaf women and 33% of deaf men in a Norwegian study stating they experienced childhood sexual and physical abuse compared to 19 and 10% of hearing women and men respectively. Half of these reported cases occurred during periods spent in institutions (UNICEF, 2007).

A study of 50,000 children in the USA found that over 30% of children with disabilities had been physically or sexually assaulted (Sullivan & Knutson, 2000). Children with disabilities were three to four times more likely to be neglected, or physically, emotionally or sexually assaulted than non-disabled children (Sullivan & Knutson, 2000). Another study by the same researchers (Sullivan & Knutson, 1998), who investigated 3,000 children, found that children with speech and language difficulties were five times at a greater risk of physical and sexual assault. Hague, Thiara, McGowan, and Mullender (2007) in the United Kingdom found that the occurrence of disability related abuse was associated with women who have impairments. The authors also noted that all the respondents in the study said that being disabled made the abuse worse, and also, limited their capacity to escape or take other preventive measures.

Studies have shown that during the past 25 years, girls and women with disabilities are more likely to be subjected to sexual abuse than girls and women without disabilities (Bergh, van den Hoekman, & van den Ploeg, 1997; Crosse, Kaye, & Ratnofsky, 1993; Hassouneh-Phillips & McNeff, 2005; Oktay & Tompkins, 2004; Sullivan & Knutson, 2000). The research again showed that the site of the abuse was often an institution for children and adults with disabilities (Bergh et al., 1997; Kvam, 2004), and the abuser was to a third or half of the cases a male with the same impairment (Bergh et al., 1997; Kvam, 2000; Zemp, 2002). Barile (2002) surveyed 245 women with disabilities and found that 40% had experienced abuse, while 12% had been raped. The perpetrators of the abuse were primarily spouses and ex-spouses (37%) and strangers (28%), followed by parents (15%), service providers (10%), and dates (7%). In line with this finding, Sobsey and Doe (1991), in a study conducted with 166 abuse cases, revealed that 82% of (non-disabled) women and 70% of persons with intellectual impairments in their sample had been abused. The study covered a wide age range (18 months to 57 years). Out of the number investigated, the indication was that in 96% of the cases, the victims knew the perpetrators, and that 44% of the perpetrators were service providers.

A survey conducted by Plan Ghana (2009) on sexual abuse in schools involving Primary, Junior High, and Senior High Schools in three districts in Ghana (Awutu-Senya and Effutu both in the Central Region, and Upper Manya Krobo in the Eastern Region) showed that a total of 304 (14%) children, mostly 14 and 15 years old interviewed, had been sexually assaulted. The study also revealed that both contact and non-contact forms of child sexual assault were prevalent in the areas where the study was conducted. The report indicated that the perpetrators of the act constituted classmates 89%; teachers 21% and relatives 13%. Nosek, Clubb Foley, Hughes, and Howland (2001) argued that

disability serves as an additional vulnerability factor, while a disabling social environment also increases vulnerability. This can be seen to be the case, in that the stigma and social isolation that accompany disability may reduce an individual's ability to defend themselves by lowering self-esteem and removing the supports from others, which might otherwise serve as protective factors.

In spite of Ghana's signatory to the Convention on the Rights of the Child in 1990, sexual and physical assault is still pervasive in Ghanaian schools and institutions (Proulx & Martinez, 2013). A UNICEF (2015) country report card on Ghana indicate that although the country has some laws for the protection of children, enforcement remains weak and laws have not been made appropriate for the context. Coupled with this, violence and abuse of children, including sexual abuse, remains very high with over 90% of children reporting having experienced physical violence, both at home and in the school environment. There is need for empirical investigation into the sexual and physical assault of children with disabilities. Studies already done in Ghana on the sexual abuse of children were mostly limited to children without disabilities in regular schools (Proulx & Martinez, 2013). There are no known research findings on the physical and sexual abuse of children with disabilities in institutions for children with disabilities in Ghana.

This study examined children with disabilities and their perceived vulnerability to physical and sexual assault in three institutions for children with disabilities in Ghana. This study examined the differences in perceived vulnerability by types of disability and gender (male and female students) in their perceived vulnerability to sexual and physical assault. It considers internal locus of control and students with external locus of control in their perceived vulnerability to sexual and physical assault.

5. Method and design

This study was designed as a cross-sectional descriptive survey because of its suitability to the study population. The population of this study was the adolescent students of the "School for the Blind" based in Akropong-Akwapim, the "School for the Deaf" which is situated in Hohoe, and the School for the "Mentally Retarded" at Dzorwulu in Accra.

6. Participants

A total of 107 participants were drawn through simple random sampling. Their ages ranged between 14 and 18 years. Sixty-one (57%) were males with the remaining 46 being females. Students who were 18 years signed their own consent forms in the presence of their parents/guardians while parents/guardians signed for those below 18 years. Thirty-four of the students (31.8%) have visual impairment (VI), 40 (37.4%) were students with hearing impairment (HI) while the remaining 33 (30.8%) were students with mild to moderate intellectual disability (ID).

7. Instrument

To gather relevant information for the study, a close-ended (structured) interview guide was used by the researchers to collect data. The structured format of the interview guide solicited information on the background of respondents, and their perception of vulnerability to sexual and physical assault. The guide was structured in a 4-point Likert type scale format Strongly agree (4); Agree (3); Disagree (2); and Strongly disagree (1). The Cronbach's reliability of .78 was obtained.

Locus of control was measured by a modified version of 13 items scale based on that developed by Totter (1966), which consisted of yes or no rating. Items were reworded in line with issues of sexual abuse and physical assault (e.g. "If I am sexually abused it is because of my disability"; "If I am protected I feel safe from physical and sexual abuse"). The possible scores ranged between 0 and 13. Low scores indicated an external locus of control while high scores indicated an internal locus of control. The alpha reliability for this scale was .62.

8. Procedure

Administration of the instruments was carried out by the researchers with assistance from teachers from the various institutions. Informed consent of the participants and the school authorities were obtained. First, the amended version of the locus of control scale was administered to the students from the three schools, and from the result of their scores, individuals with an internal and external locus of control were identified. The interview was conducted for 107 students with 40 students rated as having an external locus of control, while 67 were rated as having an internal locus of control.

9. Data analysis

To get the cumulative score for the respondents, the responses for each individual were summed up to obtain the total score on the LOC scale. From the total score, the mean, the standard deviations and the percentages of the item responses were calculated. To test for differences in response in terms of gender and type of disability, ANOVA and t-tests of independence were used.

10. Results

Forty students (37.38%) were found to have an external locus of control, while 67 (62.62%) were found to have an internal locus of control. The results in Table 1 show the means and standard deviations of students' responses on their perceived vulnerability to sexual assault by types of disability.

The results indicated that students with HI perceived themselves as more vulnerable to sexual assault than students with VI and ID. The results in Table 2 show the means and standard deviations of students' responses on their perceived vulnerability to physical assault by types of disability.

It can be seen in Table 2 that students with HI perceived themselves as the most vulnerable to physical assault, while those with ID perceived themselves as the least vulnerable to physical assault.

Table 1. Means and standard deviations on perceived vulnerability to sexual assault by types of disability

	Types of disability	N	Mean	SD	Std. error
Sexual assault	VI	34	60.21	6.18	1.06
	HI	40	62.10	9.34	1.48
	ID	33	51.94	9.87	1.72
	Total	107	58.36	9.6	0.93

Table 2. Means and standard deviations on perceived vulnerability to physical assault by types of disability

Assault types	Disability types	N	Mean	SD	Std. error
Physical assault	VI	34	61.94	7.80	9.34
	HI	40	62.28	9.00	1.42
	ID	33	54.09	10.13	1.76
	Total	107	59.64	9.68	0.94

Table 3. Anova results showing perceived vulnerability to sexual assault by types of disability

		Sum of Sq.	df	M Sq.	F	Sig.
Sexual assault	Between groups	2,035.75	2	1,017.87	13.62	0.00
	Within groups	7,773.04	104	74.74		
	Total	9,808.79	106			

The results in Table 3 show significant differences in perceived vulnerability to sexual assault among the three disability groups $F(2, 104) = 13.62, p = 0.00$. A *post hoc* analysis using Least Significant Difference (LSD) method was employed to examine the direction of the differences. The results revealed that the differences lay between ID and VI, mean difference = 8.27, and ID and HI, mean difference = 10.16. This means that students with VI and HI reported to be more vulnerable to sexual assault than students with ID. It can be explained that the low reporting of vulnerability to sexual assault by students with ID is due to their low cognitive ability in their own bodily awareness and what may constitute appropriate or in appropriate touch.

The results in Table 4 reveal that there are differences in perceived vulnerability to physical assault among the three disability groups $F(2, 104) = 9.06, p = 0.00$. To determine the direction of the difference, the *post hoc* analysis utilizing LSD showed that there was a difference in perception between ID and VI, mean difference = 7.85 and ID and HI, mean difference = 8.18. This means that students with VI and HI reported to be more vulnerable to physical assault than students with ID.

In Table 5, the results indicated that there was a difference between the male students and the female students on their perceived vulnerability to sexual assault [$t(105) = 2.34, p = 0.02$]. This means that male students perceived themselves more vulnerable to sexual assault than females. The results again in Table 5 showed that as far as the perceived vulnerability to physical assault was concerned, the findings indicated no difference between males and female students [$t(105) = 1.35, p = 0.18$].

The *t*-test results as shown in Table 6 indicated that there was no significant difference on the perceived vulnerability to sexual assault between the students with internal locus of control and those with external locus of control [$t(105) = 0.46, p = 0.64$]. Again Table 6 indicated that, no significant difference was found on the perceived vulnerability to physical assault between students with internal locus of control and external locus of control [$t(105) = 0.135, p = 0.179$].

Table 4. Anova results showing perceived vulnerability to physical assault by types of disability

		Sum of Sq.	df	M Sq.	F	p
Physical assault	Between groups	1,473.92	2	736.96	9.06	0.00
	Within groups	8,456.59	104	81.31		
	Total	9,930.51	106			

Table 5. t-Test showing gender difference on perceived vulnerability to sexual and physical assault

Assault types	Gender	N	Mean	Std. deviation	Std. error	T	df	Sig.
Sexual assault	Male	61	60.21	9.00	1.15	2.34	105	0.02
	Female	46	55.91	10.01	1.48			
Physical assault	Male	61	60.74	9.64	1.23	1.35	105	0.18
	Female	46	58.20	9.65	1.42			

Note: Level of significance at $p < 0.05$.

Table 6. t-Test showing locus of control (LC) on perceived vulnerability to sexual and physical assault

Types of assault	LC	N	Mean	Std. deviation	Std. error	T	df	Sig.
Sexual	Internal	40	58.93	9.13	1.44	0.464	105	0.64
	External	67	58.03	9.95	1.22			
Physical	Internal	40	61.28	8.72	1.38	1.351	105	0.18
	External	67	58.67	10.15	1.24			

11. Discussion

The purpose of this study was to examine the differences in perceived vulnerability by types of disability and gender (male and female students) in their perceived vulnerability to sexual and physical assault using a modified version of LOC scale. It considers internal locus of control and students with external locus of control in their perceived vulnerability to sexual and physical assault. The results showed that there were significant differences among the students by types of disability. The *post hoc* results showed that the students with VI and HI perceived themselves to be more vulnerable to sexual and physical assault than the individuals with intellectual disability. This may be due to the fact that students with VI and HI have higher mental capabilities in conceptualising vulnerability than those with ID (Caplan & Schooler, 2003). This finding is consistent with what Awudi (2011) found in a study that visually impaired adolescent students perceived themselves vulnerable to physical and sexual assault than those with intellectual disability. Again, this study supports Sullivan and Knutson's (1998) research that investigated 3,000 children and found that children with speech and language difficulties, including children with hearing impairment, were five times at greater risk of physical and sexual assault. The reason for the visually impaired and the hearing impaired to perceive themselves as more vulnerable to perpetrators might be due to their physical dispositions. One reason for this may be because these perpetrators may target students who are less capable of identifying them, or in the case of hearing impaired students, are also less capable of proving their cases through speech. It is possible that children with disabilities may have difficulty understanding vulnerability and how to set boundaries regarding what parts of their body is vulnerable to sexual abuse or assault (Sobsey, 2002).

The results showed a significant difference between males and female students' perception of their sexual vulnerability to assault. The results indicated that more boys perceived themselves to be vulnerable to sexual assault than the females. This finding supports earlier work, suggesting that disability status increases the risk of sexual abuse for boys (Sobsey, 1994). This present study is not consistent with other research. In Ghana, gender-based violence has been studied by Plan Ghana (2009). In their study, the level of education by perception of sexual victims showed that 100% of primary school children, 98% of Junior High School students and 89% of Senior High School students perceived that girls were more vulnerable to sexual abuse than boys. This perception may also be attributed to Ghanaian cultural attitudes where women are perceived as sexual objects and of low status than men (Boakye, 2009; Bowman, 2003).

This study also found no difference between the males' and the females' perception of vulnerability to physical assault. The results of the difference between the males and the females did not support the general notion that women tend to be more vulnerable to sexual assault than males. This study noted a slight difference in favour of males with a mean score of (60.21), and the females with a mean score of (55.91), indicating that the males perceived themselves as more vulnerable than the females. Several reasons could be adduced to account for this trend. First, the likelihood for the responses to the questions could be faked, therefore, limiting the true reflection of their perception. Second, special schools in Ghana have better facilities such as bathrooms and dormitories with better supervision for girls than males which might have induced the boys' thinking of being more vulnerable. Third, if the girls feel more supervised than the boys it is likely that the males will become easier targets to perpetrators of sexual assault.

The results implicate that having disability creates personal situation conducive for abuse. Sexual abuse, physical assault and other forms of violence against children with disabilities are most likely to occur in those types of situations where the perpetrators feel the benefits are high compared to the costs (Proulx & Martinez, 2013). For example, students with disabilities in institutions without effective protection may be attractive targets for motivated offenders because they less likely to be identified. Furthermore, the study found no difference between the males and the females on the physical assault. This finding draws implication for inter-agency collaboration (for example, health, civil society organisations, security agencies, education ministries) to educate, and enforce existing laws in Ghana to protect all students and children against all forms of sexual abuse and physical assault (Ajake et al., 2013; Boakye, 2009; Proulx & Martinez, 2013). Similar to a high sense of mastery, an internal locus of control can moderate the relationship between stressful events, such as sexual and physical assault

and psychological distress (Ajake et al., 2013). An internal locus of control could predict better adjustment and moderate active coping strategies and non-use of avoidance coping strategies.

12. Conclusion

The consequences of sexual and physical assault in any environment, particularly in educational institutions, should be of concern to all stakeholders because of its grave consequences, not only to the students with disabilities, but also to the system as a whole (Proulx & Martinez, 2013). For example, most commonly, female students are more likely than male students to have their educational experience disrupted when they are sexually abused (Eloundou-Enyégué, 2004; Johnson-Hanks, 2002; Mathews, 2011; Ruto, 2009). Sexual and physical assault have negative consequences for academic work and should therefore, be dealt with by all institutions adopting a clear-cut policy to safeguard the interest of students (Hempel, Buck, van Vugt, & van Marle, 2015; Mathews, 2011). Findings from this research suggest that protection by confining individuals to environments that are considered to be safe, such as residential care homes, or specialist day care settings, does not stop sexual and physical assault. Perpetrators of violence can be found in any environment. Some researchers suggest that the safest way of protecting children with disabilities is to enable them to increase their individual self-defences (Hingsburger, 1995; McCarthy, 1999; Proulx & Martinez, 2013; Ruto, 2009). This can be done by teaching the students to be aware of potential threats.

In the light of these implications, it is important to (1) provide training programmes for parents to teach children with disabilities about sexuality. This can be a very difficult process and the success will depend on the child's disability, their intellectual abilities, and more importantly, the parents' comfort level in talking explicitly about sexuality and what constitutes abuse (Arias & Johnson, 2013; Couwenhoven, 2007). Many children with disabilities may have difficulty understanding how to set boundaries regarding what parts of their body should or should not be touched, which may be attributed to a history of assistance with activities of daily living of bathing, dressing and grooming that blur the boundaries of appropriate and inappropriate touching. However, engaging children early on in the process of any conversations that relate to their bodies and personal care could start to help them understand their body and what represents appropriate and inappropriate touches (Mathews, 2011; Paludi & Denmark, 2010; Sobsey, 2002). (2) Engage school authorities to provide independent and objective monitoring of students with disabilities in the institutions by a case manager with public authority in order to prevent violence against the students (3) develop policy on effective law enforcement for safety in places where students with disabilities reside, work, and recreate; (4) strengthen school-community partnerships to develop self confidence in the students to report any sexual and physical violence they experience to the school authorities and law enforcement agencies and (5) institute a mandatory reporting system, with monitoring by a system regular and systematic oversight of all existing schools and institutions that serve children with disabilities (Mathews, 2011; Proulx & Martinez, 2013). Oversight committees must also be broadened to include representatives of parent groups, and disability advocacy groups (Ajake et al., 2013). Not only should members of both advocacy and parent groups be part of oversight boards, but mechanisms must exist to ensure that their comments and concerns are given attention and weight.

13. Limitations

There are some limitations to this study that should be noted. First, the results are not generalizable to the population because the current study examined only the students in the three institutions. Second, the most obvious omission that could have affected the validity of the items as a whole, and which could be rectified in future research, is a focus group prior to the development of the items. This would undoubtedly have provided guidance on issues that were pertinent to the students. Also, adding a qualitative dimension to hear the true narratives of the participants would have added richness to the study.

14. Future research

Future research should expand on the findings of this study by examining whether or not a well-coordinated intervention from a multi-agency group increases students with disabilities' tendency towards internal locus of control.

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