ELSEVIER

Contents lists available at ScienceDirect

Child Abuse & Neglect

journal homepage: www.elsevier.com/locate/chiabuneg





Victimization and abuse among children with disabilities: Age adjusted rates in a US national sample

Jennifer Vanderminden a,*, David Finkelhor b, Sherry Hamby c, Heather Turner b

- ^a University of North Carolina Wilmington, 601 S. College Road, Wilmington, NC 28403, United States
- ^b Crimes against Children Research Center, Family Research Laboratory, Department of Sociology, University of New Hampshire, Durham, NH 03824, United States
- ^c University of the South, Life Paths Research Center, P.O. Box 187, Sewanee, TN 37375, United States

ARTICLE INFO

Keywords: Victimization Disability Poly-victimization Age/developmental stage

ABSTRACT

Background: Research has indicated that children with disabilities are at higher risk for victimization although the literature on this topic is limited.

Objective: We examined rates of assault, sexual victimization, peer-sibling victimization, property crime, maltreatment, and poly-victimization among youth in the United States with and without disabilities. We examined these rates for three age groups (children ages 0–4 years, ages 5–11 years, and ages 12–17 years).

Participants and setting: We use data from the National Survey of Children's Exposure to Violence (NatSCEV), waves I (2008), II (2011), and III (2014). These are cross-sectional nationally representative samples of children and youth ages one month to 17 years (N = 12,634).

Results: Considering children of all ages together, children in all disability categories, except for physical disability, were at higher risk for poly-victimization. Victimization exposure overall is higher among older children (except for assault among very young children with developmental or learning disabilities), though the disparity between children with and without disabilities generally narrows as children get older. Age of the child impacted the relationships between disability and victimization. Very young children with physical disabilities were at heightened risk for most types of victimization while children with internalizing disabilities were at heightened risk for assault, property crime, and maltreatment in middle childhood and adolescence. Children with externalizing disabilities were at heightened risk for most types of victimization across all ages while developmental disabilities appeared to be risk factor for very young children and a potentially protective factor at later ages though these varied by type of victimization.

Conclusion: Victimization risk varied by victimization and disability types. This study demonstrates the importance of controlling for demographic characteristics, especially age of the child in estimating the prevalence of victimization among children with disabilities and establishes the importance of type-specific analyses by victimization type, disability type, and age of the child.

E-mail address: vandermindenj@uncw.edu (J. Vanderminden).

^{*} Corresponding author.

1. Introduction

Most existing research indicates that children with disabilities are at heightened risk for victimization (Fang et al., 2022; Jones et al., 2012; Sullivan & Knutson, 2000), although there are significant variations in rates and findings (Harrell, 2017; Turner et al., 2011; Yun et al., 2015). Among research on disability and victimization, many studies are limited to examining a single type of disability (Admire & Ramirez, 2021; Alriksson-Schmidt et al., 2010; Brendli et al., 2021; Dion et al., 2018), a single type of victimization (Blake et al., 2016; Brownlie et al., 2007; Flynt & Morton, 2004; Helton, 2009; Iyanda, 2021), a specific environment like school, home, or neighborhood (Chan et al., 2018), or rely on administrative data (Lightfoot et al., 2011).

In this paper, we examine the scope of victimization in the lives of children with disabilities, including disaggregating by disability type and victimization type across three age groups (very young children ages 0–4, middle childhood ages 5–11, and adolescence ages 12–17). We use a large, pooled sample including three US nationally representative household surveys of children and youth to estimate type specific, age adjusted rates. Drawing on dimensions from the World Health Organization, The Center for Disease Control and Prevention defines disability as "any condition of the body or mind (impairment) that makes it more difficult for the person with the condition to do certain activities (activity limitation) and interact with the world around them (participation restrictions)"(Center for Disease Control and Prevention, 2020). According to the American Community Survey, approximately 7.2 % of households in the US in 2019 have at least one children with a disability in the household (Young, 2021). For the purposes of this study, we include six types of victimization, which include: assault, sexual victimization, peer and sibling victimization, property crime, maltreatment (i.e. physical, sexual, emotional abuse by a caregiver, neglect, or parental interference), and poly-victimization. This paper extends prior studies by examining risk for poly-victimization, or the cumulative burden of multiple types of victimization, by disability type, and examines how risks vary by age, which most studies have not been able to address due to limited sample sizes (Fang et al., 2022).

2. Review of the literature

Whether considering all types of disability together or a single type, most existing research indicates that children with disabilities are at heightened risk for victimization (Fang et al., 2022; Jones et al., 2012; Leeb et al., 2012; Sullivan & Knutson, 2000). Research that examines various types of disabilities and various forms of victimizations as separate categories has found variation in risk by both disability and victimization type (Turner et al., 2011; Yun et al., 2015).

In a widely cited study on the topic, Sullivan and Knutson (2000) found a 31 % prevalence rate of maltreatment among children with disabilities compared to 9 % for children without disabilities. A meta-analysis found that, in general, children with disabilities are exposed to more violence than children without disabilities (Jones et al., 2012). This meta-analysis, which used data from 16 original research studies using random samples or whole populations of children with disabilities, found that pooled prevalence rates of victimization from these 16 studies varied widely from 5 % to 68 % (Jones et al., 2012). The National Crime Victimization Survey (NCVS), using pooled data (2009–2015), provides estimates of violent victimization (i.e. rape or sexual assault, robbery, aggravated assault, and simple assault (attacks without a weapon that do not lead to significant injury)) among youth with and without disabilities aged 12–15 (both reported and unreported to the police), noting that the unadjusted rate of violent victimization was 144.1 per 1000 for youth with disabilities compared to 38.8 per 1000 for among youth without disabilities (Harrell, 2017). The NCVS found significantly higher rates of all types of victimization measured including: rape/sexual assault, robbery, aggravated assault, and simple assault (Harrell, 2017), although this sample only includes children ages 12–17. Due to the heterogeneity of disability and victimization, it is important to examine the relationship between specific types of disabilities and victimization (Pears et al., 2008; Spencer et al., 2005; Turner et al., 2011; Yun et al., 2015).

2.1. Age and developmental stage

Previous research has shown mixed findings on the role of the age of the child in relation to disability and risk for victimization, with some finding no impact of age on risk for abuse among children with and without disabilities (Hershkowitz et al., 2007) and others finding that the link between disability and maltreatment varies by age (Sullivan & Knutson, 2000). These relationships also differ depending on whether self-report data or administrative data is used. Van Horne et al. (2018), for example, using Child Protective Services data, found that substantiated cases of maltreatment decrease with age (2018). Importantly, many existing studies and meta-analyses on the topic do not include age as a factor when examining the relationship between disability and victimization (Fang et al., 2022; Jones et al., 2012) though this limitation could be related to relatively small sample sizes and therefore statistical power (Turner et al., 2011).

Research has suggested that attitudes toward children with disabilities vary by chronological, age, developmental stage, and by type of disability (Barr & Bracchitta, 2014). As children age, peers without disabilities may express less negative attitudes toward children with disabilities, and children with intellectual disabilities in general experience more negative attitudes from peers without disabilities than children with physical disabilities (Nowicki, 2006). Understandings of and attitudes toward peers with disabilities change as children age (Nowicki, 2006). Children's needs vary as they age, often coinciding with decreased dependency on and contact with adults, except among children with specific types of disabilities (e.g., physical, developmental). Therefore, we could anticipate that care-related victimization might decrease as children mature, but more so for those without disabilities than for children with disabilities that require care (e.g. developmental, physical). Given that children grow and develop in ways that impact treatment of and interactions with peers (Barr & Bracchitta, 2014) we might also expect that the relationship between disability and peer-related victimization would vary as children age.

2.2. Target congruence

Three components of target congruence, from the elaborated routine activities theory (Finkelhor & Asdigian, 1996), to better understand why children with some types of disabilities are at higher risk for some forms of victimization. This theory incorporates environmental and victim level factors that may place children at heightened risk for victimization through using three distinct concepts, including target vulnerability, gratifiability, and antagonism. This theory posits that there are both things about the child's environment (e.g. violence within the community, risky behavior, and family structure) as well as characteristics of the child (e.g., size, age, gender, behaviors, etc.) that align with characteristics, desires, or limitations of the perpetrator that place children at increased risk to explain why some children might be at higher risk for some types of victimizations and, importantly, why this is likely to vary by age. Target congruence theory in included here to enumerate what factors may lie behind the vulnerability of children with disabilities, though we not test the theory as we are unable to incorporate perpetrator, context, and severity of disability factors.

Target vulnerability theorizes that children with compromised capacities to deter or resist victimization will be at increased risk due to physical impairment, not understanding/interpreting the situation as potentially harmful, social isolation, or emotional deprivation. This could explain why children with physical and developmental disabilities could be more vulnerable to all types of victimization, given their diminished ability to resist/deter victimization. Further, this may be particularly likely for victimizations like property crimes, in which physical ability and cognitive awareness may be particularly important. Perpetrators may also be seeking a victim who is unlikely to disclose the victimization which would also place children with developmental delays and communication disabilities at increased risk.t Children at very young ages are also less likely to be able to deter or resist victimization and this is likely exacerbated for all types of disabilities.

Target gratifiability is the notion that some victims' characteristics place them at increased risk because they align with what the perpetrator wants to access, violate, or manipulate. Increased risk for victimization happens when perpetrators are seeking children with specific characteristics that the child happens to possess. Children and youth with internalizing disabilities may place them at increased risk for sexual victimization and maltreatment as they may be seeking relationships or approval from others that places them at increased risk by perpetrators seeking to manipulate.

Target antagonism is the alignment between child behaviors and a perpetrators inability to cope with those behaviors. For example, children with regular outbursts and aggressive impulses might be at increased risk for physical assault by caregivers if they do not possess the coping skills or support to manage/deal with the child's behavior. For this reason, we anticipate that there may be associations between externalizing disorder in children and increased risk for assault, peer/sibling victimization, and maltreatment.

3. Methods

3.1. Research questions

- 1) Do rates of assault, sexual victimization, peer/sibling victimization, property crime, maltreatment, and poly-victimization vary by disability status and type?
- 2) Is the relationship between disability and victimization partially explained by the inclusion of demographic characteristics (race, gender, age, family structure, and socio-economic status)?
- 3) Does the relationship between disability type and victimization vary across three age groups (0–4 years old, 5–11 years old, and 12–17 years old)?

3.2. Sample

This study uses data from the National Survey of Children's Exposure to Violence (NatSCEV), waves I (2008), II (2011), and III (2014). These are cross-sectional nationally representative samples of children and youth ages one month to 17 years. The three waves are pooled to allow for a more specific assessment of type of disability and type of victimization through increasing the sample size. The samples for each of the three waves were drawn using address-based sampling, random-digit dialing, and targeted oversampling of cell phone only households, households with children, and/or underrepresented racial groups. Sample weights adjust for differential probability of response resulting from this complex study design, as well as variations within household eligibility and non-response by demographic characteristics. More information about the sample and weighting is available in prior publications using NatSCEV data (Finkelhor et al., 2009; Finkelhor et al., 2013; Finkelhor, Shattuck, et al., 2015a)

3.3. Procedure

The interviews began with a caregiver, during which time the interviewer collected family and child demographic information. If more than one eligible child was currently living in the household, the child with the most recent birthday was selected to be the focal child for the interview. If the child was 10 years and older, the rest of the interview was conducted with that child. If the selected child was age 9 or younger, proxy interviews were conducted with the caregiver "who was most familiar with the everyday experiences of the child." Prior research has examined the potential for response bias among proxy reports finding comparable rates of disclosure of maltreatment across caregivers and youth reporters (Finkelhor et al., 2014). To confirm these results in these pooled samples, we examined rates of each form of victimization across 9- and 10-year-olds finding comparable percentages for all types of victimization.

Interviews were conducted in both English and Spanish and were on average 50 min in length. Any respondent that disclosed a

situation of ongoing victimization or serious threat were re-contacted by a member of the research team, trained in telephone crisis counseling, whose responsibility was to provide them with contact information for support in the respondent's community. All study materials were reviewed and approved by the [blinded for review] Institutional Review Board.

3.4. Measures

3.4.1. Victimization

Using items from the Juvenile Victimization Questionnaire (JVQ) (Hamby et al., 2004), we examine exposure to six types of victimization including assault, sexual victimization, peer and sibling victimization, property crime, maltreatment, and polyvictimization.

3.4.2. Assault

We used ten items to measure assault including past year exposure to any of the following: attack with and without a weapon, attempted assault, bias assault (hit or attacked because of skin color, religion, where family is from, physical disability, or LGB status), assault by adult, group assault, peer assault, assault (completed or attempted) on genitals, and dating partner assault.

3.4.3. Sexual victimization

Six items measured exposure to sexual victimization including past year endorsement of any of the following: inappropriate touching/forced sex by known adult or stranger, peer sexual victimization, attempted sexual intercourse, flashing, and sexual harassment (saying or writing something sexual about child).

3.4.4. Peer & sibling victimization

Includes six items encompassing: attack by a group, peer assault, assault (completed or attempted) on genitals, chasing/grabbing/making you do something, name calling, partner assault, spread lies and rumors, peers excluded child/youth from group or activity.

3.4.5. Property crime

Includes three items: theft, robbery, and having something broken or ruined intentionally.

3.4.6. Maltreatment

Assault by adult caregiver, emotional abuse, neglect, parental interference, and sexual assault by a caregiver.

3.4.7. Poly-victimization

Poly victimization was defined as 7 or more victimization types in past year based on criteria developed in previous work with this sample (Finkelhor et al., 2005).

3.4.8. Disability

"Any" disability was measured through the caregiver's response as to whether the child has ever received a diagnosis of physical disability, internalizing disorder (depression, PTSD or other anxiety), externalizing disorder (attention deficit hyperactivity disorder [ADHD], oppositional defiance disorder [ODD]), and developmental or learning disability (learning, autism, developmental delay). To help address time order with victimization exposure, children with new diagnoses in the last year were excluded. There are two exceptions: physical disability and "other" disability. Physical disability did not have a follow-up question about age of diagnosis, so we assumed all physical disability diagnoses were made prior to one year before the interview (i.e., preceded victimization assessments). "Other" disability included a range of disabilities not on the list, but mostly missing data on the age of disability diagnosis. The total number of cases dropped from the sample was 254, which includes those with "other disabilities, and those whose diagnosis was within the last year (plus 9 children with physical disabilities in the sample who were less than 1 years old at the time of data collection) resulting in an analytic sample of N = 12,634. In all disability specific analyses, the comparison group is all children without that specific type of disability. This decision was made due to the significant overlap in disability types with 4 in 10 (41 %) of diagnosed children reporting at least two disability diagnoses. Through examining one specific type at a time and leaving all other children as the reference group, we were able to compare to both those without any disabilities and those with other types of disabilities. Given that this study is using an existing Nationally representative dataset that was not designed specifically to examine disability and victimization, there are limitations to the types of disabilities that were included. We were not able to capture other disability types (e.g. Deaf or hearing disability, eating disorder, or physical illness) nor alter the questions and capture the severity of the disability.

3.4.9. Demographic characteristics

Age, gender, race, family structure, and Socioeconomic status (SES) were gathered during the caregiver portion of the interview (for all ages). Age was measured in years and was recoded into three categories, 0-4, 5-11, and 12-17, to better examine age-specific patterns in the relationship between disability and victimization. Gender was measured as male (0)/female (1). Race/ethnicity was measured as White, Black, Hispanic, and other race. Family structure was operationalized as current members of the child's household, with categories defined as two biological or adoptive parents, one biological and one stepparent, single parent household, and other parent household (includes kinship placements, foster homes, etc.). SES was measured as a standardized composite of household income and parental education and was recoded into three categories reflecting standard deviations from the mean (low, medium, and

high).

3.5. Data analysis & weighting

All analyses are weighted using probability weights computed for each of the three survey years. The weights adjust for differential probability of selection due to study design, demographic variations in response (and non-response), and variations in household eligibility. Chi-square analyses were used to estimate rates of disability and victimization by demographic characteristics. Overall and age stratified logistic regression models with adjustments were used to approximate the true relative risk (risk ratios) of victimization while controlling for demographic characteristics. Risk ratios were calculated using the Zhang and Yu (1998) method. Cells with very small *N*'s (10 or fewer) were excluded from all tables and figures due to the inherent instability of such estimates. Reference groups for each type of disability are children without that specific form of disability, though additional analyses were run to examine the impact of using "no-disability" as the reference and results were comparable.

4. Results

4.1. Descriptive statistics for disability and victimization

Demographic characteristics are presented in Table 1. Within this sample, 17.2 % of children had at least one type of disability. The most common disability type reported in this sample was externalizing disability (7.6 %), followed by physical (6.4 %), developmental/learning (6.2 %), and then internalizing (3.3 %). Many victimization types were common. Nearly half the sample (48.4 %) reported having experienced peer/sibling victimization in the past year, 40 % reported an assault, 26.1 % reported property crime, 10.5 % reported maltreatment, and 5.9 % reported a sexual victimization within the last year. Just over 10 % of children in the sample were considered poly-victims, having experienced seven or more types of victimization in the past year.

Table 1 Sample descriptives (n = 12,634).

	Weighted %	N
Child gender		
Male	51.0	6425
Female	49.0	6209
Age		
0-4 year	27.8	3222
5–11 years	37.3	4705
12–17 years	34.9	5116
Race		
White	57.1	8239
Black	14.8	1758
Other	7.8	689
Hispanic	20.4	1902
Family structure		
Two parents (bio/adopted)	61.1	8768
Parent/stepparent	8.1	855
Single parent	26.8	2488
Other adult	4.0	523
Any disability	17.2	2209
Physical disability	6.4	855
Internalizing	3.3	451
Externalizing	7.6	960
Developmental/learning	6.2	813
Victimization		
Any assault	40.0	5188
Sexual victimization	5.5	743
Peer & sibling victimization	48.4	6244
Property crime	26.1	2892
Maltreatment	10.5	1285
Poly-victimization	10.1	1257

Table 2Disability by demographics (only including those diagnosed prior to past year).

	Weighte	Weighted %														
	Gender		Family structure					SES				Age				
	Male	Female		Two parent	Parent/step	Single	Other		Low	Mid	High	_	0–4	5-11_	12+	
Any disability ^a	19.4	14.9	***	13.0	27.8	22.4	25.5	***	23.9	16.1	14.2	***	6.0	18.0	25.1	***
Physical disability	6.7	6.1		5.0	7.3	8.9	9.3	***	11.8	5.5	5.2	***	4.1	6.5	8.0	***
Internalizing	3.4	3.2		1.8	6.3	5.3	6.4	***	4.6	3.1	2.7	*	0.3	2.8	6.3	***
Externalizing	9.4	5.7	***	5.0	16.1	9.9	14.1	***	11.1	7.3	4.7	***	0.8	8.6	12.0	***
Developmental/learning	7.8	4.5	***	5.6	6.2	7.7	6.0	*	8.6	5.9	5.1	**	2.0	7.5	8.2	***

In examining racial differences. For any disability, White children are disproportionately more likely to have a disability (p < .05). Asterisks indicate significant differences across age groups in exposure * p < .05. ** p < .01 *** p < .01 *** p < .001.

^a Reference category is no disability.

 Table 3

 Child victimization types: Risk ratios (SE) by disability type. Each type of disability is entered separately—The reference group is all other types and no disability.

	Risk ratios											
	Any assault		Sexual victimization		Peer & sibling victimization		Property crime		Maltreatment		Poly victimization	
	RR (unadj)	RR (adj)	RR (unadj)	RR (adj)	RR (unadj)	RR (adj)	RR (unadj)	RR (adj)	RR (unadj)	RR (adj)	RR (unadj)	RR (adj)
Any disability	1.20***	1.12*	1.37*	0.90	1.25***	1.17***	1.43***	1.37***	1.49***	1.12	1.92***	1.41**
Physical disability	1.07	1.04	1.24	0.97	1.16**	1.12	1.28**	1.25*	1.40*	1.19	1.49**	1.21
Internalizing	1.26**	1.15	2.99***	1.61*	1.30***	1.16	1.48***	1.38**	2.49***	1.70***	2.81***	1.89***
Externalizing	1.33***	1.23**	1.08	0.74	1.28***	1.19**	1.50***	1.42***	1.25	0.89	1.93***	1.36*
Developmental/learning	1.10	1.03	0.98	0.76	1.14*	1.07	1.25*	1.21**	1.32	1.13	1.69***	1.36**

Notes: Risk ratios were calculated using the Zhang and Yu (1998) method.

Adjusted indicates adjusted for demographic characteristics (race, gender, age, family structure, and SES).

All victimizations are past year (PY).

Asterisks indicate significant differences across age groups in exposure * p < .05. ** p < .01 *** p < .001.

Child Abuse & Neglect 146 (2023) 106495

 Table 4

 Child victimization types: Risk ratios by disability type. Each type of disability is entered separately—The reference group is all other types and no disability.

	Any assault			Sexual victimization			Peer & sibling victimization			Property crime			Maltreatment			Poly victimization		
Age	0–4	5–11	12+	0–4	5–11	12+	0–4	5–11	12+	0–4	5–11	12+	0–4	5–11	12+	0–4	5–11	12+
Any disability	1.72***	1.12	1.01	4.59*	1.62	0.82	1.71***	1.14*	1.08	1.67**	1.59***	1.14	1.13	1.14	1.19	2.25*	2.32***	1.03
Physical	1.42*	1.09	0.92	6.88**	1.02	0.90	1.40*	1.11	1.07	1.65*	1.29	1.1	1.08	1.29	1.16	1.73	1.94**	0.85
Internalizing	1.17	1.03	1.27*	-	2.67*	1.63**	1.52	1.11	1.18	-	1.31	1.41*	1.76	1.58	1.91***	1.06	1.88**	1.97**
Externalizing	2.52*	1.22*	1.11	_	1.22	0.68*	2.56**	1.17*	1.08	2.31	1.80***	1.12	_	0.99	0.96	4.93	2.16**	0.98
Developmental/Learning	2.08***	1.04	0.75*	8.94**	2.09	0.58*	1.97***	1.13	0.81*	1.46	1.51**	0.93	1.52	1.16	1.05	2.11	2.87***	0.67*

Notes: Risk ratios were calculated using the Zhang and Yu (1998) method.

Adjusted indicates odds are adjusted for demographic characteristics (race, gender, family structure, and SES).

All victimizations are past year (PY).

Dashes in cells indicate could not generate or very small cell sizes (less than 10).

Asterisks indicate significant differences across age groups in exposure * p < .05. ** p < .01 *** p < .001.

4.2. Disability rates as a function of demographic characteristics

Boys were significantly more likely to have any disability compared to girls (19.4 % v. 14.9 % respectively). Much of this difference is accounted for with boys having disproportionately more externalizing or developmental/learning disabilities than girls (see Table 2). Disability is also patterned by family structure with children living in two-parent households being significantly less likely to have disabilities compared to all other household types (stepparent, single parent, and other). Higher rates of all disability types were found among children in low SES families compared to mid and high SES. For example, nearly a quarter (23.9 %) of children in low-SES households had at least one type of disability compared to 14.2 % in high-SES households. The differences across SES are particularly stark when looking at externalizing disabilities, with children in low SES households having a rate more than twice that of children in high SES households (11.3 % compared to 4.7 %; see Table 2). Because we excluded any diagnoses made in the last year (and these are lifetime measures) older children were found to have significantly higher rates of all disabilities.

4.3. Victimization rates across disability groups

When considering all types of disabilities together, children with any disability are at increased risk for all types of victimization (see Table 3). After adjusting for gender, age, race, family structure, and SES, children with any disability are still at significantly higher risk for assault, peer and sibling victimization, property crime, and poly-victimization (see Table 3).

Children with physical disabilities are at higher risk for property crime (adj RR: 1.25). than their peers without physical disabilities. Children with internalizing disabilities are at higher risk sexual victimization (adj RR: 1.61), property crime (adj RR: 1.42), maltreatment (RR: 1.70), and poly-victimization (adj RR: 1.89). Children with externalizing disabilities are at higher risk for assault (adj RR: 1.23), peer and sibling victimization (adj RR: 1.19), property crime (adj RR: 1.42), and poly-victimization (adj RR: 1.36). Lastly, children with developmental and learning disabilities are at higher risk for property crimes (adj RR: 1.21) and poly-victimization (adj RR: 1.36).

4.4. The links between disability and victimization across age categories

Age specific rates of disability and victimization exposure were calculated given the likelihood that factors predicting victimization among children with and without disability varies with age. Table 4 shows the rates of each type of victimization by age group among children with and without disabilities. Victimization exposure overall is higher among older children (except for assault among very young children with developmental or learning disabilities), though the disparity between children with and without disabilities generally narrows as children get older.

4.4.1. Physical disabilities

Table 4 shows that very young children (ages 0–4) with physical disabilities are at heightened risk for assault, sexual victimization, peer/sibling victimization, and property crime (ages 0–4) compared to children without physical disabilities in this age group. Interestingly, children in middle childhood (5–11 years) with physical disabilities are at significantly higher risk for poly-victimization relative to youth without physical disabilities. Younger and older children with physical disabilities are not significantly more likely to experience poly-victimization (relative to children and youth without physical disabilities).

4.4.2. Internalizing disabilities

Children with internalizing disabilities are at heightened risk for both sexual victimization and poly-victimization in middle childhood (5–11 years) and adolescence (12–17 years), and at significantly higher risk for assault, property crime, and maltreatment during adolescence (12–17 years) compared to those children without internalizing disabilities.

4.4.3. Externalizing disabilities

Table 4 shows that relative to children without externalizing disabilities, children with externalizing disabilities appear to be at higher risk for a range of victimizations during early and mid-childhood, while adolescents (12–17 years) with externalizing disorders had significantly lower levels of risk for sexual victimization.

4.4.4. Developmental disabilities

Children with developmental/learning disabilities appear to be at heightened risk for assault, sexual victimization, and peer/sibling victimization at very young ages (0–4) while at older ages are at significantly lower risk for the same types of victimization (when compared to children without developmental/learning disabilities). Interestingly, middle childhood children (age 5–11) with developmental/learning disabilities appear to be at heightened risk for property crime and poly-victimization, consistent with the observed heightened risk among younger children (though not statistically significant), while adolescent children with developmental disabilities are at significantly lower risk for peer/sibling victimization.

5. Discussion

In this large nationally representative sample of youth, victimization risk varied by disability status and across disability types. Overall, children with disabilities were at higher risk for all types of victimization. Considering children of all ages together, children in

all disability categories, except for physical disability, were at higher risk for poly-victimization. Consistent with previous literature, this study demonstrates the importance of controlling for demographic characteristics in estimating the prevalence of victimization among children with disabilities (Turner et al., 2011) since both disability and victimization tend to vary across demographic factors. This study also establishes the importance of type-specific analyses by victimization type, disability type, and age of the child.

Findings on risk for victimization by disability type were partly consistent with what would be expected using a target congruence theoretical lens though we argue that age is crucial to understanding risk for victimization among children, and perhaps especially among children with disabilities. The findings from this further account for the role of age and developmental stage in risk for victimization. The relationship between disability and victimization is obscured when combining all ages together as shown in the differences between results in Tables 3 and 4. There are relatively few very young children with recognized/diagnosed disabilities, but the rates of victimization are high among those children. The difference in rates between children with and without disabilities is more pronounced at younger ages. Consistent with target antagonism, children with externalizing disabilities like ADHD and ODD are more likely to experience physical victimization (assault, peer and sibling victimization, and property crime) while children with internalizing disabilities are more vulnerable to sexual victimization and maltreatment, though this also depends on the age of the child. The effects of physical disability and developmental/learning disability overall seem to be most important at very young ages when children with physical disabilities appear to be at higher risk for all types of victimization except for maltreatment.

Victimization risk among the youngest group is likely related to inability to defend themselves (Finkelhor, 2008), also consistent with target vulnerability though we did not find that all young children were at higher risk for care-related victimization at young ages as was expected. We see much higher rates of peer/sibling, assault, and property crime rates among very young and middle childhood age children. But by adolescence other factors come into play. For example, picking on those unable to defend themselves may be seen as more cowardly and less status building for adolescent perpetrators, which could help to explain the significantly lower rates of peer/sibling victimization rates among adolescent (12–17 years old) with developmental/learning disabilities. Those with physical and developmental disabilities may be more segregated and less mainstreamed, which could serve as a protective factor for some types of victimization but could also stigmatize the children as "different" and place them at higher risk, especially in early and middle childhood.

Consistent with target antagonism, disabilities that involve aggressive outbursts but that may also not be visible as a "disability" place youth at heightened risk for victimization. While disabilities are more visible and easily identifiable as disabilities, ADHD and externalizing disorders may be viewed as annoying or undesirable personality traits by other children, placing them at higher risk for assault and peer/sibling victimization, even at older ages (middle childhood and adolescence). With respect to sexual assaults, the status and reputational benefits to boys for sexual perpetration (Robinson, 2005) may be less present for victims with visible and stigmatizing victimizations, such those with developmental/learning disabilities, groups with significantly lower rates than youth without disabilities. In contrast, those with internalizing disabilities appear at higher risk than their non-disabled counterparts in adolescence. These differences could be due to linkages between internalizing disorders and low self-esteem/self-worth (Ghoul et al., 2013; Keane & Loades, 2017) which may increase vulnerability to sexual victimizations. Differences in maltreatment were not as expected by age and disability. We expected that higher rates among older children with physical and developmental disabilities, as they may require more care and therefore have higher to exposure to adults with potential for maltreatment. Consistent with other findings (Finkelhor et al., 2014; Finkelhor, Turner, et al., 2015b), we found that higher rates of maltreatment in general were reported in middle childhood and adolescence. Moreover, children with internalizing disabilities were significantly more likely to experience maltreatment in adolescence than their peers without internalizing disabilities. This could reflect the fact that caregivers serve as proxy reporters for children under the age of 10, though previous research suggests that is not likely the case (Finkelhor et al., 2014) and this further does not address the specific relationship between internalizing disabilities and maltreatment.

We propose two processes here: 1) distressed adolescences may perceive and recall interactions with parents more negatively (current emotional state may shape their recollections) and/or 2) although the temporal ordering of the measures is that disability precedes victimization, past year maltreatment may often represent a long-term pattern of maltreatment that may have begun prior to (and contributed to) the onset of internalizing disorder. The fact that the most common type of maltreatment is emotional maltreatment (Finkelhor et al., 2014) reinforces these possibilities.

5.1. Limitations

With all data, there are limitations that should be acknowledged. The pooled NatSCEV data did not have a measure for visual or auditory disabilities, which were coded as "other." Some adolescents with a communication disability might have been unable to participate over the phone, and there was not an alternative data collection method. Further, some research suggests that children with disabilities are less likely to disclose abuse (Hershkowitz et al., 2007), which could result in underestimates in this sample. Reporting/disclosure of victimization could also be patterned by disability type with children having more severe or cognitive disabilities being less able to report (Hershkowitz et al., 2007), which could shape some of the findings in this paper. Further, as mentioned earlier, we were unable to capture all types of disabilities and the severity of the disability, which limited our analysis and the findings we can draw from the sample. Although we excluded diagnoses within the past year and only examined past-year victimization, this was a cross-sectional survey. Despite drawing on a base sample of more than 12,000 youth, the cell sizes were small for some age and disability categories, especially among the youngest children, reducing the power to detect associations. The sampling frame did not include children living in residential care settings (medical, child welfare, juvenile justice, etc.), a vulnerable population that is likely to have higher rates of both disabilities and victimizations.

5.2. Research practice implications

Future research should build on these findings and examine the extent to which having more than one disability impacts exposure to victimization over childhood. Future research could look to see if children having more than one disability and specific combinations of disabilities portends heightened risk. Further, an examination of the context would be useful to identify if children with visible and known disabilities are experiencing disability as a protective effect from peer-sibling victimization for example while peers with invisible (or not readily identified as disabilities) may experience this as a risk factor.

Providers who serve children and youth with disabilities should know that their victimization risk is disproportionately high and varies by age. While children with disabilities overall were at heightened risk, these risks varied substantially by type of disability, type of victimization, and age. These risks also likely vary by social context and potential perpetrators, which we were unable to capture in this study. We recommend that children with disabilities be assessed for victimization experiences and that attention to preventing and overcoming victimization is routinely included in schools and other service settings for this population. We need more research on how to adapt existing violence prevention and intervention strategies for youth with special needs.

Funding

This project was supported by grants 2006-JW-BX-0003 and 2009-JW-BX-0018 from the Office of Juvenile Justice and Delinquency Prevention, Office of Justice Programs, U.S. Department of Justice. The total amount of federal funding involved is \$2,848,809.

Data availability

Data is available through ICPSR

References

- Admire, A., & Ramirez, B. (2021). Violence and disability: Experiences and perceptions of victimization among deaf people. *Journal of Interpersonal Violence*, 36(1–2), NP1–NP25. https://doi.org/10.1177/0886260517730564
- Alriksson-Schmidt, A. I., Armour, B. S., & Thibadeau, J. K. (2010). Are adolescent girls with a physical disability at increased risk for sexual violence? *Journal of School Health*, 80(7), 361–367. https://doi.org/10.1111/j.1746-1561.2010.00514.x
- Barr, J., & Bracchitta, K. (2014). Attitudes toward individuals with disabilities: The effects of contact with different disability types. Current Psychology, 34. https://doi.org/10.1007/s12144-014-9253-2
- Blake, J. J., Kim, E. S., Lund, E. M., Zhou, Q., Kwok, O.-M., & Benz, M. R. (2016). Predictors of bully victimization in students with disabilities: A longitudinal examination using a national data set. *Journal of Disability Policy Studies*, 26(4), 199–208. https://doi.org/10.1177/1044207314539012
- Brendli, K. R., Broda, M. D., & Brown, R. (2021). Children with intellectual disability and victimization: A logistic regression analysis. *Child Maltreatment*, 0(0). https://doi.org/10.1177/1077559521994177, 1077559521994177.
- Brownlie, E., Jabbar, A., Beitchman, J., Vida, R., & Atkinson, L. (2007). Language impairment and sexual assault of girls and women: Findings from a community sample. *Journal of Abnormal Child Psychology*, 35(4), 618–626. https://doi.org/10.1007/s10802-007-9117-4
- Center for Disease Control and Prevention. (2020). Disability and health overview. https://www.cdc.gov/ncbddd/disabilityandhealth/disability.html.
- Chan, K. L., Lo, C. K. M., & Ip, P. (2018). Associating disabilities, school environments, and child victimization. Child Abuse & Neglect, 83, 21–30. https://doi.org/10.1016/j.chiabu.2018.07.001
- Dion, J., Paquette, G., Tremblay, K.-N., Collin-Vézina, D., & Chabot, M. (2018). Child maltreatment among children with intellectual disability in the Canadian incidence study. *American Journal on Intellectual and Developmental Disabilities*, 123(2), 176–188. https://doi.org/10.1352/1944-7558-123.2.176
- Fang, Z., Cerna-Turoff, I., Zhang, C., Lu, M., Lachman, J. M., & Barlow, J. (2022). Global estimates of violence against children with disabilities: An updated systematic review and meta-analysis (The Lancet Child & Adolescent Health).
- Finkelhor, D. (2008). Childhood victimization: Violence, crime, and abuse in the lives of young people. Oxford University Press.
- Finkelhor, D., & Asdigian, N. L. (1996). Risk factors for youth victimization: Beyond a lifestyles/routine activities theory approach. *Violence and Victims*, 11(1), 3–19. https://doi.org/10.1891/0886-6708.11.1.3
- Finkelhor, D., Ormrod, R. K., Turner, H. A., & Hamby, S. L. (2005). Measuring poly-victimization using the juvenile victimization questionnaire. Child Abuse & Neglect, 29(11), 1297–1312.
- Finkelhor, D., Turner, H. A., Ormrod, R., & Hamby, S. L. (2009). Violence, abuse, and crime exposure in a National Sample of children and youth. *Pediatrics, 124*(5). Finkelhor, D., Turner, H. A., Shattuck, A., & Hamby, S. L. (2013). Violence, crime, and abuse exposure in a national sample of children and youth: An update. *JAMA*
- Pediatrics, 167(7), 614–621. https://doi.org/10.1001/jamapediatrics.2013.42
 Finkelhor, D., Vanderminden, J., Turner, H., Hamby, S., & Shattuck, A. (2014). Child maltreatment rates assessed in a national household survey of caregivers and youth. Child Abuse & Neglect, 38(9), 1421–1435. https://doi.org/10.1016/j.chiabu.2014.05.005
- youth. Child Abuse & Neglect, 36(9), 1421–1433. https://doi.org/10.1010/j.chiabul.2014.03.003
 Finkelhor, D., Shattuck, A., Turner, H., & Hamby, S. (2015a). A revised inventory of adverse childhood experiences. Child Abuse & Neglect, 48, 13–21. https://doi.org/10.1016/j.chiabul.2015.07.011
- Finkelhor, D., Turner, H. A., Shattuck, A., & Hamby, S. L. (2015b). Prevalence of childhood exposure to violence, crime, and abuse: Results from the national survey of children's exposure to violence. *JAMA Pediatrics*, 169(8), 746–754. https://doi.org/10.1001/jamapediatrics.2015.0676
- Flynt, S. W., & Morton, R. C. (2004). Bullying and children with disabilities. *Journal of Instructional Psychology*, 31(4), 330–333. https://doi.org/https://www.proquest.com/scholarly-journals/bullying-children-with-disabilities/docview/1416363997/se-2.
- Ghoul, A., Niwa, E. Y., & Boxer, P. (2013). The role of contingent self-worth in the relation between victimization and internalizing problems in adolescents. *Journal of Adolescence*, 36(3), 457–464. https://doi.org/10.1016/j.adolescence.2013.01.007
- Hamby, S. L., Finkelhor, D., Ormrod, R. K., & Turner, H. A. (2004). The comprehensive juvenile victimization questionnaire (JVQ): Administration and scoring manual. Harrell, E. (2017). Crime against persons with disabilities, 2009–2015 statistical tables.
- Helton, J. J. (2009). Children with a disability, physical abuse, entry into out-of-home care, and stability of out-of-home placements [Ph.D., University of Illinois at Urbana-Champaign]. United States Illinois. http://proquest.umi.com/pqdweb?did=1975099561&Fmt=7&clientId=22941&RQT=309&VName=PQD.
- Hershkowitz, I., Lamb, M. E., & Horowitz, D. (2007). Victimization of children with disabilities. *American Journal of Orthopsychiatry*, 77(4), 629–635. https://doi.org/https://psycnet.apa.org/doi/10.1037/0002-9432.77.4.629.
- Iyanda, A. E. (2021). Bullying victimization of children with mental, emotional, and developmental or behavioral (MEDB) disorders in the United States. *Journal of Child & Adolescent Trauma*. https://doi.org/10.1007/s40653-021-00368-8
- Jones, L., Bellis, M. A., Wood, S., Hughes, K., McCoy, E., Eckley, L., ... Officer, A. (2012). Prevalence and risk of violence against children with disabilities: A systematic review and meta-analysis of observational studies. *The Lancet*, 12(0). http://www.sciencedirect.com/science/article/pii/S0140673612606928.

- Keane, L., & Loades, M. (2017). Review: Low self-esteem and internalizing disorders in young people A systematic review. Child and Adolescent Mental Health, 22(1), 4–15. https://doi.org/10.1111/camh.12204
- Leeb, R. T., Bitsko, R. H., Merrick, M. T., & Armour, B. S. (2012). Does childhood disability increase risk for child abuse and neglect? *Journal of Mental Health Research in Intellectual Disabilities*, 5(1), 4–31. https://doi.org/10.1080/19315864.2011.608154
- Lightfoot, E., Hill, K., & LaLiberte, T. (2011). Prevalence of children with disabilities in the child welfare system and out of home placement: An examination of administrative records. Children and Youth Services Review, 33(11), 2069–2075. http://www.sciencedirect.com/science/article/pii/S019074091100065X.
- Nowicki, E. (2006). A cross-sectional multivariate analysis of children's attitudes towards disabilities. Journal of Intellectual Disability Research, 50(5), 335-348.
- Pears, K. C., Kim, H. K., & Fisher, P. A. (2008). Psychosocial and cognitive functioning of children with specific profiles of maltreatment. Child Abuse & Neglect, 32(10), 958–971. https://doi.org/10.1016/j.chiabu.2007.12.009
- Robinson, K. H. (2005). Reinforcing hegemonic masculinities through sexual harassment: Issues of identity, power and popularity in secondary schools. *Gender and Education*, 17(1), 19–37. https://doi.org/10.1080/0954025042000301285
- Spencer, N., Devereux, E., Wallace, A., Sundrum, R., Shenoy, M., Bacchus, C., & Logan, S. (2005). Disabling conditions and registration for child abuse and neglect: A population-based study. *Pediatrics*, 116(3), 609–613. https://doi.org/10.1542/peds.2004-1882
- Sullivan, P. M., & Knutson, J. F. (2000). Maltreatment and disabilities: A population-based epidemiological study. Child Abuse & Neglect, 24(10), 1257–1273. https://doi.org/10.1016/s0145-2134(00)00190-3
- Turner, H. A., Vanderminden, J., Finkelhor, D., Hamby, S., & Shattuck, A. (2011). Disability and victimization in a national sample of children and youth. *Child Maltreatment*, 16(4), 275–286. https://doi.org/10.1177/1077559511427178
- Van Horne, B. S., Caughy, M. O., Canfield, M., Case, A. P., Greeley, C. S., Morgan, R., & Mitchell, L. E. (2018). First-time maltreatment in children ages 2–10 with and without specific birth defects: A population–based study. Child Abuse & Neglect, 84, 53–63. https://doi.org/10.1016/j.chiabu.2018.07.003
- Young, N. A. E. (2021). Childhood disability in the United States: 2019 (American community survey briefs). Issue https://www.census.gov/content/dam/Census/library/publications/2021/acs/acsbr-006.pdf.
- Yun, I., Jung, S., & Yoo, J. (2015). Disability and violent victimization in a national sample of adolescents: A longitudinal study. *Violence and Victims*, 30(6), 1099–1116. https://doi.org/10.1891/0886-6708.VV-D-14-00008
- Zhang, J., & Yu, K. F. (1998). What's the relative risk?: A method of correcting the odds ratio in cohort studies of common outcomes. *JAMA*, 280(19), 1690–1691. https://doi.org/10.1001/jama.280.19.1690