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Use of Restraints, Seclusion, and Aversive Procedures on Students With Disabilities

David L. Westling
Western Carolina University
Barbara R. Trader
TASH
Cynthia A. Smith
National Disability Rights Network
Denise Stile Marshall
Council of Parent Attorneys and Advocates

A survey of a convenience (nonrandom) sample of parents and guardians of children with disabilities was undertaken to document the use of restraints, seclusion, and aversive procedures. A 23-item questionnaire was presented to participants using SurveyMonkey, a Web-based program. Participants were informed of the survey by different advocacy organizations. Within a 2-week period, 1,300 individuals accessed the survey, and 1,293 answered the first question, which asked if their child had been subjected to restraints, seclusion, or aversive procedures; of the 1,293, 837 (64.7%) said "yes." Responses to other questions provided more detail about the nature of the procedures used and associated conditions. Among other findings, the results showed that children with disabilities were often exposed to restraints, seclusion, and aversive procedures; most of the time the parents had not approved of the procedures, and often, the procedures adversely affected the student.

DESCRIPTORS: restraints, seclusion, aversive procedures, students with disabilities, parents

Although studies have demonstrated that teachers can implement positive behavior supports to improve student behavior (e.g., Ervin et al., 2001; Renshaw, Christensen, Marchant, & Anderson, 2008; Snell, Voorhees, & Chen, 2005), a variety of reports have indicated that many teachers feel they have not been sufficiently prepared to deal with challenging behavior, they perceive themselves to be ineffective, they often lack support, and their students' behavior often leads to increased stress (e.g., Abidin & Robinson, 2002; Barrett & Davis, 1995; Dake, Fisher, Pumpian, Haring, & Breen, 1993; Houston & Williamson, 1992–1993; MacDonald & Speece, 2001; Nelson, Maculan, Roberts, & Ohlund, 2001; Van Acker, 1993; Westling, 2010). If teachers lack the necessary knowledge and skills to positively address challenging behavior and if they are not provided with adequate supports, they may use less appropriate actions when confronted with students exhibiting challenging behavior. In point of fact, a few recent reports have documented the use of restraints, seclusion, and aversive procedures with students with disabilities and special needs, an area that clearly warrants further investigation.

The National Disability Rights Network (NDRN, 2009) recently published a report that included accounts by parents of their children's treatment. In one incident, a 7-year-old girl with attention-deficit/hyperactivity disorder and emotional disturbance died when several adult staff members placed her in a prone restraint because she was blowing bubbles in her milk and then broke the time-out rules. In another, a first-grade boy with autism was secluded in a vacant room for 3 h where he eventually urinated on himself because he was not allowed to leave the room. The NDRN report contained 75 similar examples.

Similarly, the Council of Parent Attorneys and Advocates released a report that documented the results of a public survey in which it found over 180 cases of children being traumatized and hurt by the use of seclusion, restraints, and aversive procedures (Butler, 2009). Striking was the fact that over 71% of respondents indicated the absence of a behavioral intervention plan, indicating that rather than proactively providing positive behavior plans to lessen problem behaviors, school personnel apparently relied on reactive, aversive interventions. Recently, the U.S. House of Representative's Education and Labor Committee scheduled a hearing that coincided with a U.S. Government Accountability Office (GAO, 2009) report, *Seclusion and Restraints: Selected Cases of Death and Abuse at Public and Private Schools and Treatment Centers.* The GAO report noted the lack of data available on the pervasiveness of these practices and documented a fragmented set of policies and guidelines available to

This study was undertaken under the auspices of the Alliance to Prevent Restraint, Aversive Interventions, and Seclusion (APRAIS). APRAIS is comprised of 18 national organizations. Information about APRAIS is available at: http://aprais.tash.org/.

Address all correspondence and reprint requests to David L. Westling, Department of Human Services, Western Carolina University, 272 Killian, Cullowhee, NC 28723. E-mail: westling@email.wcu.edu

protect students from these practices in schools. At this writing, legislation is pending in Congress to monitor and limit the use of seclusion, restraints, and aversive procedures in schools in the United States (HR 4247 and S 2680).

In a review of literature, Ryan and Peterson (2004) reported on several studies and published papers on the use of physical restraints as a form of behavioral intervention. They stated that restraints had historically been used in psychiatric residential settings, but in recent years had become more commonly used in public schools, particularly with students with emotional–behavioral disorders. They noted that many professionals often considered restraints acceptable in school as a form of control for serious behaviors such as aggression or self-injury but also recognized that restraints were sometimes used for less serious behaviors such as preventing a student from leaving the classroom. Ryan and Peterson concluded that restraint, as a form of behavioral intervention, was not well supported by the research literature.

Although Ryan and Peterson (2004) were unable to find studies reporting how frequently restraints were used in schools, they concluded that anecdotal reports from court cases and in legislative records suggested that restraints "have become common for at least larger school systems" (p. 157). Two additional studies attempted to document the use of restraints and their impact on children and adolescents. Delaney and Fogg (2005) examined the records of children and adolescents admitted for brief periods to a psychiatric hospital to determine the occurrence of the use of restraints and variables related to their use. On the basis of a review of 100 individual records (representing admissions over about one year), they found 69 individuals had been restrained once or more. Children and adolescents most commonly restrained were those who used inpatient services more often, those in guardianship arrangements, those in special education, and those with a history of suicide attempts. In another study, Nunno, Holden, and Tollar (2006) searched the Internet and found reports of 45 child and adolescent fatalities associated with the use of restraints in residential settings in the United States between 1993 and 2003. They found a disproportionate number of men had died, 38 during or after the use of physical restraints and 7 during the use of mechanical restraints. Asphyxia was the cause of death in 25 of the reports. They also found in 23 cases that the child's behaviors or conditions did not meet the standard of danger to self or others, a criterion often used to justify the use of restraints.

Like restraints, seclusion as an intervention originated in psychiatric treatment facilities and was often considered to have therapeutic value. For example, Cotton (1989) discussed the appropriate use of seclusion for children who were "ego-deficient." Millstein and Cotton (1990) conducted a study specifically exploring the use of seclusion with 102 children in a psychiatric treatment setting. They found that seclusion was used more frequently on Mondays and Wednesdays, when staff members were the busiest, and during the most stimulating and demanding times on the unit. They further found that the use of seclusion did not differentiate among the children in their ability to cope with the environment and there was an increase in the time a child spent in seclusion with each occurrence rather than the expected decrease in time related to learning new behavior from the experience. Similarly, Earle and Forquer (1995) compared differences between children and adolescents who were secluded and those who were not in a 1-month period across three psychiatric centers. They found that older individuals and those who had been in the centers longer were more likely to be secluded. But they also found that seclusion was more likely to occur at times of higher staff–child interactions and when there was less structured programming occurring.

The use of seclusion in school settings is often referred to as "exclusion time-out" (Cooper, Heron, & Heward, 2007) or "isolation time-out" (Wolf, McLaughlin, & Williams, 2006). This procedure calls for the physical separation of a student into another room or area so that no positive reinforcement may occur following an undesirable behavior. Both Cooper et al. and Wolf et al. noted that the practice can reduce inappropriate behavior, but they warned that the practice has several disadvantages including providing an opportunity for the person to engage in behavior, such as self-injurious behavior, that should be stopped or prevented. Wolf et al. concluded, "Although time-out is frequently used by teachers, researchers and practitioners, it has become a controversial procedure because of misunderstanding, ineffective use, and ethical considerations" (p. 27). They added, "Research comparing time-out and alternative procedures is also scarce, although effective alternatives to time-out have been documented" (p. 27).

In addition to restraints and seclusion, historically, other aversive procedures have been used in an effort to manage behavior, usually with individuals with significant disabilities and often for self-injurious behavior or aggression (Matson & Taras, 1989). In these instances, aversive procedures have included electric shock, water mist, ammonia, icing, cold baths, visual screening, exercise, and overcorrection, among others. One of the most notable uses of aversive intervention was the self-injurious behavior inhibiting system, which delivered "mild and brief electrical stimulation" (p. 53), contingent on the occurrence of hits to the head or face (Linschied, Iwata, Ricketts, Williams, & Griffin, 1990). Linschied et al. reported successful results using the self-injurious behavior inhibiting system with five individuals who demonstrated self-injurious behavior.

In public school settings, the use of aversive procedures would most often be referred to as corporal punishment and would take the form of paddling or spanking students. In a recent review of the topic, Dupper and Dingus (2008) reported that, although corporal punishment had been

outlawed in 29 states, it still occurs in public schools between one and three million times a year. They noted that corporal punishment could include "hitting, spanking, punching, shaking, paddling, shoving, and use of various objects, painful body postures, excessive exercise drills, and electric shock" (p. 243).

Beginning in the 1980s, multiple challenges began to occur to the use of seclusion, restraints, and aversive procedures as behavior change methods. Building on the foundation of Applied Behavior Analysis (ABA), the field of Positive Behavior Supports (PBS) emerged. PBS stresses the need to conduct functional behavior assessments to determine factors related to the occurrence of challenging behavior, use nonaversive interventions such as modifying the environment or teaching replacement behaviors, and promote comprehensive changes in lifestyles and environments to achieve long-term behavior improvement (Carr et al., 2002; Horner et al., 1990; Meyer & Evans, 1989). PBS does not seek simply to eliminate undesirable behavior but to achieve long-term change. Support for PBS is based both on values and research. Many support it because it uses a nonaversive, comprehensive orientation and is considered to be a humane, nonaversive approach to behavior change. However, there is also a strong body of evidence that offers an empirical defense for many of the components of PBS, especially the effectiveness of basing behavioral interventions on functional behavior assessments (Carr et al., 1999; Clarke, Dunlap, & Stitchter, 2002; Hanley, Iwata, & McCord, 2003; Pellios, Morren, Tesch, & Axelrod, 1999; Safran & Oswald, 2003; Smith & Iwata, 1997).

Trends in public policy have also reflected discontent with the use of seclusion, restraint, and aversive procedures. A consensus has emerged within children's mental health settings, hospitals, nursing homes, and psychiatric facilities over the last two decades that restraint and seclusion should not be included in treatment plans and that restraint should be used only for emergencies and should be eliminated as soon as possible. Instead, recent policies have said practices should be on the basis of "trauma informed care," requiring an awareness of the psychological effects of aversive actions on children (Hodas, 2006). Furthermore, the Children's Health Act (2000) regulates the use of restraint and seclusion practices in federal facilities such as hospitals and healthcare facilities that receive federal funds; and for children placed in certain residential, nonmedical, community-based facilities that receive funding from the Public Health Services Act (GAO, 2009, p. 3). Interestingly, neither the practice of trauma informed care nor the Children's Health Act extends to children in public or private, day or residential schools responsible for providing education services to students. However, Ryan, Peterson, and Rozalski (2007) found that 24 states had policies on the use of seclusion or time-out in school districts, and Ryan, Robbins, Peterson, and Rozalski (2009) reported that 31 states now have documented policies or guidelines on the use of restraints.

The current study was conducted to form a more comprehensive picture on the use of restraints, seclusion, and aversive procedures with individual with disabilities. Given current conditions, the study appeared necessary. On one hand, as noted previously, for the past 30 years, there has been a policy and practical movement away from various forms of aversive procedures used to manage behavior. However, on the other hand, as also noted, recent reports have indicated that such procedures have been frequently used in schools, often resulting in tragic outcomes. Our purpose, therefore, was to conduct a large exploratory study to investigate the use of restraints, seclusion, and aversive procedures as reported by parents and guardians of students with disabilities and to document select variables related to the use of these procedures. The study is intended to add to the information contained in previous reports and to contribute to the understanding of ways in which students with disabilities have been subjected to these procedures while in public or private, day or residential schools.

Method

Participants

The Web-based questionnaire used in this study was accessed by exactly 1,300 respondents, but the number of individuals answering each question varied, as shown in Table 1. The study was undertaken under the auspices of the Alliance to Prevent Restraint, Aversive Interventions, and Seclusion (APRAIS, n.d.), and target participants for the study were parents and guardians of current or former students with disabilities who were affiliated with the constituent organizations that comprise APRAIS.[1] As such, the participants constituted a convenience sample.

All participants were either (a) contacted by their organization by email with a request to participate in the study, (b) saw a notice of the study on an APRAIS member's organization Web site, or (c) learned about the study because information about it was forwarded to them by email from someone aware of it. Thus, the total number of individuals who were aware of the survey (and thus potential participants) cannot be accurately determined.

[1] APRAIS was founded in 2004 by several disability advocacy organizations to address concerns about the inappropriate treatment of individuals with disabilities. Currently APRAIS is comprised of 18 national organizations including TASH, National Down Syndrome Society, ARC of the United States, Autism National Committee, National Disability Rights Network, National Down Syndrome Congress, Family Alliance to Stop Abuse and Neglect, Bazelon Center for Mental Health Law, National Association of Councils on Developmental Disabilities, Council of Parent Attorneys and Advocates, Inc., RespectABILITY Law Center, Autistic Self-dvocacy Network, Association of University Centers on Disability, National Alliance on Mental Health, Children and Adults With Attention-eficit/Hyperactivity Disorder, American Association of People With Disabilities, National Association of State Mental Health Program Directors, and Families Against Restraint and Seclusion.

Table 1
Questionnaire Items, Response Options, and Responses

Questionnaire item	Response options	Number of responses (percentage of total responses)
1. To your knowledge, has your child ever been restrained, secluded, or subjected to aversive procedures while in school, or by school personnel in other locations, or during an after-school program sanctioned or operated by the school? If you answered "no" or "don't know," please click on the "exit survey" button below to exit the survey.	Yes	837 (64.7)
	No	414 (32.0)
	Don't know	42 (3.2)
	Total responses	1,293
2. If you answered "yes" to the previous question, please check all procedures that you know have been used with your child.	Restraint	659 (78.0)
	Seclusion	597 (70.7)
	Aversive procedures	277 (32.8)
	Total responses	845
3. If your child has been restrained, secluded, or subjected to aversive procedures, during which of the following years did this occur? (check all that apply)	2009	320 (37.7)
	2008	381 (44.9)
	2007	344 (40.5)
	2006	318 (37.5)
	Before 2006	438 (51.6)
	Total responses	849
4. If your child has been restrained, secluded, or subjected to aversive procedures, how old was your child when the action occurred? (check all that apply)	0-2 years	13 (1.5)
	3-5 years	260 (30.7)
	6-10 years	585 (69.1)
	11-13 years	286 (33.8)
	14-22 years	188 (22.2)
	Total responses	847
5. If your child has been restrained, secluded, or subjected to aversive procedures, what was the primary educational setting in which your child was placed at the time the action occurred? (check only one)	General education classroom	124 (14.6)
	General education classroom and special education classroom	187 (22.0)
	Special education classroom	347 (40.8)
	Public separate facility (i.e., special school)	74 (8.7)
	Private separate facility	50 (5.9)
	Public residential facility	22 (2.6)
	Private residential facility	31 (3.6)
	Hospital/homebound	15 (1.8)
	Total responses	850
6. If your child has been restrained, what form of restraint was used? (check all that apply)	Prone	182 (25.4)
	Supine	115 (16.1)
	Seated hold	350 (48.9)
	Vertical hold	232 (32.4)
	Other, please specify: _____	197 (27.5)
	Don't know	167 (23.3)
	Total responses	716
7. If your child has been restrained, secluded, or subjected to aversive procedures, which of the following were used? (check all that apply.)	Ammonia capsule or vapor to the nose	3 (0.4)
	Blindfolding or other forms of visual blocking	23 (2.9)
	Contingent electric shock	1 (0.1)
	Extremely loud white noise or other auditory stimuli	22 (2.8)
	Forced exercise	68 (8.7)
	Forcefully moving into another room or area	532 (68.0)
	Hand or ankle cuffing	62 (7.9)
	Holding face-down	179 (22.9)
	Holding in other positions	392 (50.1)
	Ice to the cheeks or chin	5 (0.6)
	Lemon juice, vinegar, jalapeno pepper or other hot or acidic food or liquid to the mouth	20 (2.6)
	Placement in a dark isolated box or other methods of prolonged physical isolation	163 (20.8)
	Placement in a tub of cold water or cold showers	5 (0.6)
	Shaving cream or other nonfood item to the mouth	7 (0.9)
	Slapping or pinching with hand or implement	101 (12.9)
	Teeth brushed or face washed with caustic solutions	3 (0.4)
	Tying or taping to an immovable object	39 (5.0)
	Water spray to the face	23 (2.9)

Table 1
(*continued*)

Questionnaire item	Response options	Number of responses (percentage of total responses)
	Withholding of meals/denial of adequate nutrition	95 (12.1)
	Another treatment was used. Please specify: _____	235 (30.1)
	Total responses	782
8. If your child was secluded, where was the child secluded? (check all that apply)	In an office within the facility	214 (32.1)
	In a special seclusion room designed for the purpose of seclusion	390 (58.5)
	In another area of the facility (please specify): _____	240 (36.0)
	Total responses	667
9. If your child was secluded, was he or she physically prevented from leaving the seclusion setting either by the room being locked or an authority figure preventing the student from exiting?	Yes	574 (84.4)
	No	39 (5.7)
	Don't know	67 (9.9)
	Total responses	680
10. If your child has been restrained, what has been approximately the longest amount of time this restraint has occurred?	Less than 5 min	104 (14.5)
	5-30 min	230 (32.0)
	30 min to 1 h	95 (13.2)
	1-3 h	75 (10.4)
	More than 3 h	29 (4.0)
	Don't know	186 (25.9)
	Total responses	719
11. If your child has been secluded, what has been approximately the longest amount of time this seclusion has occurred?	Less than 5 min	15 (2.2)
	5-30 min	148 (21.9)
	30 min to 1 h	109 (16.1)
	1-3 h	139 (20.6)
	More than 3 h	105 (15.6)
	Don't know	159 (23.6)
	Total responses	675
12. If your child has been restrained, secluded, or subjected to aversive procedures, which of the following individuals have participated in the action(s)? (check all that apply)	A school administrator	370 (43.5)
	A school counselor	175 (20.6)
	A general education teacher	208 (24.4)
	A special education teacher	606 (71.2)
	A behavior specialist	237 (27.8)
	A speech/language therapist	65 (7.6)
	A physical therapist	22 (2.6)
	An occupational therapist	44 (5.2)
	Another person. (please specify the position of the person): _____	392 (46.1)
	Don't know	37 (4.3)
	Total responses	851
13. If your child has been restrained, secluded, or subjected to aversive procedures,	Approximately how many times have any of these actions occurred during the most recent year (2008-2009) of schooling?	0: 317 (42.9) 1-10: 297 (40.2) 11-20: 56 (7.6) 21-30: 21 (2.8) 31-40: 6 (0.8) 41-50: 11 (1.5) >50: 30 (4.1)
	Total responses	738
	Approximately how many times totally have any of these actions occurred during his or her years in school?	0: 16 (2.1) 1-20: 458 (60.5) 21-40: 77 (10.2) 41-60: 63 (8.3) 61-80: 9 (1.2) 81-100: 58 (7.7) >100: 75 (9.9)
	Total responses	756
14. If your child has been restrained, secluded, or subjected to aversive procedures, did any of the following occur?	Physical injury	273 (42.2)
	Obvious signs of physical pain	217 (33.5)
	Emotional trauma	601 (92.2)
	Other adverse reaction (please specify): _____	254 (39.2)
	Total responses	647

Table 1
(*continued*)

Questionnaire item	Response options	Number of responses (percentage of total responses)
15. If your child has been restrained, secluded, or subjected to aversive procedures, how often were you contacted by the school in writing when the action occurred?	Always (100% of the time)	107 (12.7)
	Usually (50-99% of the time)	180 (21.4)
	Rarely (less than 50% of the time)	231 (27.4)
	Never (0% of the time)	325 (38.6)
	Total responses	843
16. If your child has been restrained, secluded, or subjected to aversive procedures, did you consent to the use of the procedure?	Yes	183 (21.8)
	No	566 (67.3)
	Don't know	92 (10.9)
	Total responses	841
17. If your child has been restrained, secluded, or subjected to aversive procedures, had a behavior improvement plan based on an individual assessment been previously developed and followed in an effort to improve the behavior?	Yes	318 (37.9)
	No	464 (55.4)
	Don't know	56 (6.7)
	Total responses	838
18. If your child has been restrained, secluded, or subjected to aversive procedures, was the procedure authorized by you in any written document such as an Individualized Educational Program (IEP), a 504 Plan, or a Behavior Intervention Plan (BIP)?	Yes	166 (19.7)
	No	611 (72.7)
	Don't know	64 (7.6)
	Total responses	841
19. If your child has been restrained, secluded, or subjected to aversive procedures,	Approximately how many times within the last year did you contact the protection and advocacy agency or another state agency in your state regarding the treatment of your child? _____	0: 512 (71.0) 1-2: 123 (17.0) 3-4: 35 (4.8) >4: 51 (7.1)
	Total responses	721
	Approximately how many times totally have you contacted the protection and advocacy agency or another state agency in your state regarding the treatment of your child? _____	0: 392 (52.5) 1-2: 159 (21.3) 3-4: 51 (6.8) 5-6: 52 (7.0) 7-8: 4 (0.5) 8-10: 21 (2.8) >10: 67 (9.0)
	Total responses	746
20. If your child has been restrained, secluded, or subjected to aversive procedures, have you contacted another individual or agency, such as a lawyer or a government agency or representative?	If so, who have you contacted? _____	
	Total responses	634
21. If your child has been restrained, secluded, or subjected to aversive procedures, in which state did this action occur?	Select state (dropdown list of 50 states and U.S. territories provided)	
	Total responses	840
22. Optional item: What is your child's primary Individuals with Disabilities Education Act (IDEA) disability classification as designated by the school district? Please check only the primary classification.	Autism (includes Asperger's syndrome)	456 (47.5)
	Deaf or hearing impairment	7 (0.7)
	Deaf-blind	0 (0.0)
	Blind or visually impaired	4 (0.4)
	Developmental delay	63 (6.6)
	Emotional disturbance or behavior disorders	138 (14.4)
	Intellectual disability (previously called mental retardation)	86 (9.0)
	Multiple disabilities (includes severe intellectual disabilities and physical or sensory disabilities)	82 (8.5)
	Orthopedic impairment (physical disabilities)	6 (0.6)
	Specific learning disability	16 (1.7)
	Speech or language impairment	9 (0.9)
	Traumatic brain injury	7 (0.7)
	Other health impairment	50 (5.2)
	Other health impairment (due primarily to attention-deficit disorder/attention-deficit hyperactivity disorder)	36 (3.8)
	Total responses	960
23. Optional item: Please describe your child's communicative ability at the time most incidents of restraint, seclusion, or aversive procedures were used.	Verbal, easily understood	451 (50.0)
	Verbal, but difficult to understand	251 (27.8)
	Nonverbal	200 (22.2)
	Total responses	902

However, on the basis of the membership in the APRAIS organizations and the emails forwarded to various other individuals and groups, we estimate that between 10,000 and 20,000 individuals may have been aware of the survey. Although individuals targeted to participate in the study included parents and guardians of individuals with disabilities, because the survey was Web-based and accessible to many individuals, it was not possible to determine the qualifications or characteristics of those who actually participated. Before completing the questionnaire, participants were informed in an introductory note that their responses would be anonymous. The respondents reported in the questionnaire that they were located in 48 states, the District of Columbia, and two U.S. territories at the time the incidents occurred. There was a mean of approximately 16 respondents from each location, with a range of 1–64.

Questionnaire Design

As shown in Table 1, the questionnaire included 23 items, which were presented on SurveyMonkey, a commercial Web-based program (www.surveymonkey.com). As can be seen in Table 1, most of the questions offered multiple choices and allowed the respondent to check one or more of the choices (depending of the nature of the question) from a list, whereas others allowed text or numbers to be entered. Some questions allowed a combination of data forms to be entered.

SurveyMonkey employs "multiple layers of security" to assure that data are protected and secure. To access the questionnaire, a potential respondent must click on a Web site link provided in an email or within another Web site. The developer of a SurveyMonkey questionnaire (in this case, the senior author) has the ability to set controls on the Web site. For the purpose of this study, a setting was enacted, which prevented the appearance of email addresses or other identifying information when the completed questionnaire was submitted by the respondent. Another setting was also enacted, which prevented more than one response from the same IP computer address.

The questionnaire items were developed by representatives of APRAIS constituent organizations, including the last three authors of this study. In developing the questionnaire, previously used questionnaires, reports, and publications on the use of restraints, seclusion, and aversive procedures were used as reference material. On the basis of this body of knowledge, an iterative process was used to develop the questionnaire for this study. First, representatives of APRAIS suggested several items to be included on the questionnaire, and these were forwarded to the senior author. These were then rewritten for clarity and returned to the APRAIS representatives for further input. Representatives of five organizations within APRAIS responded with additional comments and suggestions. These were then incorporated into the final version of the questionnaire.

After the final form of the questionnaire was developed, it was placed on SurveyMonkey by the senior author. When potential respondents opened the questionnaire Web site, an initial page provided information about APRAIS, the purpose of the questionnaire, cautions about participation, the right to refuse to participate, and directions for completing the questionnaire. They were also told that all data would be reported in aggregate form and that individual responses were anonymous. The following definitions were also provided:

- Restraint: The use of physical procedures by one or more individuals or mechanical devices to limit freedom of movement. Example: Holding an individual in an immobile position for a time.
- Seclusion: Placement in an isolated area for an extended time and prevention from leaving the area. Example: Placing an individual in a locked room or closet.
- Aversive procedures: Actions taken against a person causing pain or injury. Example: Pinching or slapping an individual.

Following these introductory comments, participants were presented with the 23 questions and response options in the order shown in Table 1.

On the basis of an analysis using the Flesch–Kincaid Grade Level Formula (http://www.addedbytes.com/tools/readability-score/), the questionnaire was determined to have a 12th-grade reading level.

Data Collection

When the final form of the questionnaire was completed, a URL link to it was generated by SurveyMonkey. This link was then sent to all of the APRAIS member organizations by the second author. The questionnaire was accessed by respondents through the URL link that was embedded in the email sent to them by their APRAIS organization or by going to the organizational member's Web site and linking on the URL. In some cases, individuals within APRAIS member organizations forwarded the email announcement of the survey or the URL link to other parents or to parent or advocacy organizations to seek a greater number of responses. Thus, as noted previously, the respondents (who were not able to be identified by their responses) likely included persons beyond the individual affiliates of the APRAIS member organizations.

The member organizations were contacted initially about the availability of the questionnaire on September 28, 2009, the date it became available on SurveyMonkey. The questionnaire remained available on SurveyMonkey until midnight of October 12, 2009, a 2-week time. On October 5, the APRAIS member organizations were asked to renotify their affiliates and encourage them to participate if they had not done so and desired to do so. No additional follow-up was conducted.

Data Analysis

The data collected are descriptively reported including the number and percentage of different responses to an item or numbers entered in response to specific questions, as shown in Table 1. All figures were generated by SurveyMonkey with no additional data entry or calculations by the authors. In addition to the numerical data, narrative entries were allowed in six questions: 6, 7, 8, 12, 14, and 20. Representative examples of these statements are presented in Table 2.

Results

As stated previously, 1,300 individuals accessed the questionnaire through SurveyMonkey. As shown in Table 1, in response to Question 1 on the occurrence of the use of restraints, seclusion, or aversive procedures, there were 1,293 responses: 837 (64.7%) responded "yes," 414 (32.0%) responded "no," and 42 (3.2%) responded "don't know." (Respondents were advised to continue only if they answered yes to Question 1; otherwise, they were asked to exit the survey. Therefore, as seen in Table 1, the remaining items on the questionnaire were responded to by fewer than the number of participants who responded to Question 1, with some variation in the number of responses between questions.) With specific regard to the use of the restraints, seclusion, or aversive procedures, of the 845 responses to Question 2, 659 (78%) reported that their children had been restrained, 597 (70.7%) indicated that their children had been placed in seclusion, and 277 (32.8%) indicated that their children had been subjected to aversive procedures.

Questions 3, 4, and 5 asked about when and where the use of restraints, seclusion, and aversive procedures occurred. Responses to Question 3 suggested that these procedures occurred across recent years with no notable increase or decrease in occurrence. The most likely age for a child to have been exposed to these actions was between 6 and 10 years, as seen in response to Question 4, but the actions were also reported to have been applied to some children as young as 0–2 years and to adolescents and young adults between 14 and 22 years. As shown in response to Question 5, the most likely placement of a student when the restraint, seclusion, or aversive procedure was implemented was in the special education classroom, but the placement could have also been in other settings including part-time or full-time placement in a regular classroom.

Questions 6 through 9 asked about the nature of the procedures used. In response to Question 6, the most common form of restraint, reported by 350 respondents (48.9%), was a seated hold, with numerous other restraining tactics also used, including holding a student in a prone (182 or 25.4%) or supine position (115 or 16.1%). As noted in Table 1, also in response to Question 6, 197 (27.5%) of respondents indicated that other forms of restraint were used. Examples of these are reported in Table 2. Similarly, Question 7 asked about what types of aversive procedures were used. Among the more common were forcefully being moved to another room or area (reported by 532 or 68%), being held face down (reported by 179 or 22.9%), being held in other positions (reported by 392 or 50.1%), being placed in a dark isolated box or other prolonged physical isolation (reported by 163 or 20.8%), being slapped or pinched (reported by 101 or 12.9%), and having meals or nutrition withheld (reported by 95 or 12.1%). Additionally, 235 (30.1%) respondents

Table 2
Representative Examples of "Other" Responses

Other forms of restraint used (Question 6)	Examples of other specified forms of restraint included strapping the child to a chair, using basket holds (crisscrossing the individual's arms and holding from behind), using four-point holds (one adult holding each limb), twisting the arm behind the back (which resulted in a broken arm in one case), turning off wheelchair to prevent movement, using handcuffs, and various other physical holds.
Other forms of restraint, seclusion, or aversive procedures used (Question 7)	Examples of other types of specified aversive procedures included denying use of the restroom all day; holding nose to get to swallow; kicking, punching and choking; putting spit on face; pushing into a wall; and throwing onto a mat, face first (chipping a tooth), among other procedures.
Other places the student was secluded (Question 8)	Examples of other places where seclusion occurred included bathrooms, an old locker room, closets, kitchens, "sensory rooms," storage areas, janitor's closet, and the hallway.
Other individuals who participated in restraining, secluding, or using aversive procedures (Question 12)	Others listed as participating in restraints, seclusion, or using aversive procedures included paraprofessionals, teacher aids, one-to-one assistants, ABA assistants, bus drivers, school nurse, school police officer, after-school assistant, and residential staff.
Other adverse reactions to restraints, seclusion, or aversive procedures (Question 14)	Common additional reactions to the use of restraints, seclusion, and aversive procedures included the child developing inappropriate behavior such as stereotypical behavior, running away, ripping clothes, self-injury, or tics.
Other individuals or agencies contacted in follow-up to restraints, seclusion, or aversive procedures (Question 20)	Other individuals contacted by parents in response to the use of restraints, seclusion, and aversive procedures included advocates, private attorneys, the police, the district attorney, the American Civil Liberties Union, governors, and members of Congress.

to Question 7 reported other aversive procedures that were used on their child. Examples of these are presented in Table 2.

Question 8 asked about where students were secluded. The most common response reported by 390 (58.5%) respondents was in a special room designed for seclusion. A variety of other locations were also reported, as shown in Table 2. In response to Question 9, 574 respondents (84.4%) said that their child was physically prevented from leaving the seclusion area by an adult or by being locked in the seclusion area.

Questions 10 and 11 asked about the amount of time restraint and seclusion typically occurred. In both cases, most respondents indicated that these actions occurred between 5 and 30 min. On Question 10, regarding restraints, 230 (32%) respondents indicated this was the most common amount of time, and on Question 11 regarding seclusion, 148 (21.9%) selected this amount of time as being most common. For both restraint and seclusion, however, many respondents indicated that these actions could occur for longer amounts of time, up to 1–3 h or more, as shown in Table 1. Also, for both restraint and seclusion, almost 25% of the respondents indicated that they did not know how long the procedures lasted.

Question 12 asked respondents to identify persons who were involved in restraining, secluding, or applying aversive procedures to a student. The most commonly identified individuals, as reported by the respondents, included special education teachers (606 or 71.2%), administrators (370 or 43.5%), behavior specialists (237 or 27.8%), general education teachers (208 or 24.4%), and school counselors (175 or 20.6%). Although we did not provide a response option for the involvement of paraprofessional or nonprofessional personnel, these individuals were often identified as others participating in the actions, as shown in Table 2.

Question 13 contained two parts. The first asked about how often restraints, seclusion, or aversive procedures had occurred in the most recent year, and the second asked about the number of times they had occurred in the child's school history. For the first part of the question, there were 738 responses; of these, 297 (40.2%) respondents said that during the previous school year these actions had occurred between 1 and 10 times. There were 756 responses to the second part of the question; of these, 458 (60.5%) said that during the child's school history the actions had occurred between 1 and 20 times. As a result of these actions, as noted in response to Question 14, 601 (92.2%) respondents said their child experienced emotional trauma, 273 (42.2%) said the child was physically injured, and 217 (33.5%) said there were "obvious signs of physical pain." More specific effects were also reported by 254 (39.2%) respondents and can be seen in Table 2.

Questions 15 through 18 asked respondents to report formal actions that had been taken by schools related to the treatment of their children. Question 15 asked respondents how often they were contacted in writing by the school when the action occurred. Of the 843 responses, 325 (38.6%) said "never," and another 231 (27.4%) said "rarely," that is, less than 50% of the time. Question 16 asked if the respondent consented to the procedure, and 566 of 841 (67.3%) said "no." Question 17 asked if an individual behavior improvement plan had been tried before the use of restraints, seclusion, or aversive procedures was used, and 464 (55.4%) of the 838 respondents answered "no." Finally, Question 18 asked if the actions that occurred had been approved in any formal document, such as an Individual Educational Program or a Behavior Improvement Plan, and 611 of the 841 respondents (72.7%) said "no."

Questions 19 and 20 concerned what parents did in reaction to the treatment of their children. In response to the first part of Question 19, 123 of 721 respondents (17%) said that they had contacted their state's protection and advocacy (P&A) agency or another state agency once or twice in the *previous year*, whereas another 86 (11.9%) said they had made contact three or more times. In response to the second part of Question 19, 159 (21.3%) of 746 respondents said they had made contact with their state's P&A agency once or twice during their child's *entire school history*, and another 195 (26.1%) said they had done so more often. This latter number included 67 persons (9%) who said they had made more than 10 contacts to their state's P&A agency or another state agency. As shown in response to Question 20, 634 respondents said other individuals were also contacted. Examples of these other persons are shown in Table 2.

Questions 21–23 asked the respondents to identify the state they resided in when restraint, seclusion, or aversive procedures were used with their child, the child's primary IDEA disability category, and the child's verbal ability. The final two items were identified as optional.

The geographical distribution of the respondents was presented previously under the "Participants" section on the basis of the responses to Question 21. As shown in Table 1, 456 of 960 (47.5%), the greatest number of respondents to Question 22, identified their child as having an autism spectrum disorder, whereas another 138 (14.4%) said their child was identified as having emotional disturbance or behavioral disorders. Other respondents indicated that their children had other disabilities. In response to Question 23, 451 of the 902 respondents (50%) indicated that their child had adequate verbal ability, but 251 (27.8%) and another 200 (22.2%) said their children were either "verbal but difficult to understand" or "nonverbal," respectively.

Discussion

The findings of this exploratory study add to previous reports on the use of restraints, seclusion, and aversive procedures and indicate that much remains to be done in implementing more positive practices to address student

behavior. The data suggest that many students with disabilities, presumably students who exhibit some form of challenging behavior, are subjected to restraint, seclusion, and aversive procedures, despite the fact that positive behavior support has been the dominant approach recommended for dealing with challenging behavior for many years, corporal punishment in schools has been outlawed in most states, and the mental health field has argued for the use of trauma informed care for several years. It seems clear that many students with disabilities remain subjected to treatments that are not only aversive but that often are counterproductive to the improvement of their behavior and their overall well-being.

The data from this study suggest a depressing picture. The picture shows that students with disabilities, who are most often between the ages of 6 and 10 years with Autism Spectrum Disorders (ASD) or behavioral disorders, are often being restrained and/or secluded in response to their behavior. Sometimes, they are also subjected to other aversive procedures such as being slapped or pinched or having food withheld. The data indicate that the actions usually occur in a special education classroom between 1 and 10 times per year per student. When we look closely at the specific treatments that are used, we see that various types of restraining holds have been used or that the student has been secluded in an area from which he or she cannot escape. When this type of action is used on the student, he or she will often be restrained or held in seclusion for between 5 and 30 min, but sometimes for longer periods of time, even several hours.

Also in the picture generated from the data, we see that teachers, administrators, behavior specialists, paraprofessionals, and other school employees often participate in the action. The data indicate that there usually has been no individually developed behavior intervention plan to proactively address the student's behavior and that the aversive treatment used on the student has neither been written into any formal plan nor has it usually been approved by a parent or guardian. Most of the time, according to the data, the school does not report to the parent or guardian that restraint, seclusion, or an aversive procedure has been used. Quite often, parents and guardians report that the procedure that has been used exacerbates the child's emotional and behavioral challenges, and sometimes, the parent or guardian feels compelled to contact state agencies or key individuals, such as attorneys or elected representatives, to report how their child was treated. Finally, the data indicate that these actions have occurred in almost all of our states and that they have occurred over at least the last several years.

Clearly, these conditions require the attention of policymakers, administrators, practitioners, and parents. However, although we believe that the results of this and previous studies lay sufficient groundwork to examine and improve current policies and practices related to the treatment of students with disabilities, we recognize the limitations of this study. These limitations occurred because of the use of the Internet to collect data, the nature of survey research, and some shortcomings specific to this study.

Using the Internet to collect data for a survey study such as this one has both benefits and drawbacks (Coomber, 1997; Schonlau, Fricker, & Elliott, 2002). Benefits include allowing a great number of respondents to participate in the study at a very low cost, collecting data relatively quickly, reaching participants who might be otherwise difficult to identify and contact such as the parents and guardians who participated in this study, and eliminating the cost of coding responses and entering data. Schonlau et al. recommended using Web-based surveys when a convenience sample is to be used, when participants can be reached through organizations, when the target population is relatively small in relation to the general population, when the sample size is moderately large, when sensitive questions are being asked, and when the survey includes open-ended questions–all conditions that applied to the current study.

The primary drawback related to the use of an Internet-based survey is that the convenience sample, such as that used in this study, does not allow the researcher to maintain that the findings are representative of the target population. In other words, because a probability sample (or random sample) of the target population is not used in the data collection (such as that used when voters are polled during a presidential election), it does not allow the findings to be extrapolated to the target population. In the case of the current study, we cannot state that the respondents were representative of all parents of students with disabilities or of all parents whose children may have been exposed to restraints, seclusion, or aversive procedures. We cannot even assure that all of the respondents themselves were parents or guardians of these students, although this is the group we targeted. Although the intention was for parents and guardians from the APRAIS member organizations to participate in the survey, it is known that, after many of the target respondents became aware of the survey, they notified other parents and organizations about it and sent them the URL link. Therefore, unlike the case with traditional survey procedures, we can neither fully describe the population sample who received the survey nor state a response rate. This is the shortcoming of using a convenience sample.

In addition to the limitations imposed by the use of the Internet, we also need to recognize that, in general, survey research, in which a questionnaire is completed independently by a participant (as opposed to a face-to-face or telephone interview), may be subject to questions about the reliability of responses. That is, the respondents may not understand the questions or response options, and/or perceptions, memories, and emotions may influence particular responses. These factors may affect respondents' answers, causing their responses to be at variance with actual occurrences of incidents and conditions. This possibility may have been elevated in the current study because

of two reasons. First, the questionnaire was determined to have a 12th-grade reading level, and second, some error in responses may have occurred due to the nature of the questions and the fact that some of the responses were based on events that occurred in previous years. There is no way to know how these factors may have affected responses, and this must be considered a limitation of the study.

We also acknowledge that there were some oversights on our part that, if addressed, may have minimized some limitations. Although we spent a great deal of time and used an iterative process to develop the questionnaire, which we feel increased its content validity, we did not pilot test it prior to placing it on SurveyMonkey nor did we use a small sample to determine the reliability of respondents through a test–retest process. Either pilot testing or assessing reliability of respondents may have resulted in a final questionnaire with a lower, more comprehensible reading level. This may have affected the response rate and the accuracy of the responses.

Within the questionnaire, we did not ask the respondents to identify their relationship with the student about whom they were reporting. This would have allowed us to determine if the respondent was a mother, father, guardian, or another individual. Finally, we could not follow up with nonresponders, as is normally done in survey research, because we were not able to identify them. Although we did ask the constituent members of APRAIS to follow up with a reminder about the URL link to the questionnaire 1 week after it became available, we were not able to determine that all had done so or that they reached all possible participants (they sent out reminders).

Because of the various limitations, this study must be considered an exploratory study. However, we feel it is important to point out that there was no incentive for respondents to report anything other than real events and conditions. There was no coercion used to entice respondents to participate and no promised or implied benefit. In fact, as noted previously, we could not even identify the respondent. Therefore, the only motivation to respond was to share information about experiences with the use of restraints, seclusion, and aversive procedures.

Notwithstanding the limitations of the study, the results present a depressing picture and call for immediate attention to federal, state, local, and school policies and practices related to dealing with students with disabilities, who sometimes exhibit challenging behavior. Besides the use of the aversive procedures described in the paper, we were most concerned that there often were not proactive plans for addressing challenging behavior, written plans did not exist within formal documents, and parents often did not know of or agree to any procedures and that they were often not informed by the schools that restraint, seclusion, or aversive procedures had been used. Therefore, in addition to better preparing school personnel to deal with challenging behavior, it is equally important that greater effort be made by schools to develop proactive behavior intervention plans, collaborate with parents so that they are aware of and understand the plans, implement the plans as designed, keep parents informed of the student's progress, and, most importantly, report to parents any use of emergency restraints if they become necessary.

Taking this study in combination with other studies, we believe that there is enough smoke to yell "fire!" Clearly, additional research is warranted. To begin, it is important that we learn about the actual frequency of occurrence of restraints, seclusion, and aversive procedures and the percentage of students exposed to these. This, of course, will not be easy. As explained previously, this study was not able to provide this type of information nor have previous studies. Although it is feasible that more direct measures of these actions could be taken through research, it is unlikely that most schools or districts would allow a researcher to document these kinds of actions. What may be more likely is that schools could be required to monitor and report the occurrence of these actions. This type of data, if it could be reliably collected, audited, and reported, could allow schools, districts, and states to determine if policies and practices are having a desired effect and if the conditions as reported here are continuing to occur.

If we are able to find a way to reliably measure the frequency of the use of restraints, seclusion, and aversive procedures, then we could begin to examine the impact of different policies and practices that are designed to monitor them. This would allow us to determine answers to questions such as whether certain staff development or teacher support programs are effective, how much parental involvement can make a difference, or if applying more mental health services in schools can be effective. What is clear from this study, particularly in combination with previous studies, is that there remains many actions and reactions in schools that are contradictory to the values and research-based practices developed over the past several years regarding the way we should deal with challenging behavior. Last, although additional research is necessary, it is critical that more humane and effective approaches can and should be implemented immediately. Failure to do so runs counter to practically all of the values that drive our delivery of quality educational and support services.

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