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Impact of Organized Activity Participation on Emotional Distress for Adolescents with Disabilities

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Introduction

Adolescents who have been diagnosed with disabilities constitute a significant portion of the school population in the United States. For example, the National Survey of Children's Health identified one in four children ages 12 to 17 as having special healthcare needs in 2019 (Data Resource Center for Child and Adolescent Health, n.d.). These adolescents are often diagnosed with a wide range of conditions, ranging from specific learning difficulties to more global delays across developmental domains. In the school setting, adolescents with disabilities often have an individualized educational program (IEP). Mandated by the Individuals with Disabilities Educational Act (IDEA) of 2004, an IEP is an educational document that describes a child's disability, along with specific supports a child will receive in school to help achieve optimum educational and developmental success (Individuals with Disabilities Education Act, 2004). Approximately 14%— or 7.3 million students—in the United States ages 3 to 21 had an IEP during the 2018–2019 school year (US Department of Education, 2021). Although an IEP does not capture all adolescents with developmental and behavioral concerns, the presence of an IEP is a strong indicator of disability. For example, in 2019 and 2020, students in the United States with a specific learning disability represented 33% of students with an IEP; those with autism spectrum disorder represented 11% of students with an IEP; and those with an intellectual disability represented 6% of students with an IEP (US Department of Education, 2021).

Adolescents with disabilities demonstrate a higher risk for emotional distress compared to age-matched peers (Barnes et al., 2010; Emerson et al., 2007; Gilmore et al., 2013; Stein et al., 2011; Rockett, 2021; Lal et al., 2022). For example, one study demonstrated youth ages 10 to 19 with self-reported chronic physical and mental health conditions had higher odds of self-harm, suicidal ideation, and attempted suicide compared to age-matched peers (Barnes et al., 2010). Exploration of the potential causes for these mental health disparities have identified a variety of influencing factors, ranging from the increased risk for discrimination associated with having a disability (Ditchman et al., 2013), to having a diagnosis that increases the risk for mood or behavioral disorders, and to decreased opportunity or ability to interact positively with peers (Glasson et al., 2020; Whitney et al., 2019). Previous studies also indicate that adolescents with disabilities are targeted for bullying more than their peers, which is an established predictor of increased emotional distress (Arseneault et al., 2010; Holt et al., 2015).

The importance of treatment of mental health issues among adolescents with disabilities cannot be overstated. In 2021, the American Academy of Pediatrics, along with the American Academy of Child and Adolescent Psychiatry and the Children's Hospital Association, declared a national emergency in child and adolescent mental health and called upon the federal government to increase funding and support for mental healthcare among adolescents, including those with disabilities (American Academy of Pediatrics, 2021). Identifying potential protective factors to improve the mental health of adolescents with disabilities, who already experience significant emotional distress, may lead to improved outcomes in this population.

A large body of research has investigated the role of protective factors in decreasing the level of emotional distress among adolescents (Bernat et al., 2006; Resnick et al., 1997). Many protective factors have been identified, including protective home environments, adequate sleep (So et al., 2021), strong parental or other adult relationships (Sieving et al., 2017), and involvement in organized activities, such as sports (Brosnahan et al., 2004; Johnson & Taliaferro, 2011; Boelens et al., 2021). Involvement in organized activities can provide several positive benefits, including fostering strong peer and adult-child relationships, providing a safe environment for adolescents to play, and stimulating adolescents both physically and intellectually. Previous research further supports the benefits of activity involvement on mental health (Johnson & Taliaferro, 2011; Van Boekel et al., 2016). It should follow that adolescents with disabilities would benefit from involvement in organized activities to protect against emotional distress.

The importance of protective factors can be considered using the Positive Youth Development Framework (YouthPower2, 2024). In this framework, stakeholders are encouraged to develop policies and practices that support four domains of youth development: (1) an enabling environment, (2) assets to achieve desired outcomes, (3) agency to employ these assets, and (4) contribution to the broader community (YouthPower2, 2024). Activity involvement can provide an enabling environment that can include healthy relationships with adult mentors, belonging and membership in a nonjudgmental community, and access to age- and disability-appropriate services. This provides a space to develop assets and the agency to use those assets in different contexts, leading to further opportunities for youth to engage and make contributions at various levels.

Despite many identified benefits, adolescents with disabilities often report lower levels of organized activity involvement when compared to their peers (Abells et al., 2008; Solish et al., 2010; Taheri et al., 2016; MacEachern et al., 2022). Differences in activity involvement may be due to several factors, such as negative parental perceptions around activity involvement, a lack of activities adapted to adolescents with disabilities, a lack of appropriately trained personnel, and a lack of free time for activities outside of scheduled therapy sessions (Badia et al., 2011; Badia et al., 2013). For example, a parent may assume that their child would not be able to participate in activities due to disability (Hararika et al., 2017). A survey of school teachers indicated that teachers feel they do not have the time and resources available to support activity involvement in adolescents who have IEPs, or feel it is their responsibility (Agran et al., 2017).

Although a higher risk of co-occurring mental health conditions among adolescents with disabilities and a positive benefit of activity involvement are both well-recognized in the literature, few studies have evaluated the possible overlap between these two areas. There is a paucity of research examining the positive benefits of activity involvement for adolescents with disabilities. Evidence supporting the mental health benefits of activity involvement for this population would be helpful in supporting and encouraging parents, families, educators, and healthcare practitioners to both design and promote inclusive pathways for activity involvement.

The goal of the current study, therefore, is to examine the associations between having an IEP and emotional distress among adolescents and the potential protective association of organized activity involvement on emotional distress symptoms among adolescents with an IEP.

Methods

Study Design and Sample

This study used cross-sectional self-report data from a 2019 anonymous statewide surveillance survey that is conducted every three years by Minnesota's Departments of Health, Human Services, Education, and Public Safety. The survey includes responses from fifth, eighth, ninth, and eleventh grade students (selected by these state agencies to assess well-being among students in select upper elementary, middle, and high school grades). All public school districts in the state are invited to participate in each cycle, with 81% of the districts participating in 2019. The present study excluded fifth grade students (who completed a shortened version of the study that did not include all items pertaining to our research question). Participation rates were 83.3% of eighth grade students, 75.3% of ninth grade students, and 62.9% of eleventh grade students, resulting in a very large and highly representative sample of students (N=125, 375)—approximately 64% of total enrollment in these grades statewide. Surveys were administered online and included approximately two-hundred-fifty questions (for those who did not bypass items due to skip patterns). Students received the same accommodations for filling out the survey as they do for their usual classroom activities, tests, and so forth. Approximately 2% of surveys were discarded from the full sample due to patterns suggesting mischievous responders (Cimpian et al., 2018). This analysis was exempted from review by the University of Minnesota's Institutional Review Board due to the use of existing anonymous data.

Measures

The Minnesota Student Survey (MSS) is a self-report surveillance instrument, with items drawn from the Centers for Disease Control and Prevention's (CDC) Youth Risk Behavior Surveillance Survey (Centers for Disease Control and Prevention, 2023) and other large epidemiologic surveys (e.g., the California Healthy Kids Survey) (California Department of Education, 2024). The survey is revised at each wave by the MSS Interagency Team, in collaboration with experts in adolescent health research and input from community partners. Brief items are used for all constructs, given the range of survey content and the constraints of school-based administration; all are widely used and have high face validity for easy interpretation by students.

All students were asked one item to assess IEP status: "Do you receive special education services as part of an individual education plan or IEP?" with response options of yes, no, and not sure. Students who answered "not sure" (19.2%) were removed from further analysis, based on evaluation of outcome variables (i.e., prevalence rates of each type of emotional distress symptom among the "not sure" group fell in-between the "yes" and "no" groups, suggesting a mix of those with and without an IEP). The final analytic sample therefore included 101,570 eighth, ninth, and eleventh grade students. Recent research suggests that students are more accurate in reporting IEP status than disability status (Shogren et al., 2023).

The survey includes a question that asks, "During a typical week, how often do you participate in the following activities outside of the regular school day?" and allows respondents to list involvement in eight activity categories (sports teams, school sponsored activities or clubs, tutoring/homework help, leadership activities, artistic lessons, physical activity lessons, community clubs/programs, religious activities), including the total number of days per week they are involved in each activity (five response options, ranging from zero to five or more days per week). Responses to this question were summed for all eight activities, then categorized based on total number of activity days per week; zero activity days per week, one to four activity days per week, and five or more activity days per week, as done previously (Wilhelm et al., 2021).

Five emotional distress symptoms were assessed: depression, anxiety, and history of self-harm, suicidal ideation, and suicide attempt.

Measures of depression and anxiety were identified by four items (PHQ-4) with established reliability and validity (Kroenke et al., 2009). The question stem asked, "Over the last two weeks, how often have you been bothered by . . . " Subparts indicating depressive symptoms included "little interest or pleasure in doing things," or "feeling down, depressed, or hopeless"; subparts indicating anxiety symptoms included "feeling nervous, anxious, or on edge," or "not being able to stop or control worrying." Four response options ranging from "not at all" (zero) to "nearly every day" (three) were summed and dichotomized at a score of three for the depressive symptoms and

anxiety symptoms (separately), as recommended (Kroenke et al., 2003).

To measure episodes of self-harm, one item was provided which asked, "During the last twelve months, how many times did you do something to purposely hurt or injure yourself without wanting to die, such as cutting, burning, or bruising yourself on purpose?" Responses ranged from "zero times" to "twenty or more times." Due to extreme skewness in the distribution, responses were dichotomized as any vs. no self-harm.

Suicidal ideation and suicide attempts were assessed with two items: "Have you ever seriously considered attempting suicide?" and "Have you ever actually attempted suicide?" For each, respondents who marked "yes, during the last year," and/or "yes, more than one year ago," were marked as yes and contrasted with those who marked no.Poverty status was measured with two items related to food or housing insecurity: "During the last thirty days, have you had to skip meals because your family did not have enough money to buy food?" (yes/no), and "During the past twelve months, have you stayed in a shelter, somewhere not intended as a place to live, or someone else's home because you had no other place to stay?" (three options: no, yes with or without adult family members). Respondents with positive responses to either question were grouped as experiencing poverty.

Relevant demographic information for our study included biological sex (male or female), grade level, and race/ethnicity, which was separated into eight categories: Asian, African American, Hispanic, Hawaiian-Pacific-Islander (HPI), Native American, White, multiple, or no answer.

Statistical Analysis

Pearson chi-square tests were used to examine bivariate associations between demographic variables, emotional distress symptoms, and activity involvement by IEP, as is appropriate for dichotomous and categorical variables with different distributions.

Logistic regression was used to generate odds ratios for dichotomous emotional distress symptoms based on IEP status (reference = no) and activity involvement category (using zero activity days as the reference group) (Korn & Graubard, 1999). Adjusted models included demographic covariates listed above. An interaction term (IEP x activity involvement) was used to test for effect modification; results indicated significant differences in the protective association between activity days and mental health for those with and without IEP, so final models were stratified by IEP status. Statistical significance was set to p < 0.05 for all analyses.

Results

Descriptive statistics are presented in table 1. Survey respondents were relatively evenly split between males and females and across grade level. Approximately 2/3 of the sample identified as White. Approximately 12% (N = 12,062) of respondents self-reported having an IEP. Many respondents reported at least one type of emotional distress, for example, 21.7% experienced depressive symptoms.

Table 1. Characteristics of the Sample, N = 101,570

Variable	N	%
Sex		
Male	50,682	50.0
Female	50,651	50.0
Grade		·
Eighth	35,945	35.4
Ninth	34,963	34.4
Eleventh	30,662	30.2
Race/Ethnicity		
Asian	5,826	5.7
African American	7,658	7.5
Hispanic	5,645	5.6
HPI	203	0.2
Native American	1,111	1.1
White	71,719	70.6
Multiple	8,674	8.5
No answer	734	0.7
Poverty		
Yes	10,447	11.1
IEP		
Yes	12,062	12.0
No	88,418	88.0
Depressive Symptoms		
Yes	20,090	21.7
Anxious Symptoms		
Yes	23,663	25.6
History of Self-Harm		
Yes	15,959	17.1
History of Suicidal Ideation		
Yes	19,472	21.2
History of Suicide Attempt		
Yes	7,044	7.7
Activity Involvement		
0 activity days	20,768	21.3
1-4 activity days	41,191	42.2
5+ activity days	35,638	36.5

IEP, Emotional Distress Symptoms, and Activity Involvement

Bivariate tests of association demonstrate significant differences in emotional distress symptoms between students with and without an IEP (table 2). Students with an IEP reported significantly higher rates of depression, anxiety, self-harm, suicidal ideation, and suicide attempt than those without (p < 0.001 for all). For example, students with an IEP reported more than double the prevalence of suicide attempts compared to their peers without an IEP (15.3% versus 6.7%, p < 0.001).

Table 2. Demographic Variables and Activity Days Distributed by IEP Status, N = 101,570.

Variable	IEP—Yes (%)	IEP—No (%)	$\chi^{2}(\mathbf{p})$
Symptoms			
Depressive Symptoms	28.3	20.8	296.5 (<0.001)
Anxious	31.5	24.8	216.9 (<0.001)
Self-Harm	24.8	16.2	487.4 (<0.001)
Suicidal Ideation	29.8	20.1	506.1 (<0.001)
Suicide Attempt	15.3	6.7	933.2 (<0.001)
Sex			631.8 (<0.001)
Male	60.7	48.5	
Female	39.3	51.5	
Grade			117.5 (<0.001)
8 th	30.9	35.9	,
9 th	37.3	34.0	
11 th	31.8	30.1	
Race/Ethnicity			605.1 (<0.001)
Native American	2.6	0.9	
Asian	3.7	6.0	
African American	8.6	7.3	
Hispanic	6.9	5.3	
HPI	0.4	0.2	
White	66.4	71.4	
Multiple	10.4	8.3	
No answer	1.0	0.6	
Poverty			1054.7 (<0.001)
Yes	19.9	9.6	
No	80.1	90.4	
Activity Days			1216.5 (<0.001)
0	33.5	19.7	
1–4	39.1	42.6	
5+	27.5	37.7	

Students with an IEP had a higher prevalence of 0 activity days per week compared to peers without an IEP (33.5% vs. 19.7%, p < 0.001; table 2). Likewise, students with an IEP had a lower prevalence of 5+ activity days per week than those without (27.5% vs. 37.7%, p < 0.001).

Level of activity involvement was associated with emotional distress among the entire sample (table 3). There was a significant difference in emotional distress symptoms for students who reported 1-4 or 5+ activity days per week compared to 0 activity days (all p < 0.001), although differences between 1-4 and 5+ activity days per week were generally smaller. For example, 30.0% of respondents with no activity days per week reported depressive symptoms, versus 20.7% of respondents reporting 1-4 activity days per week and 18.1% of respondents reporting 5+ activity days per week.

Table 3. Distribution of Emotional Distress Symptoms by Number of Activity Days Per Week, N = 101,570

	Depressive symptoms (%)	Anxiety symptoms (%)	Self-harm (%)	Suicidal ideation (%)	Suicide attempt (%)
Activity Days					1
0	30.0	31.0	21.3	28.4	1.9
1-4	20.7	24.6	16.4	20.6	7.0
5+	18.1	23.5	15.6	17.9	6.0
$\chi^{2}(p)$	1069.1 (<0.001)	399.2 (<0.001)	308.9 (<0.001)	821.2 (<0.001)	650.1 (<0.001)

Association of Emotional Distress and IEP Status

Logistic regression analysis showed that students with an IEP had significantly higher odds of all indicators of distress than those without an IEP, after adjusting for sex, grade, race/ethnicity, and poverty status (all p < 0.001; table 4). For example, students with an IEP had more than double the odds of having attempted suicide compared to peers without an IEP (OR = 2.35, CI: 2.20–2.51).

Table 4. Odds Ratios (95% CI) for Emotional Distress Symptoms for Youth with an IEP Compared to Youth Without an IEP

	Depressive symptoms	Anxiety symptoms	Self- harm	Suicidal ideation	Suicide attempt
Has an IEP^	1.48	1.48	1.75	1.69	2.35
	(1.41, 1.55)	(1.41, 1.55)	(1.66, 1.84)	(1.61, 1.78)	(2.20, 2.51)

Note. Boldface font denotes statistical significance (p < .05)

Association of Activity Involvement and Emotional Distress, Stratified by IEP Status

Because tests of effect modification indicated differences in the association between activity days and mental health for students with and without an IEP, final models were stratified by IEP status. As shown in table 5, adolescents involved in 1-4 and 5+ activity days per week had lower odds of depression, anxiety, self-harm, suicidal ideation, and suicide attempt than those with no involvement (p < 0.001) among students with and without an IEP. Associations were weaker among students with an IEP, but activity involvement remained significantly inversely associated with depression, anxiety, suicidal ideation, and suicide attempt (p < 0.001). For example, the odds of screening positive for depressive symptoms were approximately 51% lower for students without an IEP who were highly involved in activities (5+ activity days per week: OR = 0.49, CI: 0.47, 0.52); in contrast, the odds of a positive depressive symptom screen were approximately 24% lower (OR = 0.76, CI: 0.67, 0.85) for students with an IEP who were highly involved in activities.

Table 5. Odds Ratios (95% CI) for Emotional Distress Symptoms for Youth who are Moderately (1–4 days/week) and Highly (5+ day/week) Involved in Activities, stratified by IEP status^

	Depressive symptoms	Anxiety symptoms	Self-harm	Suicidal ideation	Suicide attempt
Has an IEP Activity days					
0					
1-4	0.79 (0.71, 0.88)	0.88 (0.79, 0.97)	0.90 (0.81, 1.01)	0.88 (0.79, 0.98)	0.71 (0.62, 0.81)
5+	0.76 (0.67, 0.85)	0.84 (0.75, 0.95)	0.92 (0.82, 1.04)	0.81 (0.72, 0.91)	0.73 (0.63, 0.84)
No IEP Activity days					
0					
1-4	0.62 (0.59, 0.65)	0.72 (0.69, 0.75)	0.73 (0.69, 0.76)	0.67 (0.64, 0.70)	0.64 (0.59, 0.69)
5+	0.49 (0.47, 0.52)	0.61 (0.59, 0.64)	0.64 (0.61, 0.67)	0.52 (0.50, 0.55)	0.52 (0.48, 0.56)

Note. Boldface font denotes statistical significance (p < .05)

Discussion

This analysis of an anonymous 2019 statewide survey shows a substantial proportion of youth receive academic support through an IEP, and these students report less involvement in organized activities compared to peers who do not have an IEP. Involvement in organized activities was associated with a lower prevalence of emotional distress among all adolescents in the survey, with a significant difference in odds of symptoms of depression, anxiety, suicidal ideation, and suicide attempt among students with an IEP.

Students with an IEP also report a significantly higher prevalence of depression, anxiety, self-harm, suicidal ideation, and suicide attempts. This reflects previous literature on the mental health of adolescents with disabilities (Dossetor et al., 2011; Barnes et al., 2010; Whitney et al., 2019).

Students with an IEP reported less activity involvement than peers without an IEP, with a higher percentage of students with an IEP reporting no involvement. Differences in activity involvement may represent the tendency for more students without an IEP to be involved in 5+ activity days per week, likely due to involvement in multiple activities during a typical school week (for example, both music and sports). Lower levels of activity involvement for students with an IEP may be due to a variety of reasons (MacEachern et al., 2022; Yu et al., 2022). For example, students with an IEP may have disabilities that prevent them from being involved in "able-bodied" activities, such as high-impact sports like football, and there may be a lack of available "adapted" equipment or preplanning for inclusive activities for those with physical or intellectual disabilities. Trained inclusion facilitators may also be lacking. Students with significant disabilities may also have no time to participate in outside activities because of frequent appointments for physical or occupational therapies, behavioral therapy, social skills groups, or similar medical or therapeutic appointments. Parents may feel uncomfortable letting their children participate in organized activities due to concern for the child's ability to participate safely without being bullied by their peers. More recently, disparities in the availability of organized activities, along with parent and caregiver worry about the health and

[^]adjusted for sex, grade, race/ethnicity, and poverty status

⁻⁻ reference category

safety, may have worsened the isolation of students from activities during the height of the COVID-19 pandemic (Aishworiya et al., 2021; Neece et al., 2020).

Activity involvement had a protective association for several types of emotional distress compared to no activity involvement. Interestingly, emotional distress levels appear to be lower at higher levels of activity involvement, but only for students without an IEP. When stratified into groups, among students with an IEP, odds were similar when comparing 1–4 activity days to 5+ activity days per week. Associations were weaker for those with an IEP than those without. The difference in this response may reflect the fact that higher frequency involvement or involvement in multiple activities may compound the stress that is already felt by adolescents with disabilities and their families (Hayes & Watson, 2013); this difference may also reflect that students with fewer emotional distress symptoms at baseline may be more likely to participate in multiple activities. Thus, there may be a protective association for involvement in a small number of activity days per week for adolescents with an IEP, although the types of activities in which students with an IEP participate deserve further investigation.

Strengths and Limitations

This study has several strengths. It used survey data from a large sample of middle and high school students from different racial, ethnic, and socioeconomic backgrounds, recruited without reference to IEP or disability status. The survey included multiple measures of emotional distress and multiple types of after-school activities, encompassing a wide range of activity involvement. Survey data was not obtained in a clinical setting, helping to strengthen real-world comparisons between groups.

This study also has several notable limitations. First, this is a secondary analysis of a cross-sectional survey that relies on a student's self-report. Students with and without disabilities may have difficulty accurately reporting IEP status, emotional distress symptoms, and the number of activity days per week. Students with more severe disabilities were likely not captured if they were unable to complete the survey, limiting the ability to generalize the results to all students with disabilities. Second, IEP status was used as a proxy of disability status, as IEPs often include students with a wide array of disabilities. This approach differs from previous analyses, which instead used items discussing physical or mental, behavioral, and emotional problems to identify student respondents with disabilities (Dossetor et al., 2011). While IEP status can be used as an encompassing measure for students with disabilities, it may not capture all students with disabilities (e.g., students with ADHD, who often receive services under a 504 plan instead of an IEP). Finally, the key independent variable of IEP status included "not sure" as one of the response options. Approximately 20% of the respondents in the 2019 study sample answered "not sure" to the IEP question; school records could not be used to classify students due to the anonymous nature of data collection. Comparison of demographic and emotional distress data for each answer category (yes, no, and not sure) indicated that the "not sure" respondents likely represent a mixture of students with and without an IEP. To overcome this limitation, respondents who answered "not sure" were removed from further analysis. Despite having an adequately sized sample after removing these respondents, this represents a significant portion of respondents who are no longer captured in this analysis. The underlying reason for answering "not sure" could be reflective of misunderstanding what having an IEP means to the students or that the students are unclear of whether they are receiving IEP-based supports due to limited involvement in the IEP process (Sanderson & Goldman, 2021). It may also reflect a limited understanding of the survey language itself if a student's underlying disability limits reading comprehension. While this may limit the conclusions that can be made from the data, this finding highlights the importance of helping students with an IEP understand the level of special education support they receive so they can better advocate for and use resources in the school setting. Future iterations of the survey should consider either adjusting the question to remove the "not sure" answer or to cross-reference responses with existing school data to clarify whether an accurate number of students with an IEP are represented in this survey.

Implications for Youth Development

Using survey data from a large population-based sample of students across a midwestern state, this research supports existing literature that students with disabilities, as measured by the presence of an IEP, are at higher risk for emotional distress and have less frequent participation in organized activities compared to peers without disabilities. This

research advances the extant literature by demonstrating the potential protective role of activity involvement against emotional distress, specifically for adolescents with disabilities. Those working with and on behalf of adolescents with disabilities should consider the potential protective role of activity involvement in this population and should encourage these adolescents to consider organized activity involvement to boost mental health. At the community level, professionals working with youth-serving organizations should advocate for funding to be allocated toward providing practical tools and training for coaches and club leaders to ensure that they are able to help organize and support inclusive, accessible activities for adolescents with disabilities. When meeting with patients and families with disabilities, clinicians should inquire about activity involvement and explore what inclusive opportunities are available for adolescents to get involved in activities outside of school or medical appointments, whether it is a club, religious group, or adaptive or fully integrated sport. School leaders and educators should prioritize the design of welcoming and inclusive extracurricular activities outside of the normal daily class schedule to promote physical and mental well-being among all students, especially students with disabilities who are not participating at the same rates as their peers. Parents and guardians should be encouraged to include extracurricular activities and designed supports in an IEP, so their children can fully participate in their school community. Clinicians can play a key role in alleviating parents' hesitancy by sharing with them that the Individuals with Disabilities Education Act (IDEA) of 2004 includes the rights of their children to receive reasonable supports and accommodations for both in-school and after-school activities that the school provides. For example, in 2011, the Minnesota Supreme Court clarified that students with disabilities must be afforded equal opportunity to participate in extracurricular and nonacademic activities, and that such activities that may be included in an IEP are not limited to those required to educate a child (PACER Center, 2021).

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