

Self-Stigma of Canadian Youth With ADHD and Their Parents

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Abstract

Objective: ADHD is subject to stigma from the general population. Exposure to stigma poses the risk of developing self-stigma of youth and parents, but few studies have focused on self-stigma of ADHD. Furthermore, parental factors have been implicated in self-stigma of youth, but no previous research has assessed the association between self-stigma of parents and youth. Therefore, the objective of this study was to better understand the experience of self-stigma of youth and their parents in the context of ADHD. **Method:** Fifty-five youth with ADHD (aged 8-17) and one parent reporter per youth completed surveys to report their experiences. **Results:** The results of this study found that both youth and parents reported significantly lower self-stigma scores compared to most previously published research. Parents of boys reported higher self-stigma scores compared to parents of girls. Youth who reported higher self-stigma also reported lower self-esteem. Self-stigma scores in youth were predicted by inattentive symptoms but not hyperactive/impulsive symptoms or parental self-stigma. **Conclusion:** Results emphasize the importance of understanding self-stigma of ADHD, symptom severity, and the need for interventions for families with ADHD. (*J. of Att. Dis.* 2024; 28(12) 1598-1611)

Keywords

ADHD, self-stigma, self-esteem, parents, youth, family

Individuals with mental health challenges and their families are often subject to stigma from the general population (Stier & Hinshaw, 2007). Stigma occurs when the general population holds negative views about a group of people (stereotypes), reacts with negative affect (prejudice), and treats members of the group in ways that are unjust and unfair (discrimination; Kaushik et al., 2016). Exposure to stigma poses the risk of developing “self-stigma” (Corrigan & Watson, 2002). Self-stigma occurs when a person becomes aware of others’ prejudiced beliefs, accepts the prejudiced beliefs as true, and applies those beliefs toward themselves (Corrigan & Rao, 2012). Experiences of self-stigma are then associated with various negative outcomes, such as lower self-esteem, more severe psychiatric symptoms, and increased suicidal ideation (Catalano et al., 2021; Fox et al., 2018).

Concerningly, youth are not excluded from experiencing self-stigma due to mental health challenges. Similar to adults, higher self-stigma of youth is associated with lower self-esteem, worse quality of life, and less adaptive coping strategies (Kaushik et al., 2017; Moses, 2014). Furthermore, a unique consideration in youth compared to adults is the influence of parent perceptions (Moses, 2010). Specifically, adolescents report higher levels of self-stigma when their parents express a greater desire to conceal their child’s mental health problems and are less optimistic about their

child’s future (Moses, 2010). As such, parental perceptions related to their children may be an important factor to consider when exploring self-stigma of youth.

Parents of youth with mental health challenges may also experience self-stigma toward themselves as parents (Eaton et al., 2020). Parental self-stigma is typically characterized by feelings of self-blame for causing their child’s condition, self-shame for being associated with a child that has a stigmatizing condition, and self-beliefs regarding being bad parents (Eaton et al., 2019, 2020). Greater levels of parental self-stigma are also associated with negative outcomes such as higher levels of anxiety, stress, and depression in the parents (Eaton et al., 2020; Li et al., 2019; Serchuk et al., 2021). Similarly, greater parental self-stigma is also associated with more externalizing and internalizing symptoms and fewer prosocial behaviors in children (Eaton et al., 2020; Li et al., 2019). Overall, previous research suggests both youth with mental health challenges and their

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parents may develop self-stigma and that these experiences are related to worse well-being outcomes.

ADHD

ADHD is a common neurodevelopmental disorder with prevalence estimates as high as 5% to 12% in children (American Psychiatric Association [APA], 2022; Hauck et al., 2017). The disorder is characterized by symptoms of inattention, hyperactivity, and impulsivity that persist for at least 6 months and develop before the age of 12 years (APA, 2022). Inattention can present as an inability to resist distractions, difficulty remembering and following instructions, and problems with planning and organization (APA, 2022). Hyperactivity tends to present as excessive and inappropriate activity, such as running around or talkativeness (APA, 2022). Impulsivity can look similar to hyperactivity and may present as risk-taking behavior or intrusiveness (APA, 2022). Furthermore, individuals with ADHD often experience impairments in academic, social, physical, and emotional well-being domains (APA, 2022). Given the high prevalence of ADHD and its widespread effects, it is important to better understand the challenges that individuals with ADHD face and how to best support them.

Stigma Toward ADHD

As with most mental health challenges, individuals with ADHD are subject to stigma from the general population (Bisset et al., 2021; Nguyen & Hinshaw 2020). Despite the increase in public awareness of ADHD over the last 20 years (Abdelnour et al., 2022; Xu et al., 2018), recent research suggests that adults may still view ADHD to be less favorable compared to children without ADHD (Bisset et al., 2021; Nguyen & Hinshaw 2020). Similarly, participants of all ages report preferring to maintain social distance from children with ADHD symptoms (Bisset et al., 2021; Nguyen & Hinshaw 2020). Public stigma may also be present at school, as teachers may be more likely to rate students with ADHD as performing below grade level compared to students without ADHD, regardless of demonstrated ability on tests (Metzger & Hamilton, 2020). Overall, research suggests that the general public may still hold stigmatizing views toward individuals with ADHD.

Experiences of stigma toward ADHD have been corroborated by reports from individuals with ADHD themselves (McKeague et al., 2015; Varma & Wiener, 2020). Specifically, adults with ADHD describe experiences of being bullied, feeling different, and experiencing social exclusion, both presently and as children and adolescents (McKeague et al., 2015; Schoeman & Voges, 2022). Similarly, adolescents with ADHD report feeling that they are treated differently compared to youth without ADHD and that adults and peers hold stigmatizing views of

ADHD-related behaviors (Varma & Wiener, 2020; Wiener et al., 2012). Furthermore, youth with ADHD who report higher perceptions of stigma are less likely to engage in mental health services, have worse social outcomes, and report worse global self-worth (Bisset et al., 2021). Overall, research strongly suggests that individuals with ADHD are subject to stigma from the general population and that these experiences may negatively impact their well-being.

Parents of youth with ADHD are also subject to stigma from the general population. Previous research suggests that mothers of youth with ADHD feel both social stigma pressure and a sense of self-blame for their child's ADHD (Koro-Ljungberg & Bussing, 2009; Nguyen & Hinshaw 2020). Furthermore, parents may also experience feelings of isolation from other parents and being dismissed by school and health care professionals (Nguyen & Hinshaw 2020). Concerningly, higher reports of stigma in parents of children with ADHD are associated with more severe child ADHD symptoms and aggressive behavior, unfavorable attitudes toward ADHD, and more feelings of distress (Chang et al., 2020; Charbonnier et al., 2019; Mikami et al., 2015). Overall, parents of youth with ADHD are also subject to stigma from the general population.

Self-Stigma in ADHD

Given the presence of public stigma toward ADHD, there is also the possibility of those with ADHD internalizing this public stigma, resulting in feelings of self-stigma. In qualitative interviews, young people with ADHD have described feeling different from their peers and experiencing bullying and social isolation (Jones & Hesse, 2018; McKeague et al., 2015). Consequently, some participants describe trying to reject the idea that they have ADHD or being selective in whom they disclose their diagnosis to Jones and Hesse (2018), McKeague et al. (2015). Evidence from quantitative research suggests that higher reports of self-stigma in adults and/or youth with ADHD are associated with greater ADHD symptoms, more functional impairments, lower self-esteem, worse quality of life, and problematic smartphone use (Lee et al., 2023; Masuch et al., 2019; Quenneville et al., 2020). As such, the present state of literature suggests that individuals with ADHD experience self-stigma and many of the associated negative outcomes.

Self-Stigma of Parents of Youth With ADHD

In addition to individuals with ADHD themselves experiencing stigma and self-stigma, parents of youth with ADHD report similar experiences. Parents of youth with ADHD describe being blamed for their child's condition or behavior and being concerned about being labeled as "bad

parents” (DosReis et al., 2010; Koro-Ljungberg & Bussing, 2009). Blame, in particular, is a common theme in literature, with many parents of children with ADHD feeling blamed for their child’s behavior and/or diagnosis (Gwernan-Jones et al., 2015). These experiences align with our current understanding of parental self-stigma (Eaton et al., 2020). Considerably less research has looked at parental self-stigma, but available literature suggests that higher reports of self-stigma of mothers of children with ADHD are associated with worse mother self-esteem, more severe child ADHD symptoms, and lower mother education level (Özaslan & Yıldırım, 2021). Overall, parents of youth with ADHD are likely to experience parental self-stigma.

Current Study

This study aims to further explore the experiences of self-stigma of youth with ADHD and their parents. Youth with various mental health conditions and their parents have reported experiencing self-stigma (Eaton et al., 2016). Currently, ADHD is still subject to stigma from the general population (Bisset et al., 2021), however, little research has examined self-stigma in youth with ADHD. Therefore, the current study sought to answer the following questions:

Research Questions and Hypotheses

What Are the Experiences of Self-Stigma in Youth With ADHD? Previous research has found that self-stigma is evident in youth populations with various mental health conditions (Kaushik et al., 2017, 2023; Moses, 2009, 2014). Presently, no known study has looked at self-stigma differences by age, however, ratings on the same scale using different age groups have found comparable self-stigma values (Kaushik et al., 2017, 2023; Khalil et al., 2020; Moses, 2009, 2014). Similarly, no gender differences have been found in studies on mental health self-stigma ratings (Gaziel et al., 2015; Jaber et al., 2015; Moses, 2009; Pfeiffer & In-Albon, 2023). Therefore, this study hypothesizes that youth with ADHD will have comparable self-stigma self-report scores as previous studies using the same scale and that there will be no differences based on gender or age.

Research on adults with various mental illnesses has largely found that higher ratings of self-stigma are associated with worse ratings of self-esteem (Catalano et al., 2021; Rodrigues et al., 2013). These results have also been supported in children and adolescents with various mental health conditions (Kaushik et al., 2017; Moses, 2009). Therefore, this study hypothesizes that greater self-stigma will also predict worse self-esteem in youth with ADHD.

What Are the Experiences of Self-Stigma in Parents of Youth With ADHD? Looking at previous research, parental self-stigma has been reported in parents of children with ASD

or a variety of mental disorders (Eaton et al., 2020; Moses, 2010; Trigueros et al., 2022). To date, no child age differences have been found in parental self-stigma scores, however, no known study has looked at the age range of 8 to 17 years (Özaslan & Yıldırım, 2021). Similarly, no child gender differences have been found in parental self-stigma scores (Eaton et al., 2020; Özaslan & Yıldırım, 2021). Therefore, this study hypothesizes that parental self-stigma ratings will be comparable to previously reported self-stigma ratings using the same scale and that no child age or gender differences will be present.

Do Greater Parental Self-Stigma and More Severe ADHD Symptoms Predict Worse Youth Self-Stigma in Youth With ADHD? No known previous research has compared the association between parental and youth self-stigma. However, previous research has found associations between youth self-stigma and parent factors. For example, parents’ desire to conceal their child’s condition, shame regarding their child’s condition, and more experiences of courtesy stigma were associated with greater self-stigma in adolescents (Moses, 2010). Similarly, factors in youth, such as greater internalizing and externalizing symptoms and fewer prosocial behaviors are associated with greater self-stigma in parents (Eaton et al., 2020; Li et al., 2019; Trigueros et al., 2022). Thereby, this study hypothesizes that greater parental self-stigma and more severe ADHD symptoms will predict greater self-stigma in youth with ADHD.

Methods

Sample and Study Design

A total of 55 families participated in the study, including youth aged 8 to 17 years and one parent reporter per child. Three youth participants were dropped due to IQ scores below 85 to ensure that the participants understood the questions that they were being asked and that the results obtained were due to the presence or absence of ADHD and not influenced by lower cognitive abilities. The final sample size was 52 families. Participants were recruited from across Canada through in-person (e.g. community centers, the University of Calgary, grocery stores, and coffee shops), social media (i.e., Strengths in ADHD lab accounts, personal accounts, support groups for families with ADHD, and community groups) and ADHD websites and partners including the Canadian ADHD Resource Alliance (CADDRA), Centre for ADHD Awareness Canada (CADDAC), Learning Disabilities Association of Alberta (LDAA), and CanLearn. Parents completed an online survey after providing informed consent. Youth participants completed their measures over Zoom with a researcher after giving assent. Families were compensated with a \$25 gift card. All youth participants had an ADHD diagnosis from a recognized medical or mental

Table 1. Demographic Information.

Variable	Category	<i>n</i>	%	<i>M</i>	<i>SD</i>
Child age (years)		—	—	11.19	2.56
Child gender	Male	33	63.5	—	—
	Female	19	36.5	—	—
Parent gender	Male	5	9.6	—	—
	Female	47	90.4	—	—
Conners 3-P(S)	Inattention index	—	—	75.13	12.37
	Hyperactive/impulsive index	—	—	75.48	13.50
WASI-II	Full-Scale IQ	—	—	112	11.84
Medication status	Medicated	41	78.8	—	—
	Unmedicated	10	19.2	—	—
Family ethnicity	White/Caucasian	40	76.02	—	—
	Black/African Canadian	1	1.92	—	—
	First nation/metis	1	1.92	—	—
	Asian	1	1.92	—	—
	Middle eastern	1	1.92	—	—
	Mixed	8	30.77	—	—
Parent education	High school diploma	1	1.9	—	—
	Some college/university	5	9.6	—	—
	College diploma	8	15.4	—	—
	Undergraduate degree	15	28.8	—	—
	Graduate degree	17	32.7	—	—
	Doctorate degree	6	11.5	—	—

health professional and no indication or previous diagnosis of autism spectrum disorder, epilepsy, or gross neurological, sensory or motor impairments, based on parent reports. The average age of youth participants was 11.19 years ($SD=2.56$) with 36.5% of youth participants identifying as female and 63.5% identifying as male. For the parents, 90.4% identified as female and 9.6% identified as male. Further demographic information is listed in Table 1. This study was approved by the Conjoint Faculties Research Ethics Board at the host institution.

Measures

Wechsler Abbreviated Intelligence Scales, Second Edition (WASI-II)

Full-Scale Intelligence Quotient (FSIQ) scores were calculated using the WASI-II (Wechsler, 2011). The WASI-II offers a modified two-subtest administration consisting of Vocabulary and Matrix Reasoning. These two subtests do not include physical manipulatives which makes the tool ideal for online testing, as was done in the present study. The final calculated score is a standardized score that compares each participant's performance to youth their age from the norm sample.

The WASI-II was normed on a sample of 2,300 individuals ranging from 6 to 90 years of age matching the gender, age, race/ethnicity, geographical location, and

educational level of the United States at the time of norming. Reliability assessments of the WASI-II have found reliability coefficients in the good to excellent range ($\alpha=.87-.97$) for subtest scores and in the excellent range ($\alpha=.93-.94$) for the simplified FSIQ-2 measure used in this study (Wechsler, 2011). Similarly, test-retest assessments found that administering the WASI-II twice within 12 to 88 days yielded acceptable to excellent stability coefficients for the subtests ($\alpha=.79-.90$; McCrimmon & Smith, 2013) and good to excellent coefficients for the composites ($\alpha=.87-.95$; McCrimmon & Smith, 2013). Finally, the WASI-II also shows interrater reliability in the excellent range across subtests ($\alpha=.94-.99$), supporting the use of multiple examiners, as was done in this study (McCrimmon & Smith, 2013). From a validity perspective, the WASI-II correlates at acceptable to excellent ranges ($r=.71-.92$) with comparable measures, including the original WASI, the Wechsler Intelligence Scale for Children—Fourth Edition (WISC-IV; Wechsler, 2003), and Wechsler Adult Intelligence Scale—Fourth Edition (WAIS-IV; Wechsler, 2008), providing evidence for concurrent validity (McCrimmon & Smith, 2013).

Participants had to receive a score of 85 or higher on the FSIQ-2 scores to be included in the project. This requirement was to ensure that the participants understood the questions they were being asked and that the results obtained were due to the presence or absence of ADHD and not influenced by lower cognitive abilities.

Conners Rating Scales—Third Edition, Parent Short Form (Conners-3 P(S))

The Conners-3 P(S) is a standardized questionnaire completed by parents to evaluate the symptoms of ADHD and related problems in youth aged 6 to 18 years (Conners, 2008). The Conners-3 P(S) includes six scales consisting of: Inattention, Hyperactivity/Impulsivity, Learning Problems, Executive Functioning, Aggression, and Peer Relations. The Parent Short Form version includes 43 questions and requires parents to rate their child's behavior in the past month on a 4-point Likert scale from *Not true at all (Never, Seldom)* (0) to *Very much true (Very often, Very Frequently)* (3). The results are then compared to the Canadian normed sample, to produce a *t*-score.

Previous research suggests that the Conners-3 P(S) is a reliable tool (Conners, 2008; Kao & Thomas, 2010). Specifically, reliability testing found Cronbach's alpha values in the excellent range for the content scales ($\alpha = .91$), symptom scales ($\alpha = .90$), and validity scales ($\alpha = .90$) in the parent forms (Kao & Thomas, 2010). For this study, participants in the ADHD group were required to have *T*-Scores of 65 or higher on the Conners-3 P(S) to confirm the presence of ADHD symptomology. Participants who were medicated did not have to meet this threshold as medication reduces the severity of ADHD symptoms (Craig et al., 2015; Johnson et al., 2021). However, medication status was not correlated with ADHD symptoms in our sample. In regards to confirming ADHD symptomology, the Conners-3 P(S) can discriminate between youth with ADHD and the general population with an accuracy of 77.61% (Conners, 2008).

Rosenberg's Self-Esteem Scale (RSES)

The RSES is a scale used to measure self-esteem based on ratings of 10 items (Rosenberg, 1965). The 10 items include both positive and negative perspectives of one's self-worth and are answered using a 4-point Likert scale from *Strongly Disagree* (0) to *Strongly Agree* (3). The final calculated score is a sum of the 10 items. The RSES was originally published in 1965 and has been widely used in various populations and countries since then (Rosenberg, 1965; Schmitt & Allik, 2005). Research on the use of the RSES in adolescents with ADHD suggests that the RSES is valid and reliable when used with this population (Dittmann et al., 2009). Specifically, Cronbach's alpha measures ranged from .87 to .90, suggesting good to excellent internal consistency based on previous research (Dittmann et al., 2009). Similarly, scores on the RSES correlated predictably with scores on the Global Impression of Perceived Difficulties, providing evidence for convergent validity (Dittmann et al., 2009). Furthermore, previous research suggests that administering the RSES on the computer compared to paper and pencil does not change the psychometric properties, supporting the computer

administration of the RSES, as was done in this study (Vispoel et al., 2001).

Pediatric Self-Stigmatization Scale (PedS)

The PedS is a self-report scale designed to measure self-stigma and related experiences in the youth population (Kaushik et al., 2017). The scale consists of four subscales: Societal Devaluation, Personal Rejection, Self-Stigma, and Secrecy. The self-stigma scale was the only scale analyzed for the purposes of this study and consisted of five questions rated on a 4-point Likert scale. The final calculated score is a mean of the five questions (e.g., "How often do you feel different from other children your age because you have difficult feelings or behavior?"). The PedS was originally based on a questionnaire designed for adolescents (Moses, 2009) and was later adapted for children (Kaushik et al., 2017). Moses' (2009) original scale is significantly associated ($p < .01$) with adolescents' responses in open-ended interviews on experiences of stigma, providing evidence for convergent validity. Furthermore, all the items met factor loadings of .40 or higher in a series of maximum likelihood factor analyses, suggesting internal reliability. Similarly, Kaushik et al.'s version shows Cronbach's alpha value of .86 and all items met the factor loading of .40 or higher in their respective scales, suggesting good internal reliability.

Given that Moses' questionnaire was tested for reliability with adolescents and Kaushik et al.'s version was tested with children, this study used both versions with their respective age groups. Specifically, children between the ages of 8 and 12 years received Kaushik et al.'s wording and adolescents between 13 and 17 years of age received Moses'. Additionally, the original versions were designed for mental health conditions broadly. For the present study, the wording was revised to target ADHD specifically (e.g., "How often do you feel different from other children your age because you have difficult feelings or behavior?" was changed to "How often do you feel different from other children your age because you have ADHD?").

Parents' Self-Stigma Scale (PSSS)

Parents' experiences of self-stigma were quantified using the PSSS (Eaton et al., 2019). The PSSS breaks parental self-stigma down into three parts: self-blame (perception of causing or worsening their child's mental illness), self-shame (the feelings of embarrassment or shame for having a child with a mental illness), and bad-parent self-beliefs (perception of failing to meet the standard of being a "good parent"). The scale consists of 11 items rated on a 5-point Likert scale from *never* (1) to *almost all the time* (5). The final calculated score is a mean of the respective items. When creating the scale, the authors used partial confirmatory factor analysis to validate

Table 2. Comparison Studies for Self-Stigma of Youth.

Authors	Country	Demographic	Age (years)	N	Self-Stigma: M (SD)
Moses (2009)	United States	Adolescents diagnosed with various mental disorders treated in a “wraparound” program for children with severe emotional disturbance.	12–18	60	2.00 (0.16)
Kaushik et al. (2017)	United Kingdom	Children receiving inpatient and outpatient treatment.	8–12	156	2.13 (0.87)
Khalil et al. (2020)	Pakistan	Children receiving mental health treatment from outpatient or inpatients units.	8–12	110	2.70 (0.70)
Kaushik et al. (2023)	United Kingdom	Children receiving inpatient and outpatient treatment at intake and discharge	8–12	64	Outpatient at discharge: 1.82 (0.13) Inpatient at discharge: 2.27 (0.15)
Moses (2014)	United States	Adolescents following first voluntary psychiatric hospitalization without a pervasive developmental disorder.	13–18	80	2.86 (0.84)

the exploratory factor analysis and found that each item loaded at least 0.40 on its respective factor, overall suggesting internal reliability (Eaton et al., 2019; Stevens, 2002). For use in this study, the items were reworded to be ADHD-specific, similar to the PedS (e.g., “My child has his/her problem because of me” was changed to “My child has his/her ADHD because of me”).

Data Analysis. To compare the experiences of self-stigma in the present study to previous findings, two sample *t*-tests were conducted based on the means and standard deviations reported in previously published research using RStudio (Posit Team, 2024). The association between self-stigma of youth and self-esteem was assessed using a Pearson’s correlation. A hierarchical multiple regression was run to assess the extent to which parental self-stigma and ADHD symptoms predicted self-stigma of youth. The correlation and hierarchical multiple regression were completed using IBM SPSS Statistics (IBM Corp, 2019). More details on individual data analysis are described in their respective results sections.

Results

Research Question 1: Self-Stigma of Youth

The goal of the first research question was to explore self-stigma of youth with ADHD in the context of age, gender, and self-esteem, and in comparison to previously published literature (see Table 2). Overall, the mean score for the total sample was 1.78 with a standard deviation of 0.75 on a 4-point scale, which was on the mid to lower end of the scale. In comparison to previously published research, the self-stigma scores in this sample were significantly lower than adolescents after their first psychiatric hospitalization ($M=2.86, SD=0.84$; Moses, 2014), $t(152)=7.82, p<.001$,

participants recruited through psychiatry departments ($M=2.70, SD=0.70$; Khalil et al., 2020), $t(160)=7.63, p<.001$, and children from inpatient and outpatient clinics ($M=2.13, SD=0.87$; Kaushik et al., 2017), $t(206)=2.60, p=.01$. In contrast, the results from this study were the most comparable to children at one-year follow up in outpatient clinics ($M=1.82, SD=0.13$; Kaushik et al., 2023), $t(114)=0.42, p=.68$ and to adolescents in the community who receive mental health services from multiple agencies through a case team ($M=2.00, SD=0.16$; Moses, 2009), $t(110)=1.56, p=.12$.

Within the sample, there were no significant differences in self-stigma scores between male ($M=1.74, SD=0.81$) and female ($M=1.83, SD=0.59$) participants, $t(50)=-0.43, p=.31$. Likewise, there were no significant differences between child ($M=1.85, SD=0.82$) and adolescent ($M=1.57, SD=0.43$) participants, $t(50)=0.91, p=.12$, and no significant correlations between age and self-stigma scores, $r=-.08, p=.58$. Finally, there was a significant negative correlation between self-stigma and self-esteem, $r=-.48, p<.001$.

Research Question 2: Parental Self-Stigma

Parental self-stigma was also explored in the context of youth’s gender and in comparison to previously published literature. Overall, the mean parental self-stigma score was 1.90 with a standard deviation of 0.54. Compared to the one study that used the same scale and reported their values ($M=2.59, SD=0.66$; Eaton et al., 2019, 2020), the parents in the present study reported significantly lower scores of self-stigma, $t(474)=7.25, p<.001$.

Within the sample, there was no significant correlation between parental self-stigma and age of the youth, $r=-.20, p=.15$. Similarly, there was no significant difference in

Table 3. Descriptive Statistics and Correlations for Study Variables.

Variable	M	SD	1	2	3	4	5	6
1. Gender ^a	1.37	0.49	—					
2. Parent Ed.	6.15	1.23	-.03	—				
3. Inattention	75.13	12.37	.25	-.20	—			
4. Hyperactivity/impulsivity	74.56	13.50	-.04	-.30*	.45**	—		
5. Parental self-stigma	1.90	0.54	-.33*	-.31*	.28*	.26	—	
6. Youth self-stigma	1.77	0.73	.06	.05	.46**	.37**	.29*	—

^a1 = male, 2 = female.

* $p < .05$. ** $p < .01$.

parental self-stigma scores in children ($M = 1.95$, $SD = 0.55$) compared to adolescents ($M = 1.78$, $SD = .51$), $t(50) = 1.05$, $p = .30$. However, there was a gender difference where parents of boys ($M = 2.03$, $SD = 0.55$) reported significantly higher self-stigma scores compared to parents of girls ($M = 1.67$, $SD = 0.45$), $t(50) = 2.44$, $p = .01$. Breaking down parental self-stigma into its three components (self-blame, self-shame, and bad-parent self-beliefs) revealed that parents of boys reported significantly more bad-parent self-beliefs ($M = 2.38$, $SD = 0.80$) compared to parents of girls ($M = 1.82$, $SD = 0.65$), $t(50) = 2.61$, $p = .01$.

Research Question 3: Predictors of Self-Stigma of Youth: ADHD Symptoms and Parental Self-Stigma

The final research question examined whether ADHD symptoms and parental self-stigma predicted self-stigma of youth with ADHD. To answer this question, a hierarchical multiple regression was run with parental self-stigma, inattentive symptoms, and hyperactive/impulsive symptoms as the independent variables and youth self-stigma as the dependent variable. Child gender was used as a control variable due to its significant association with parental self-stigma. Similarly, previous research suggests that parent education level is associated with self-stigma of parents and youth (Özaslan & Yıldırım, 2021). As expected, parent education level was significantly correlated with parental self-stigma, $r = -.309$, and was controlled for in the regression model.

Correlation analysis of the variables of interest revealed that youth self-stigma was positively correlated with inattention, $r = .46$, $p < .001$, hyperactivity/impulsivity, $r = .37$, $p < .001$, and parental self-stigma, $r = .29$, $p = .41$ (see Table 3). The hierarchical multiple regression revealed that in stage one, the control variables explained 1% of the variance and the model did not significantly predict youth self-stigma scores, $F(2, 49) = 0.15$, $p = .86$ (see Table 4). Adding the target independent variables to the model explained an additional 31% of the variance in youth self-stigma scores and significantly changed R^2 , $F(3, 46) = 7.09$, $p < .001$. Parental self-stigma ($\beta = .24$, $p = .11$) and hyperactive/

impulsive symptoms ($\beta = .25$, $p = 0.09$) did not significantly predict youth self-stigma. Only inattention symptoms significantly predicted youth self-stigma ($\beta = .31$, $p = .04$).

Discussion

The purpose of the current study was to explore the nature of self-stigma of youth with ADHD and their parents in three ways. First, this study found that there was no association between age or gender and youth self-stigma. However, the youth with ADHD in this study reported lower self-stigma compared to previously published literature with other populations. Furthermore, there was a significant negative correlation between self-stigma and self-esteem in youth, as hypothesized. Secondly, parental self-stigma varied based on the gender of the child, but not age. Similar to the youth in this sample, parents also reported less self-stigma compared to previous literature. Finally, a multiple regression analysis found that only youth inattention symptoms significantly predicted self-stigma of youth while hyperactive/impulsive symptoms and parental self-stigma did not.

Overall, the results of this study found that both youth and their parents in this sample reported lower self-stigma scores compared to most previously published studies. Looking closer at the experiences of self-stigma of youth, the current study found significantly lower self-stigma scores compared to studies that included children from inpatient units (Kaushik et al., 2017), adolescents following their first psychiatric hospitalization (Moses, 2014), and children from a psychiatry department (Khalil et al., 2020), while the current study utilized a community sample of children and adolescents. Previous research suggests that greater frequencies of hospitalizations and more severe symptoms are associated with more anticipated or experienced stigma (Fox et al., 2018; Verhaeghe et al., 2008). Therefore, samples recruited through psychiatry departments or inpatient clinics may report higher self-stigma scores compared to samples recruited from the general community due to factors such as more hospitalizations and more severe conditions. Supporting this idea, the self-stigma ratings of this study (community sample) were the most similar to outpatient children at follow-up (Kaushik

Table 4. Hierarchical Regression.

Predictor variables	R ²	F	B	t	p
Step 1: control variables					
	.01	.154	—	—	.86
Child gender	—	—	.06	.44	.66
Parent education	—	—	.05	.35	.72
Step 2: target independent variable					
	.32	4.34	—	—	.003
Child gender	—	—	.08	.56	.58
Parent education	—	—	.26	1.97	.05
Inattention	—	—	.31	2.08	.04
Hyperactivity/impulsivity	—	—	.25	1.76	.09
Parental self-stigma	—	—	.24	1.63	.11

et al., 2023). However, this idea is not fully supported as one study looking at adolescents with severe emotional disturbances also found comparable scores to this study (Moses, 2009). Therefore, severity and experiential factors surrounding a diagnosis may be important to consider in the context of self-stigma.

From the parents' side, the parental self-stigma scale used in the current study is relevantly new and only two other published articles have used the same scale (Eaton et al., 2019, 2020). Similar to the youth results, the parents in this study reported significantly lower total scores of self-stigma compared to previous research. Unlike the youth self-stigma research, Eaton et al. (2019, 2020) utilized a community sample of children with various mental health disorders; therefore, the differences in parent ratings are unlikely to be due to their children having more severe symptoms or conditions. Furthermore, 70% of the participants in Eaton et al. (2019, 2020)'s sample had ADHD. Therefore, the differences in parental self-stigma ratings could be due to differences in the mental disorders examined, given that self-stigma can vary based on the disorder (Quenneville et al., 2020). When looking at the age of the sample, Eaton et al. (2019, 2020) utilized a child sample of 4 to 12 years of age while the present study only incorporated children as young as 8 years of age. Therefore, it is possible that parents of children between the ages of 4 years and eight might experience greater self-stigma compared to parents of older children or adolescents. This may be due to parents spending more time with younger children compared to older children or teens, thereby having more opportunities to witness undesirable behaviors and compare their young kids to similar-aged peers.

Another possibility for the observed differences in self-stigma scores for both youth and parents is that stigmatization of ADHD and other mental health conditions may have been reduced since some of the older studies have been published. The public awareness of ADHD has increased in the United States and other parts of the world in the last two

decades (Abdelnour et al., 2022; Xu et al., 2018). Furthermore, ADHD has become a popular topic on social media, such as TikTok and X (formerly Twitter; Abdelnour et al., 2022; Eagle & Ringland 2023; Yeung et al., 2022). In recent years, many videos and communities have been created for ADHD and several popular creators have disclosed having ADHD (Abdelnour et al., 2022; Eagle & Ringland 2023; Yeung et al., 2022). As such, ADHD may be currently more publicly accepted compared to older studies, which could then lead to lower self-stigma in youth with ADHD and their parents.

Finally, it is important to consider cultural differences in stigma and self-stigma. The present study was completed with a Canadian sample while other studies looked at samples from the United States (Moses, 2009, 2014), United Kingdom (Kaushik et al., 2017, 2023), Australia and New Zealand (Eaton et al., 2019, 2020), and Pakistan (Khalil et al., 2020), among others. Previous research suggests that stigma toward mental illness and self-stigma vary by country (Bracke et al., 2019; Khalil et al., 2020). For example, participants from Eastern and less developed countries tend to report greater prejudice toward mental health problems compared to Western countries (Krendl & Pescosolido, 2020). In contrast, some research looking at Canadian samples has found lower scores of mental health stigma compared to other countries (Gallego et al., 2020). Lower rates of stigma in the general population would likely translate to lower rates of self-stigma for persons with stigmatized identities (Corrigan & Watson, 2002), thereby it is possible that Canada might have lower rates of self-stigma. However, the current sample size is too small to make this conclusion. Therefore, more research is necessary to explore different country-specific stigma and self-stigma.

The present study also found a negative correlation between self-stigma and self-esteem in youth with ADHD (Catalano et al., 2021). These findings suggest that, although our sample reported lower self-stigma scores, youth who did report higher self-stigma also reported negative consequences, in the form of lower self-esteem. This finding is important given that youth with ADHD are already likely to experience lower self-esteem compared to peers without ADHD (Harpin et al., 2016). Furthermore, self-stigma is thought to lead to the "why try" effect (Corrigan et al., 2009), where individuals experience reduced motivation and capacity to pursue goals due to negative self-beliefs based on exposure to stigma (e.g., "why try to work hard in school if I can't succeed because I have ADHD?"). The "why try" effect may be particularly concerning in youth with ADHD. Sustained mental effort can be especially challenging for people with ADHD (Hsu et al., 2017) and youth with ADHD are at an increased risk for poor outcomes, such as academic underachievement (Arnold et al., 2020). As a result, self-stigma of youth with ADHD may exacerbate the challenges already present in ADHD and impact

self-esteem. It should be noted, however, that people who already have low self-esteem may be at a greater risk of developing self-stigma (Catalano et al., 2021). Therefore, youth who had poor self-esteem before receiving their ADHD diagnosis may be at an increased risk for developing self-stigma.

This study also found a significant difference in parental self-stigma scores based on the gender of the child. Specifically, parents of boys reported significantly higher self-stigma scores compared to parents of girls. Breaking down parental self-stigma into its three components (self-blame, self-shame, and bad-parent beliefs), it was revealed that parents of boys reported significantly more bad-parent self-beliefs compared to parents of girls. Two studies found no differences in parental self-stigma scores based on child gender (Eaton et al., 2020), one of which utilized mothers of children with ADHD (Özaslan & Yıldırım, 2021). These findings could be impacted by uneven gender ratios. Both of these studies utilized samples of approximately 3 boys to 1 girl compared to the 1.7 boys to 1 girl in the present study (Eaton et al., 2020; Özaslan & Yıldırım, 2021). Uneven gender ratios could mask potential gender differences. Furthermore, the gender ratio in the current study is most consistent with what is seen in ADHD (APA, 2022). When looking at gender differences in ADHD, parents of boys with ADHD may report greater parenting anger (i.e., less praise, more disapproval, and more negative emotions toward the child) and lower warm parenting (i.e., warmth and affection toward the child) compared to parents of girls with ADHD (Demmer et al., 2018). As a result, parents of boys with ADHD may feel like less successful parents, leading to experiences of self-stigma and bad-parent self-beliefs. Overall, parents of boys with ADHD might experience more self-stigma and bad-parent self-beliefs compared to parents of girls.

The last research question for this study examined whether parental self-stigma and youth ADHD symptoms predicted self-stigma of youth with ADHD. Initially, parental self-stigma, hyperactive/impulsive symptoms, and inattentive symptoms were all correlated with youth self-stigma. However, in a regression analysis, parental self-stigma and hyperactive/impulsive symptoms did not significantly predict self-stigma of youth. Rather, only inattentive symptoms significantly predicted self-stigma of youth. These results highlight the impact of symptom severity on self-stigma of mental illness and, by extension, the importance of accounting for symptom severity when looking at parent and youth self-stigma. Previous literature on self-stigma of youth found that parents' perceptions and experiences with stigma were related to greater self-stigma of adolescents with various mental health disorders (Moses, 2010). However, Moses (2010) did not control for symptom severity in the analyses (Moses, 2010). Importantly, previous literature has consistently found that the more severe symptoms a person

has, the higher self-stigma scores they tend to report (Fox et al., 2018). Likewise, the more severe symptom presentation by a child, the higher level of self-stigma reported by the parents (Li et al., 2019). Overall, these results highlight the need to account for symptom severity when examining self-stigma of youth and parents.

Furthermore, this study found that only inattentive symptoms, and not hyperactive/impulsive symptoms, predicted self-stigma of youth. This finding generally aligns with previous research finding associations between more ADHD symptoms and higher self-stigma (Masuch et al., 2019; Quenneville et al., 2020). Looking at the differences in ADHD presentations, children with the predominantly inattentive presentation of ADHD tend to be more withdrawn, less assertive, and experience more peer neglect compared to children with combined or hyperactive/impulsive presentations of ADHD (Becker et al., 2013). Importantly, previous research suggests that individuals who react with anger when faced with public stigma may be less likely to experience self-stigma and reduced self-esteem (Corrigan & Watson, 2002). Given that children with predominantly inattentive ADHD may be more passive and less assertive (Becker et al., 2013), perhaps inattentive symptoms act as a unique risk toward developing self-stigma for youth with ADHD. However, further research is necessary to fully understand the association between self-stigma and ADHD symptoms.

Limitations

As with any research project, several limitations should be acknowledged and considered when interpreting the results. First, the sample size of this study was relatively small ($n=52$). In comparison, other research on self-stigma of children or adolescents utilized samples of 60 to 156 participants (Kaushik et al., 2017; Khalil et al., 2020; Moses, 2009). Power analyses conducted using the program *G*Power 3.1* (Faul et al., 2007) indicated that the multiple regression and *t*-test analyses in this study would have benefited from sample sizes of 80 to 85 participants to achieve the generally accepted power value of .80. For example, for the *t*-tests comparing male and female youth participants ($N=52$) on the various measures used in the study, the power to detect a medium effect size ($d=0.5$) was 40% and the power to detect a large effect size ($d=0.8$) was 78%. Similarly, for the regression analyses, the power to detect a medium effect size ($f^2=0.15$) was 78% (corresponding to an r^2 increase of 13%). Limited statistical power results in an increased risk of Type II errors where analysis fails to reject a false null hypothesis. As a result, the limited sample size may have contributed to some of the findings of this study. In addition to a small sample size, the youth sample also experienced an uneven age distribution and gender ratios. Specifically, there were more than twice as many children

($n=37$) as adolescents ($n=15$) and nearly twice as many males ($n=33$) as females ($n=19$). As a result, the study may be overrepresenting the experiences of children and males and missing differences that may occur with age or gender.

Furthermore, the sample in this study may not be reflective of the experiences of the general population of youth with ADHD and their families. The participants in this study consisted of families in the community who were motivated and able to participate. The participants were also more educated compared to the general population with 88% having a college diploma or higher compared to the 54% in the general population (Statistics Canada, 2017a). Similarly, more of the participants were from intact families (85%), compared to the general population (57.7%; Statistics Canada, 2017b). In terms of parent gender ratios, this study consisted of 90% mothers and 10% fathers, indicating that the results of this study may be more reflective of mothers' experiences and may be less generalizable to fathers. However, some previous research suggests that mothers and fathers may have similar experiences of parental self-stigma, therefore the results may be generalizable across parents of any gender (Eaton et al., 2019; Moses 2010). This study did not include sufficient measures of comorbidities. Given that self-stigma may be associated with more severe mental health challenges (Fox et al., 2018; Verhaeghe et al., 2008), having a measure of comorbid conditions could provide important insight into the experience of self-stigma of youth with ADHD. Finally, this study also did not include a measure of cultural beliefs. Given that stigma and self-stigma vary by country and culture (Bracke et al., 2019; Khalil et al., 2020) and that Canada is an ethnically and culturally diverse country, a measure of cultural beliefs would have been beneficial to better understand the nuances of self-stigma in Canada.

Implications and Future Directions

The results of this study have implications for both clinical practice and research. From a clinical lens, professionals should be aware of the impacts of stigma on youth with ADHD and their parents, especially if the youth is experiencing low self-esteem. From here, psychoeducation might be a good first step to correcting misconceptions and dismantling stereotypes about ADHD, using strength-focused language, and building awareness of how stigma impacts an individual (Alonso et al., 2019). Following psychoeducation, further targeted interventions may be appropriate on a case-by-case basis, given the limited literature on ADHD and self-stigma interventions (Alonso et al., 2019). Furthermore, given that self-stigma is contingent upon stigma from the general population (Corrigan & Watson, 2002; Lucksted & Drapalski, 2015), reducing stigmatizing views in the community could be an important step toward reducing self-stigma of youth with ADHD and their families. For example, previous

research suggests that anti-stigma programs can reduce public stigma and self-stigma in high school settings and may be applicable to younger age groups (Lanfredi et al., 2019). Similarly, increased social contact with persons with mental illness, such as mixing classrooms or bringing in speakers, has been found to reduce public stigma and self-stigma (Lanfredi et al., 2019). Overall, helping professionals can take steps at both individual and community levels to support youth with ADHD and their parents in the face of stigma and self-stigma.

From the research side, future self-stigma research would benefit from considering the impacts of symptom severity and differences across time and culture. First, this study found that parental self-stigma was correlated with youth self-stigma unless ADHD symptoms were controlled for. This correlation highlights the need to account for symptom severity in self-stigma research. The results of this study also found lower self-stigma scores compared to previously published literature, potentially due to different public attitudes as a result of changes over time or cultural differences (Abdelnour et al., 2022; Bracke et al., 2019; Krendl & Pescosolido, 2020; Xu et al., 2018). Therefore, understanding the context that the participants are living in may be an important piece of understanding their experiences of self-stigma.

Conclusion

Overall, the results of this study suggest that Canadian youth with ADHD and their parents may experience less self-stigma compared to other populations. Nonetheless, youth who do report greater self-stigma also report lower self-esteem. Similarly, parents of boys reported higher parental self-stigma than parents of girls. These results highlight the need for better understanding and providing support for youth with ADHD and their parents who may experience self-stigma.

Author Note

As authors, we are mindful that our identities can influence our approach to science (Roberts et al., 2020) and wish to provide readers with information about our backgrounds. All four authors self-identify as white women. Furthermore, all authors have provided psychoeducational assessments to youth with ADHD and take a strength-based approach in care and treatment, thereby potentially influencing the interruption of results.

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Ethical approval

This study was approved by the Conjoint Faculties Research Ethics Board (CFREB) at the host institution. The CFREB is constituted and operates in compliance with the *Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans (TCPS 2)*.

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