

# *Exploring the Gender Differences in Various Mental Health Problems of Adolescents*

Jiarou Meng<sup>1,a,\*</sup>

<sup>1</sup>Department of Education, University of York, York, YO10 5DD, United Kingdom

a. Jm2537@york.ac.uk

\*corresponding author

**Abstract:** Since society has growing demands on young people, the mental health of adolescents is very important in the current society. This article reviews the causes, gender differences, and effects of four psychological issues among adolescents including anxiety disorders, depression, social communication disorders, and Attention deficit hyperactivity disorder (ADHD). The study reveals that among adolescents, girls are more likely than boys to experience the three mental health issues of social disorders, depression, and anxiety, while boys are more likely to experience ADHD. Moreover, this paper analyzes three areas: family, school, and government to discuss the solution for improving these issues and the current situation. Therefore, after reviewing previous literature and summarizing their findings, this paper contributes to emphasizing that girls have more probabilities to suffer from mental health problems than boys, thereby calling for society to pay more attention and offer more help to girls. Future research can work on how to reduce these conditions and propose some applicable solutions.

**Keywords:** gender differences, mental health problems, adolescents, anxiety, ADHD

## 1. Introduction

The problem of adolescents' mental health has drawn an increasing amount of societal attention. Young people's mental health has taken on significant importance in current society due to society's mounting burden on them. Adolescence is the essential stage in the transformation of children into adults. During the period of adolescent growth, mental health during this period will greatly affect the establishment and development of adolescents' independent personalities, life goals, and other factors. Some adolescents have anxiety and depression, which seriously affect their lives and studies, and some even develop mental illnesses. In addition, there are significant differences between girls and boys in the maturing stage of stress and irritation. According to research, as women are more sensitive than men, girls are more likely to suffer from mental health problems than boys [1]. Girls tend to pay more attention to their physical appearance and figure when they grow up, and they will be subjected to greater social malevolence in the process of growth, such as bullying and sexual harassment, which will cause mental health problems for girls.

However, for boys, the growing troubles of boys come more from the expectations of their parents. Most boys' parents expect their children to have a good job and earn a lot of money when they grow up. As a result, boys grow up under a lot of pressure from their parents to study, which can also lead to boys' mental health problems. According to research, the four main mental health problems that

occur among adolescents are anxiety disorders, depression, social disorders, and ADHD [2]. This article describes each of these four mental health problems and discusses the reasons for each problem, gender differences, and the resulting effects. It also discusses what families, schools and the government can do to improve these mental health problems in adolescents.

## **2. Mental Health Problems in Adolescents of Different Genders**

### **2.1. The Overview of Anxiety**

Adolescence is a period of exploration and development of self-awareness. It is a critical transition period from childhood to adulthood [3]. Uninterrupted and untreated anxiety can interfere with normal psychological development, and affect an individual's quality of life and subjective well-being. In Burke and his team's research, it was predicted that nearly one-third of adolescents between the ages of 13 and 18 will experience symptoms of anxiety [2].

Therefore, anxiety is a future-focused emotional state linked to being ready for potential and impending bad things to happen. Anxiety is characterized by concern, avoidance, and tense muscles [3]. Mild anxiety disorder in adolescents is a chronic disorder that seriously endangers the mental health of the patient. It is a mental disorder caused by constant tension or alertness in neurological functioning and associated with psychological stress and environmental factors. Common symptoms are mainly nervousness and shortness of breath. According to Burke's study, the emergence of social anxiety disorder often peaks in late adolescence [2]. Adolescents with social anxiety disorder are more likely to use alcohol, have conflicts in school, have trouble establishing intimate connections, have few friends, and utilize other risky behavior [4].

#### **2.1.1. Gender Differences in Anxiety**

According to research, girls are more prone than boys to experience psychological issues [5]. In terms of anxiety disorder prevalence, girls have a substantially higher chance than boys [5]. Women have a higher frequency of anxiety disorders, but less is known about how gender influences age of onset, chronicity, comorbidity, and illness burden. In the research, the male vs. female prevalence of any anxiety illness was 1:1.7 and 1:1.79, respectively. With the exception of social anxiety disorder, which had no gender differences in prevalence, females had greater lifetime diagnosis rates in all of the anxiety disorders evaluated [1]. There were no gender variations in the disorder's age of onset or chronicity. Women, on the other hand, were more likely than males to have been diagnosed with another anxiety disorder, bulimia, and severe depressive illness at the same time [1]. Furthermore, anxiety problems are linked to a larger burden of illness in females than in males. These data imply that anxiety disorders are not only more frequent in women, but they are also more disabling than in males [1].

Because of anxiety, the causing results that studies of epidemiological and clinical samples suggest that the disorder persists into adulthood and can lead to an increased risk of suicide attempts, alcohol abuse, inability to work, inability to complete school, depression, and severe social limitations[4,6]. It has been shown that adolescents with anxiety disorders during adolescence have higher rates of both anxiety and depression [7,8]. According to Keith and his colleagues' studies, anxiety and sadness can lead to significant self-harm. Adolescents, particularly girls, were prone to intentional self-harm. In their research, 398 participants (6.9%) reported engaging in deliberate self-harm satisfied the research criteria. Females were more likely than males to intentionally injure themselves. Intentional self-harm variables among females included self-harm by a recent acquaintance, self-harm by a family member, drug misuse, sadness, anxiety, impulsivity, and low self-esteem. Suicidal behaviors by friends and family, substance use, and low self-esteem are all risk factors for guys [9].

In other words, the number and degree of anxiety disorders increase as adolescence progresses. As a result, there is an increase in not only dependence on nicotine, alcohol, and illicit drugs later in life, but also poor educational performance, and even premature birth. There are also specific studies that point to a large continuum of anxiety in addition to specific cases of fear and anxiety, which are only for girls. This means that girls diagnosed with anxiety disorders at an early age are more likely to switch to depression or substance abuse disorders thereafter [1].

## **2.2. Depression**

### **2.2.1. The Characteristics of Depression**

Depression, also known as Major Depressive Disorder (MDD), is characterized by persistent and severe depressed mood. Previous studies have shown that changes in appetite, weight change, insomnia, and loss of energy are common in adolescents with depression [10].

A recent Australian study is instructive as it reveals that the hallmarks of teenage depression are not considerably different from those of adult depression, with the exception of melancholic symptoms and psychomotor abnormalities, which reflect the rarity of adolescent depression [11]. Irritability and rage are distinguishing features of teenage depression [12,13]. Loss of pleasantness, arousal and weariness, sleep disruptions, impaired attention, and suicidal thinking are good indicators of depression, but guilt, self-blame, psychomotor changes, and changes in food and weight are excellent indicators of more severe depression [5].

### **2.2.2. The Causes of Depression**

Minors who have insecure relationships, a poor self-concept, or a loss of sensitivity are more likely to suffer from depression. Academic pressure and school bullying are the two most important school-related impacts [14]. In maturity, poor family relationships and marital dissolution increase the likelihood of anxiety and depression in children. Changes in the nuclear family paradigm have increased the difficulty of family parenting and education. Bullying in schools can have a greater influence on kids' psychological well-being. Internet addiction and cyberbullying are two social variables that might have a detrimental influence on education and life [14]. Bullying in schools can have a greater influence on minors' psychological health, with bullied individuals having psychological distress, sadness, suicidal thoughts, and physical symptoms such as headaches and stomachaches.

### **2.2.3. The Outcomes and Influences of Depression**

As children reach puberty, there are fewer opportunities and choices for girls. According to teenagers' reports, parents place more restrictions on girls than boys but have lower expectations and achievement for girls than boys [14]. Girls feel they will be excluded from male stereotyped hobbies, such as competitive sports and math and science. White girls, in particular, become more focused on popularity during adolescence. There is considerable evidence that girls become overly concerned with their appearance when they reach puberty, which can affect their well-being, leading to body image anxiety and appearance anxiety that can persist into adulthood. As a result, adolescent girls are more prone to anxiety and depression than boys [14].

Adolescents with depression and anxiety are at risk for a variety of comorbid illnesses, including behavior issues, personality disorders, drug addiction, obesity, interpersonal conflict, unsatisfying social interactions, and academic and occupational underachievement [15]. Because teenagers spend the majority of their time at school, numerous depressive symptoms can have an impact on their academic performance. A student's poor academic performance is most frequently the consequence

of depression, which causes a loss of attention, which leads to a lack of enthusiasm and interest, and in extreme cases, endangers physical health, such as headaches and easy weariness [16]. Many depressive teenagers lack the bravery to pursue their own interests because they see things negatively and fail to reach imposed performance criteria, which leads to a vicious cycle of believing they are a failure, feeling dissatisfied, and despairing over time [17].

## **2.3. Social Communication Disorder**

### **2.3.1. The Definition of Social Communication Disorder**

Social disorders in children are divided into psychosocial disorders, social anxiety disorders, and social dysfunction. Among these, social psychological disorders are reflected in social withdrawal (i.e., the child's tendency to autonomously avoid contact with others), social anxiety (i.e., the child's apprehension about being in public), shyness, isolation, low self-esteem and other individual mental and emotional subnormalities [4]. It can be seen that social disorder is an existing non-pathological psychological disorder.

Current research findings have established that social anxiety in adolescents occurs more frequently in their relationships with peers and older people, especially in interpersonal and public situations. That increasing number of children have a tendency to develop social anxiety, which, if not ameliorated in the educational process, may produce or lead to more severe deviant behavior. Part of the social anxiety stems from an excessive fear of negative judgment by others, and children can become extremely distressed by social anxiety as they go about their daily lives, whether they are playing with other children, learning in class, or conversing with adults. On the other hand, some children with social difficulties are unable to develop a clear and mature understanding of social interactions due to their immature psychological development and are afraid to ask for help due to their different personality traits, which can easily affect their development.

### **2.3.2. Compare Gender Differences in Social Communication Disorder**

Recent research has discovered a significant and distinct link between social phobia and Behavioural Inhibition (BI), with BI thought to be a necessary precursor to the development of social phobia [18]. BI appears to be more common in females, which is also true for the gender ratio of social phobia. Males and females have various risk factors and results when it comes to BI and social anxiety. Males with BI are more likely than females to suffer psychological and social pressures, although females have greater environmental risk factors for social phobia than males [18].

In the 1999 research, DSM-IV/CIDI social phobia was found in 9% of females and 4.9% of males, with around one-third categorized as generalized social phobics. Respondents with generalized social phobia reported beginning at a younger age, greater co-morbidity, more severe impairments, and higher treatment rates [19]. According to studies, girls have more significant social phobia, which is linked to familial, childhood, and physical abuse [20]. Girls have more risk factors in society, which increases their propensity to acquire the disease. Social disorders are characterized by constrained behavior, which girls tolerate better than boys, increasing the incidence of social disorders in girls.

### **2.3.3. The Influence of Social Communication Disorder**

Communication difficulties can affect the way individuals carry out activities in their lives, interact with others, and the way people interact with each other. Many children are often left out of the conversation because they have difficulty communicating and are unable to interact with others [21]. Due to the inability to express or the difficulty in expressing themselves, there is also a bias toward the original understanding for the listener. Even personal skills, abilities, or parts of human nature

can be hidden when there is a communication disorder. Children often feel "fearness" that a communication barrier has been discovered, followed by "embarrassment". As a result, they withdraw and stop interacting with others. Communication barriers mask the real person and limit their ability to share their thoughts, needs, and feelings [21]. However, some people may have similar symptoms, but they are not socially disabled. Social dysfunction is a mental health problem that can be difficult to define. Refusing to communicate with others does not mean they have a social disorder. Everyone has a different view of social communication disorder, and there is also a cultural issue. Effective communication is different in different cultures, and the forms of expression in communication are different, and the expectations for each other are also different. Thus, it is difficult to define the symptoms that vary from person to person.

## **2.4. Attention Deficit Hyperactivity Disorder (ADHD)**

### **2.4.1. The Overview of ADHD**

Another disorder named Attention deficit hyperactivity disorder (ADHD) is a mental disorder of people who have trouble concentrating and are restless. Based on Diagnostic and Statistical Manual of Mental Disorders Fifth Edition (DSM-5) Criteria for ADHD, people would be diagnosed with ADHD if they appear to have a persistent pattern of inattention or hyperactivity which may influence their behavior or development [22]. The symptoms often are noticed in early childhood and would be more noticeable when the children start going to school.

### **2.4.2. The Causes of ADHD**

Although the exact cause of ADHD is still unknown, according to research by scientists, genetic and environmental risk factors get involved in the cause of ADHD [22]. In an international study in which the researchers analyzed DNA from over 20,000 people with ADHD and over 35,000 without ADHD across different countries, the results indicated many genetic risk variants that may cause the risk for the disorder [23]. This study confirmed the genetic factors for most cases of ADHD, which are the many genetic variants. Each of them has a very small effect, which could increase the risk for the disorder with the combinations of the variants.

The environmental risks for ADHD and their effects appeared in a very early age including the fetal or early postnatal period. For example, there is an increasing rate of ADHD among babies born with low birth weight [24]. ADHD-like symptoms may also appear if there is an extreme deprivation in early life, or traumatic brain injury in early life [25].

### **2.4.3. Compare Gender Differences in ADHD**

The ratio of males and females in children who have ADHD is 2:1 (i.e., 2 boys vs. 1 girl) [26]. According to Kopp, in preschool children, there were no gender differences in the proportion of ADHD children [27]. However, when it comes to school age, boys are more likely to be reported as having behavioral problems such as ADHD than girls. This might be because of the exception of girls with hyperactivity disorders at this age and girls are more often to be identified as having ADHD in adolescence or in adulthood [28]. Another possible reason for this difference might be girls might have better 'coping skills' than boys which makes girls might 'hide' the ADHD symptoms even if they have [29]. However, this is only what some males' and females' view. Physically, boys have more strength and energy than girls, which would result in a high level of physical activity which may be mistaken for ADHD. In addition, girls will be imbued with some female stereotypes by their surroundings since childhood, for example, girls need to be polite, ladylike, and quiet. This may have led some girls with ADHD to hide their behavior, which would affect the finding of the study.

### **3. Solutions to Reduce This Situation**

#### **3.1. Family**

The family is the main place where a person grows up and family factors play a very important role in a person's psychologically healthy development. Parental relationships, for example, can also affect the psychological health of young people [14]. Parental arguments and even fights can create negative behavioral and psychological shadows for children, and if the negative emotional impact on children is not addressed in a timely manner, it can sow the seeds of mental health problems in children. This is why it is important to strive to maintain good family relationships. As children's thinking has become more mature with their growth, poor parenting practices and content can also influence the development of psychological problems in children.

Therefore, this paper recommends that in a family, family members should get along well, parents should keep an eye on their children's emotional and psychological changes, communicate with them if they notice any changes in their children's behavior or mood, and take their children to see a psychologist regularly to understand their child's current state.

#### **3.2. Schools**

It is necessary to have school-based mental health initiatives. This may include approaches aimed at educating primary school children about mental health issues and screening at-risk students [9]. According to the study, schools are a perfect setting for treating teenagers who are anxious or depressed, and schools may utilize a variety of psychological therapies to address the majority of children's psychological issues [30]. A lot of anxiety and sadness are caused by students being under too much academic pressure. The poorer the student's grades, they are more likely to experience anxiety and despair. As a result, the school should be suitable for students to minimize the strain instead of prioritizing outcomes, and suitably reduce the students' homework and test burden. Schools should offer more psychological courses and hire more psychologists to assist pupils in developing healthy mental conditions.

In terms of gender inequalities, schools should pay closer attention to the mental health of females. During their adolescence, girls are at a growth stage, and their physical changes may cause them mental troubles [17]. Furthermore, the school should carefully deal with incidences of student bullying and pay close attention to the victims' mental state [14].

#### **3.3. Government**

The government should pay greater attention to teens' mental health and enact new legislation to protect their mental health. In addition, additional mental health clinics should be established to assist teens in improving their mental health. In terms of gender disparities, the government should increase girl protection [31]. Girls, according to the research, are more prone to anxiety and depression. In addition, the government has passed legislation to empower and protect females. Tougher penalties for offenders of crimes against children, particularly females.

### **4. Conclusion**

To conclude, girls are more likely than boys to suffer from anxiety, depression, and social disorders. This is mainly due to the fact that girls grow up with various constraints, from family to society. They also suffer from low self-esteem regarding body image and appearance. After summarizing previous studies, the main tendency is that most girls who have been sexually harassed or violated are particularly likely to develop these mental health problems. These three types of mental health

problems can affect the emotions and lives of young people, with some experiencing self-harm, emotional outbursts, and even suicide. In the case of ADHD, boys are much more likely to have this problem than girls, which may be because girls have better coping and hiding skills than boys.

The paper continues to discuss the solutions at home, at school and by the government to improve these problems. At home, parents should pay more attention to their children's behaviors and provide them with regular psychological support. In schools, schools should reduce the burden on students and do not regard "grade" as the most important issue. Bullying should be taken seriously, and more psychologists should be recruited to give regular psychological lessons and intervene when students have emotional or psychological problems. The government should enact new laws to restrict all violence, including sexual harassment and violence. Also, the government should have some solutions for prevent people from favoring boys over girls, etc. However, there are many other psychological issues that need to be explored beyond these four and more needs to be done by society to reduce the gender gap.

## References

- [1] C. P. McLean, A. Asnaani, B. T. Litz, and S. G. Hofmann, "Gender differences in anxiety disorders: prevalence, course of illness, comorbidity and burden of illness," *J. Psychiatr. Res.*, vol. 45, no. 8, pp. 1027–1035, Aug. 2011, doi: 10.1016/j.jpsychires.2011.03.006.
- [2] K. C. Burke, J. D. Burke Jr, D. A. Regier, and D. S. Rae, "Age at onset of selected mental disorders in five community. populations," *Arch. Gen. Psychiatry*, vol. 47, no. 6, pp. 511–518, Jun. 1990, doi: 10.1001/archpsyc.1990.01810180011002.
- [3] M. G. Craske, S. L. Rauch, R. Ursano, J. Prenoveau, D. S. Pine, and R. E. Zinbarg, "What Is an Anxiety Disorder?," *FOC*, vol. 9, no. 3, pp. 369–388, Jul. 2011, doi: 10.1176/foc.9.3.foc369.
- [4] H. U. Wittchen, M. B. Stein, and R. C. Kessler, "Social fears and social phobia in a community sample of adolescents and young adults: prevalence, risk factors and co-morbidity," *Psychol. Med.*, vol. 29, no. 2, pp. 309–323, Mar. 1999, doi: 10.1017/s0033291798008174.
- [5] G. Parker and K. Roy, "Adolescent depression: a review," *Aust. N. Z. J. Psychiatry*, vol. 35, no. 5, pp. 572–580, Oct. 2001, doi: 10.1080/0004867010060504.
- [6] M. R. Liebowitz, J. M. Gorman, A. J. Fyer, and D. F. Klein, "Social phobia. Review of a neglected anxiety disorder," *Arch. Gen. Psychiatry*, vol. 42, no. 7, pp. 729–736, Jul. 1985, doi: 10.1001/archpsyc.1985.01790300097013.
- [7] S. Cartwright-Hatton, K. McNicol, and E. Doubleday, "Anxiety in a neglected population: prevalence of anxiety disorders in pre-adolescent children," *Clin. Psychol. Rev.*, vol. 26, no. 7, pp. 817–833, Nov. 2006, doi: 10.1016/j.cpr.2005.12.002.
- [8] L. J. Woodward and D. M. Fergusson, "Life course outcomes of young people with anxiety disorders in adolescence," *J. Am. Acad. Child Adolesc. Psychiatry*, vol. 40, no. 9, pp. 1086–1093, Sep. 2001, doi: 10.1097/00004583-200109000-00018.
- [9] L. J. Woodward and D. M. Fergusson, "Life course outcomes of young people with anxiety disorders in adolescence," *J. Am. Acad. Child Adolesc. Psychiatry*, vol. 40, no. 9, pp. 1086–1093, Sep. 2001, doi: 10.1097/00004583-200109000-00018.
- [10] N. Bains and S. Abdijadid, "Major Depressive Disorder," in *StatPearls, Treasure Island (FL): StatPearls Publishing*, 2022. [Online]. Available: <https://www.ncbi.nlm.nih.gov/pubmed/32644504>
- [11] G. C. Patton, C. Coffey, M. Posterino, J. B. Carlin, and R. Wolfe, "Adolescent depressive disorder: a population based study of ICD-10 symptoms," *Aust. N. Z. J. Psychiatry*, vol. 34, no. 5, pp. 741–747, Oct. 2000, doi: 10.1080/j.1440-1614.2000.00825.x.
- [12] J. Biederman, S. Faraone, E. Mick, and E. Lelon, "Psychiatric comorbidity among referred juveniles with major depression: fact or artifact?," *J. Am. Acad. Child Adolesc. Psychiatry*, vol. 34, no. 5, pp. 579–590, May 1995, doi: 10.1097/00004583-199505000-00010.
- [13] M. Kovacs, H. S. Akiskal, C. Gatsonis, and P. L. Parrone, "Childhood-onset dysthymic disorder. Clinical features and prospective naturalistic outcome," *Arch. Gen. Psychiatry*, vol. 51, no. 5, pp. 365–374, May 1994, doi: 10.1001/archpsyc.1994.03950050025003.
- [14] O. S. E. Can, "Gender Differences in Depression", doi: 10.1111/1467-8721.00142.
- [15] L. M. Al-Qaisy, "The relation of depression and anxiety in academic," *ISSN*, vol. 2141, p. 2499, 2011, [Online]. Available: <https://academicjournals.org/journal/IJPC/article-full-text-pdf/11834AF14418>

- [16] M. F. Khesht-Masjedi, S. Shokrgozar, E. Abdollahi, B. Habibi, T. Asghari, R. S. Ofoghi, S. Pazhooman, , "The relationship between gender, age, anxiety, depression, and academic achievement among teenagers," *J Family Med Prim Care*, vol. 8, no. 3, pp. 799–804, Mar. 2019, doi: 10.4103/jfmpc.jfmpc\_103\_18.
- [17] M. Afifi, "Gender differences in mental health," *Singapore Med. J.*, vol. 48, no. 5, pp. 385–391, May 2007, [Online]. Available: <https://www.ncbi.nlm.nih.gov/pubmed/17453094>
- [18] V. W.-S. Chan, "Gender Differences Associated with Social Phobia: A Developmental Perspective," Jan. 2010, Accessed: Nov. 04, 2022. [Online]. Available: <http://dx.doi.org/>
- [19] H. U. Wittchen, M. B. Stein, and R. C. Kessler, "Social fears and social phobia in a community sample of adolescents and young adults: prevalence, risk factors and co-morbidity," *Psychol. Med.*, vol. 29, no. 2, pp. 309–323, Mar. 1999, doi: 10.1017/s0033291798008174.
- [20] R. M. Rapee and S. H. Spence, "The etiology of social phobia: empirical evidence and an initial model," *Clin. Psychol. Rev.*, vol. 24, no. 7, pp. 737–767, Nov. 2004, doi: 10.1016/j.cpr.2004.06.004.
- [21] B. Carrigg, E. Baker, L. Parry, and K. J. Ballard, "Persistent Speech Sound Disorder in a 22-Year-Old Male: Communication, Educational, Socio-Emotional, and Vocational Outcomes," Apr. 2015, doi: 10.1044/sbi16.2.37.
- [22] F. E. Dition, "Diagnosticnd Statistical Manual Of Mental Disorders", [Online]. Available: [https://www.hakjisa.co.kr/common\\_file/bbs\\_DSM-5\\_Update\\_October2018\\_NewMaster.pdf](https://www.hakjisa.co.kr/common_file/bbs_DSM-5_Update_October2018_NewMaster.pdf)
- [23] D. Demontis, R. K. Walters, J. Martin, M. Mattheisen, T. D. Als, E. Agerbo, G. Baldursson, R. Belliveau, J. B. Grauholm, M. B. Hansen, F. Cerrato, K. Chambert, C. Churchhouse, A. Dumont, N. Eriksson, M. Gandal, J. I. Goldstein, K. L. Grasby, J. Grove, O. O. Gudmundsson, C. S. Hansen, M. E. Hauberg, M. V. Hollegaard, D. P. Howrigan, H. Huang, J. B. Maller, A. R. Martin, N. G. Martin, J. Moran, J. Pallesen, D. S. Palmer, C. B. Pedersen, M. G. Pedersen, T. Poterba, J. B. Poulsen, S. Ripke, E. B. Robinson, F. K. Satterstrom, H. Stefansson, C. Stevens, P. Turley, G. B. Walters, H. Won, M. J. Wright, ADHD Working Group of the Psychiatric Genomics Consortium (PGC); Early Lifecourse & Genetic Epidemiology (EAGLE) Consortium; 23andMe Research Team; O. A. Andreassen, P. Asherson, C. L. Burton, D. I. Boomsma, B. Cormand, S. Dalsgaard, B. Franke, J. Gelernter, D. Geschwind, H. Hakonarson, J. Haavik, H. R. Kranzler, J. Kuntsi, K. Langle, K. P. Lesch, C. Middeldorp, A. Reif, L. A. Rohde, P. Roussos, R. Schachar, P. Sklar, E. J. S. S. Barke, P. F. Sullivan, A. Thapar, J. Y. Tung, I. D. Waldman, S. E. Medland, K. Stefansson, M. Nordentoft, D. M. Hougaard, T. Werge, O. Mors , P. B. Mortensen, Mark. J. Daly, S. V. Faraone, A. D. Børghlum, B. M. Neale, "Discovery of the first genome-wide significant risk loci for attention deficit/hyperactivity disorder," *Nat. Genet.*, vol. 51, no. 1, pp. 63–75, Jan. 2019, doi: 10.1038/s41588-018-0269-7.
- [24] A. P. Franz, G. U. Bolat, H. Bolat, A. Matijasevich, I. S. Santos, R. C. Silveira, R. S. Procianoy, L. A. Rohde, C. R. M. Maia, "Attention-Deficit/Hyperactivity Disorder and Very Preterm/Very Low Birth Weight: A Meta-analysis," *Pediatrics*, vol. 141, no. 1, Jan. 2018, doi: 10.1542/peds.2017-1645.
- [25] S. Stojanovski, D. Felsky, J. D. Viviano, S. Shahab, R. Bangali, C. L. Burton, G. A. Devenyi, L. J. O'Donnell, P. Szatmari, M. M. Chakravarty, S. Ameis, R. Schachar, A. N. Voineskos, A. L. Wheeler, "Polygenic Risk and Neural Substrates of Attention-Deficit/Hyperactivity Disorder Symptoms in Youths With a History of Mild Traumatic Brain Injury," *Biol. Psychiatry*, vol. 85, no. 5, pp. 408–416, Mar. 2019, doi: 10.1016/j.biopsych.2018.06.024.
- [26] "American Psychiatric Association (1987). Diagnostic and statistical manual of mental disorders (3rd ed., Revised (DSM-III-R)). Washington DC American Psychiatric Press. - References - Scientific Research Publishing." [https://www.scirp.org/\(S\(351jmbntvnsjt1aadkozje\)\)/reference/referencespapers.aspx?referenceid=949835](https://www.scirp.org/(S(351jmbntvnsjt1aadkozje))/reference/referencespapers.aspx?referenceid=949835) (accessed Nov. 04, 2022).
- [27] S. Kopp, K. B. Kelly, and C. Gillberg, "Girls with social and/or attention deficits: a descriptive study of 100 clinic attenders," *J. Atten. Disord.*, vol. 14, no. 2, pp. 167–181, Sep. 2010, doi: 10.1177/1087054709332458.
- [28] E. Dakwar, F. R. Levin, M. Olfson, S. Wang, B. Kerridge, and C. Blanco, "First treatment contact for ADHD: predictors of and gender differences in treatment seeking," *Psychiatr. Serv.*, vol. 65, no. 12, pp. 1465–1473, Dec. 2014, doi: 10.1176/appi.ps.201300298.
- [29] P. O. Quinn and M. Madhoo, "A review of attention-deficit/hyperactivity disorder in women and girls: uncovering this hidden diagnosis," *Prim. Care Companion CNS Disord.*, vol. 16, no. 3, Oct. 2014, doi: 10.4088/PCC.13r01596.
- [30] C. L. Masia, R. G. Klein, E. A. Storch, and B. Corda, "School-based behavioral treatment for social anxiety disorder in adolescents: results of a pilot study," *J. Am. Acad. Child Adolesc. Psychiatry*, vol. 40, no. 7, pp. 780–786, Jul. 2001, doi: 10.1097/00004583-200107000-00012.
- [31] F. Van Droogenbroeck, B. Spruyt, and G. Keppens, "Gender differences in mental health problems among adolescents and the role of social support: results from the Belgian health interview surveys 2008 and 2013," *BMC Psychiatry*, vol. 18, no. 1, p. 6, Jan. 2018, doi: 10.1186/s12888-018-1591-4.