

Childhood Inattention as a Key Determinant for Not Graduating from High School

By Gordon R. Hodas, M.D.

Summary

A recent longitudinal study of children over an extended period of time (Pingault et al, 2011) found that, for those children with attention deficit hyperactivity disorder (ADHD), the symptom of childhood inattention, rather than hyperactivity, is associated with poor academic performance. The discussion below highlights inattention as a symptom to be taken seriously, and considers the broader implications of this research, since inattention may also occur with other disorders and under conditions of childhood adversity.

Introduction

ADHD is “a common, long-lasting, and highly impairing childhood-onset neuropsychiatric disorder” (Shur-Fen Gau, 2011). Since it affects both academic performance and community functioning – for example, youth with untreated ADHD have more car accidents than those without ADHD – it is important that the disorder be identified, assessed, and treated. While medication is the mainstay of treatment, psychosocial interventions and environmental supports may suffice in less severe cases.

ADHD, as defined in the current edition of the *Diagnostic and Statistical Manual* (DSM-IV) of the American Psychiatric Association, consists of up to three symptoms: hyperactivity, impulsivity, and inattention. Often, hyperactivity and impulsivity occur and are grouped together. The three specifically identified presentations of ADHD in the DSM-IV involve the presence of all three symptoms (the “combined type” of ADHD), hyperactivity plus impulsivity (the “predominantly hyperactive-impulsive type”), and inattentiveness by itself (the “predominantly inattentive type”). Given that hyperactivity and impulsivity involve observable and often disruptive behavior, children with these behaviors are more commonly identified than children with the inattentive type of ADHD, who may “fall through the cracks” and not be recognized. Both males and females can have ADHD, but the diagnosis is more common in males.

It is tempting to assume that the most disabling symptoms of ADHD, especially in school, are hyperactivity and impulsivity. After all, if a child is restless, how can he or she possibly concentrate? Similarly, how can an impulsive child be expected to persevere with academic tasks? Interestingly, the differential impact of inattentiveness vs. hyperactivity (which incorporates impulsivity) on a child’s academic functioning has not been subject to a great deal of research. Given potentially different remedies, there is benefit in determining the relative impact of these quite different symptoms on children with ADHD.

Inattentiveness vs. Hyperactivity

Building on two earlier studies, Pingault, et al (2011) tracked the severity of inattentiveness and hyperactivity in a population study of 2,000 elementary school students in a Canadian province. The students were evenly divided between boys and girls. Since this was a population study, the students

were not referred for treatment, and researchers did not have information on how many students might have ADHD. The goal was to determine, through the use of annual teacher ratings of the students, the frequency and severity of hyperactivity and inattention, respectively, in the study population. Behavioral assessments were made by teachers on each student from the end of kindergarten (children 6 years of age) through the end of elementary school (children 12 years of age), for a total of seven years of monitoring. Since in Canada there is a different teacher for each grade, none of the teachers rated more than a single year for each student, allowing for a diverse source of information over time.

The researchers analyzed the accumulated data for each child, and determined trajectories for hyperactivity and inattentiveness, reflecting the severity level for these two symptoms. There were four trajectories for each symptom reflecting severity – low trajectory, high trajectory, and two intermediate patterns (rising and declining trajectories). In addition, the researchers obtained the official record of high school graduation of these same students when they were older. High school graduation was used to determine “educational attainment in young adulthood,” and was thus used as a measure for successful academic performance. The graduation rates for youth with hyperactivity since childhood were compared to those for youth with inattention since childhood.

The results of this comparison are quite significant: Inattention “strongly predicted high school graduation by early adulthood, with no additional or interactive contribution of hyperactivity” on high school graduation rate. Here are some of the specific findings:

- Predictive analyses found that “inattention trajectories were a strong predictor of school attainment,” as measured by high school graduation in late adolescence or young adulthood.
- The severity level of inattention was directly related to school attainment. For example, among students with the low trajectory of inattention severity, only 11.5% failed to graduate high school. In contrast, among those with the high inattention trajectory, over 70% did not graduate from high school. Those with intermediate trajectories had intermediate graduation rates.
- Overall, hyperactivity rates tended to decrease over time, consistent with prior research suggesting that hyperactivity in ADHD tends to decline by early adolescence, which for the most part is not the case for inattentiveness.
- The hyperactivity trajectories “were not significantly associated with high school graduation, after accounting for inattention trajectories.”
- Thus, children with “a high trajectory for both inattention and hyperactivity were not at higher risk to not graduate from high school than participants with a high trajectory for inattention alone.”

Discussion

This study is about much more than ADHD. For one thing, the children being studied were not clinically referred and it is not clear how many had actually been given an ADHD diagnosis. It is notable that, in the study population, many more children had high level symptoms of inattention (16.8%) than children with high level symptoms of hyperactivity (10.3%), and we know that children with inattention are at risk of being overlooked. The above figure for inattention, including only students with high symptom severity and not intermediate severity levels, greatly exceeds the common estimation of 5-9% of children having ADHD (Wilens, 1999). The point, however, is not to increase the diagnosis of ADHD per se, but rather to recognize the significance of inattention and more readily address it, whatever the cause.

The above research resoundingly demonstrates that it is inattentiveness and not hyperactivity that is associated with failure to obtain a high school diploma. To be sure, hyperactivity and impulsivity carry other psychosocial risks and are not to be dismissed when present, but these symptoms are more likely to be recognized due to their externalized nature and are not associated with failure to obtain a high school diploma.

We already appreciate the significance of not having a high school diploma in today's society. Under- or unemployment and financial hardship are common, and may be part of a maladaptive adult pathway involving substance abuse, mental health challenges, and poor physical health.

We need to consider who is at risk for inattention, in addition to those children commonly regarded as having the inattentive and combined types of ADHD. The ability to concentrate is also compromised in children experiencing depression, which is itself a significant risk factor for problematic adult outcomes. Another category of children at risk for inattention are those who have experienced significant trauma. Inability to concentrate and focus, due to chemical changes in the brain and preoccupation with safety and survival, is common among children with trauma. While some may also show externalizing behaviors such as anger and defiance, others – especially during their highly significant younger years – may present with internalizing behaviors alone. Some children with trauma may also have genuine ADHD, but many may not, and so careful assessment is needed to guide the most appropriate interventions. Other children at risk of inattention involve those experiencing significant life stressors, even in the absence of trauma per se. Educationally-based causes of inattention include children with specific learning challenges, and those being taught at an inappropriate instructional level.

In sum, we see that inattentiveness is not as benign a symptom as we may have thought. It is a mediator of poor academic performance, culminating in a lower rate of high school graduation. It may also be a marker for depression, trauma, and other signs of impaired functioning. Inattention therefore needs to be recognized and addressed.

What can be done? In general, there is much more written about the treatment of the combined type of ADHD than about the treatment of inattention per se, which may have multiple causes. The first task is to determine if the inattention is due to depression, trauma, or other significant stressors, followed by appropriate intervention. In addition, the possibility of ADHD, with or without associated hyperactivity and impulsivity, should be explored. According to Fabiano and Pelham (2002), "...only behavior modification and stimulant medication are effective treatments (of ADHD) in the short term," and the treatment of ADHD must be "sustained." Behavioral interventions can involve work with the parents, the school, and the child (2002).

With or without formal mental health treatment, there is much that teachers can do to help children with inattention. Not unexpectedly, many of these interventions are also helpful for students dealing with trauma (Massachusetts Advocates for Children, 2005). Crucial first steps involve creating and maintaining safety in the classroom, engaging the student, being strengths-based, and responding to the student's individualized needs. If the inattention is due to specific learning challenges or an inappropriate instructional level, this needs to be addressed. In general, the student and family must understand the nature of the attentional challenge and then become partners in helping the student gain effective skills. Taking an active role, the student can benefit from structure, consistency, and organizational support. New information should be previewed, presented to the student in multiple ways (auditory and visual), and then repeated. The teacher can also place new information within

learning contexts familiar to the student, making learning less intimidating. Academic tasks can be broken down into small parts, so they are more easily understood and completed. Whenever possible, the student should repeat key information and instructions, and be given an opportunity to practice relevant tasks. It may also be helpful for teacher and student to develop a subtle cue for the teacher to use, when the student's attention wanders. Teacher support and encouragement are invaluable, with the student's efforts at improvement viewed as an ongoing work-in-progress,

Conclusion

Inattention has been convincingly shown to convey high risk for academic failure, as measured by failure to graduate from high school. Although these findings pertain to students in Canada, they are likely equally valid for American students. Through sophisticated research design, the authors were able to take into account social and economic variables not considered in earlier studies, and they used a population sample rather than a clinical population. Incorporating all of the above and comparing inattention with hyperactivity, they found that inattention confers the academic risk, even though hyperactivity carries other risks.

Given the above research and its broader implications, "take home points" include the following:

- For children with ADHD, inattention – by itself or associated with hyperactivity and impulsivity – is an important symptom that is associated with a high risk of not graduating from high school. Inattention may also reflect other underlying causes, such as trauma, depression, and psychosocial stress.
- From a public health perspective, children should be routinely screened for their capacity for attention, regardless of their activity level, as early as possible. Such screening can be pursued prior to the start of kindergarten, as well as during the elementary school years, and should ideally occur regularly over time. There are many tools that can be used for this purpose, including those that inquire about inattention as part of an ADHD screen.
- When screens for inattention are positive, more detailed assessment should follow, in order to determine the severity of the symptom and the likely underlying cause.
- The presence of inattentiveness should serve as a marker not just for ADHD but also for trauma, which should also be subject to screening. The goal here is to identify children experiencing or at risk of trauma, so it can be addressed. This is especially important with young children, who may express their distress through internalizing symptoms including inattentiveness rather than through readily observable externalizing behaviors.
- Since inattentiveness may also reflect underlying depression, this disorder should also be subject to screening, with further assessment as indicated.
- Even in the absence of trauma and depression per se, children experiencing psychosocial stress in their lives are at risk for being anxious and worried, which may cause inattention. So, in collaboration with the family, the presence of inattention should serve as a trigger to determine the nature of family stressors and how these can best be managed.
- Regardless of the underlying cause, inattention should be subject to intervention and remediation. While there remains much to learn about how to best treat inattentiveness at various ages, basic principles are clear. These involve treating the underlying source of the inattention, be it trauma, depression, other significant sources of stress, specific learning challenges, or ADHD. Depending on the underlying source, mental health treatment may have a significant role, with medication used as indicated. The classroom teacher has many

opportunities to engage and motivate the student and make use of instructional approaches that increase the likelihood of academic success.

Gordon R. Hodas, M.D. is Statewide Child Psychiatric Consultant to the Office of Mental Health and Substance Abuse Services. He is also a member of the Systems of Care Workgroup of the American Academy of Child and Adolescent Psychiatry.

References

American Psychiatric Association. (1994). *Diagnostic and Statistical Manual of Mental Disorders* (4th ed.). Washington, DC: author.

Fabiano, G. & Pelham, W. (2002). Comprehensive treatment for Attention Deficit/Hyperactivity Disorder. In D. Marsh & M. Fristad (Eds.), *Handbook of Serious Emotional Disturbance in Children and Adolescents* (pp. 149-174). New York: John Wiley and Sons.

Gau, S. (2011). Childhood trajectories of inattention symptoms predicting educational attainment in young adults. *American Journal of Psychiatry*, 168 (11), 1131-1133.

Massachusetts Advocates for Children. (2005). *Helping Traumatized Children Learn: A Report and Policy Agenda*. Boston, MA: Massachusetts Advocates for Children. Available online at: www.massadvocates.org/documents/HTCL_9-09.pdf.

Pingault, J. et al. (2011). Childhood trajectories of inattention and hyperactivity and prediction of educational attainment in early adulthood: A 16-year longitudinal population-based study. *American Journal of Psychiatry*, 168 (11), 1164-1170.

Wilens, T. (1999). *Straight Talk about Psychiatric Medications for Kids*. New York: Guilford.