The Misunderstanding of ADHD Preventing Improvement in Peer Relations Between ADHD and Non-ADHD Elementary Students: Recommendations for Teachers to Decrease Stigmatization and Increase Accuracy of Self-Perceptions

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Abstract

Students with negative social relationships during elementary years deal with detrimental consequences through adolescence and adulthood, making the prevalent issue of poor peer relations among children with Attention-Deficit Hyperactivity Disorder (ADHD) of heightened importance. Current empirically supported combination treatments tend to mitigate negative symptoms of ADHD and teach social skills rather than normalize interpersonal relationships. A possible explanation for the ineffectiveness on elementary social interactions is the prevailing lack of understanding of the disorder among children, non-ADHD and ADHD alike. Stigmatization of mental disorders and positive illusionary bias are impressionable concepts concerning misinterpretations, both ultimately preventing treatments from improving peer relations. Yet rather than altering or omitting current intervention tactics, addressing misconceptions and improving relative discourses may increase the acceptance of the disorder among classmates and susceptibility to treatments among affected students, therefore improving the relationships between children. This paper examines the manifestations of ADHD stigmatization in social interactions with classmates and the influences of positive illusionary bias on social competency with children with ADHD, while synthesizing current literature surrounding established ADHD interventions and the implications for peer relations. Additional recommendations for teachers to facilitate dialogues as well as modify deliverance of feedback to increase conceptualization and transparency in the complexities and effects of ADHD as a social disorder, in order to ultimately promote positive peer relations.

Keywords: Attention-Deficit Hyperactivity Disorder, social competency, stigmatization, positive illusionary bias, peer relations, interventions, elementary education

The Misunderstanding of ADHD Preventing Improvement in Peer Relations Between ADHD and Non-ADHD Elementary Students: Recommendations for Teachers to Decrease Stigmatization and Increase Accuracy of Self-Perceptions

Attention Deficit Hyperactivity Disorder (ADHD) is the most common impairing behavior disorder among children, with approximately 5% of youth affected (Polanczyk, de Lima, Horta, Biederman, & Rohde, 2007). Diagnosis of ADHD occurs after symptoms of the disorder are severely present for over six months and remain consistent in at least two different settings (Hoza, Owens, & Pelham, 1999). The disorder is defined by persistent and elevated levels of inattention, hyperactivity, and impulsivity causing impairment in various realms of life (American Psychiatric Association, 2000). In addition to these primary symptoms, secondary problems arise from ADHD's associated behaviors. Social impairments from ADHD are of the most prevalent and detrimental problems to children's future success because of the necessity social functioning plays in healthy development for children (Parker & Asher, 1987). Estimated to be more than 60% labeled as socially excluded, children with ADHD are more likely to be rejected by peers and less likely to have close friendships (Hoza, 2007). Compared to non-ADHD classmates, children with the disorder have shown to be of lower social preference, higher with social impact, and less well-liked due to ADHD attributes (Hoza et al., 2005). Poor peer relations are linked to negative social outcomes, such as maladjustment, mental health problems, substance abuse, criminal offenses, school dropout, and academic failure (Parker & Asher, 1987). Furthermore, the impacts of ADHD and peer problems seem to be additive, causing greater risks for adjustment problems if both are present (Mikami & Hinshaw, 2006). Due to the empirically proven risks of peer rejection, as well as the prevalence of this problem among children with ADHD, the limitations of current effective interventions (Mrug, Hoza,

Pelham, Gnagy, & Greiner, 2001) and slow development of further treatment findings in reducing social impairments (de Boo & Prins, 2007) for this population of youth amplifies the need for additional resources.

Current research suggests the combined treatment of medication and behavior modification therapy, or multimodal treatment, proves to be the most effective intervention for social problems among children with ADHD (Milea & Cozman, 2012). Medications successfully reduce negative symptoms of ADHD associated with aversive social behaviors, whereas behavioral modification therapy works to impart appropriate social skills, making the combination of both treatments better than one alone (Mrug, Hoza, & Gerdes, 2001). Yet studies do not find positive results when analyzing the success of these tactics on peer relations (Hoza, 2007), especially when weighing peer perspectives as the determinant in outcome measurements (Hoza et al., 2005). Interventions primarily addressing symptoms or social skills do not eradicate peer problems, but only worsen the psychological distress as rejection from peers continues despite explicit efforts to change (Bierman, 2004). Since symptoms of ADHD are highly stigmatized in American society (Pescosolido, Fettes, Martin, Monahan, & McLeod, 2007) and children carry invert and overt discrimination towards the behaviors associated with ADHD (Harris, Milich, Corbitt, Hoover, & Brady, 1992), the negative perspectives of children with ADHD must be altered in order for treatments to be effective and sustainable (Hoza, 2007). Studies considering teacher and parent perspectives or other measurements of social success may suggest less negative results of current accepted treatments, however, the prioritization of peer opinions is imperative for actual results.

Securing positive peer relations among children with ADHD demands more than decreasing poor social behavior and increasing social knowledge, even beyond changing

negative perceptions peers possess of affected children's symptoms. Researchers and practitioners recognize the pressing need to not only alter peer understanding, but also add further interventions affecting social impairment within the child (Cadesky, Mota, & Schachar, 2000; Clark, Prior, & Kinsella, 2002; Diamantopoulou, Rydell, Thomrell, & Bohlin, 2007). Peer perceptions are significant when examining success of ADHD interventions, but the self-perceptions of affected children are substantial in understanding the reception of treatments. A phenomenon among children with ADHD in many domains, especially social, is an overestimation of competency compared to relative measurements of performance or adult and peer ratings of success (Owens, Goldfine, Evangelista, Hoza, & Kaiser, 2007). This inflation of positivity in ability despite apparent shortcomings, known as the positive illusionary bias, has many different plausible explanations, however the most research pertaining to the phenomenon suggests it serves as a self-protective function in children with ADHD (Diener & Milch, 1997). The self-protection hypothesis states affected children hide feelings of failure or inadequacy when challenging tasks or situations threaten them, by reporting positive opinions of personal capability (Diener & Milch, 1997), especially when the report is in an area deemed as the greatest deficit to the individual (Hoza et al., 2002). This concept concerns the lack of understanding of ADHD among affected children because Evangelista et al. (2008) found prevalence of the positive illusionary bias only among children with ADHD in only self-reports, but not in reports of peers' social success, therefore the positive illusionary bias is not a cognitive deficit in executive functioning during social situations. This delusion of performance has been proven to undeniably interfere with receptiveness to interventions (Hoza & Pelham, 1995), however ways to combat the positive illusionary bias are successful when administered among children with ADHD (Emeh & Mikami, 2012).

The absence of knowledge about the disorders' effects on social situations causes peers to avoid children with ADHD and affected children to neglect treatment. The social gap between non-ADHD and ADHD children widens when peers of children discriminate against ADHD symptoms instead of understanding the behaviors are a result of a mental disorder. Children with ADHD being embarrassed or defensive about personal behaviors causes resistance to interventions. Studies have provided ample research (Cornett-Ruiz & Hendricks, 1993, Corrigan & Shapiro, 2010; Mrug et al., 2012; Sandberg, 2008) suggesting providing knowledge of existence of ADHD allows peers to accept and empathize with affected children. Furthering awareness of the effects of ADHD on social life among children with the disorder increases abilities to process and accept the disorder (Gresham, MacMillan, Bocian, Ward, & Forness, 1998; Haydicky, Wiener, Badali, Milligan, & Ducharme, 2012; Hoza & Pelham, 1995: Morrison, 1996). The implications these findings have for additional positive micro-interventions to enhance peer relations is substantial. If peers accept children with ADHD and children with ADHD accept established treatments, possible intervention tactics may lead to heightened social success in peer relations (Mrug et al., 2001). Poor peer relations contribute to future maladjustment, putting children with ADHD at a heightened risk for social failure because of the devastating impairments in psychopathology along with disturbed social relationships. If positive peer relations during childhood lead to healthier development and future success in various domains of life, interventions to remediate peer problems among children with ADHD is significant for the future of children with the disorder.

Literature Review

Early peer relations are exceptionally significant on the development of children. Because children's social norms do not match those of adults and a child's peer acceptance

disproportionally determines social security over adult sentiments towards a child (Tuchman, 1996), relationships between children are the primary contexts for social influence. Initial interactions with peers present children with the opportunity to learn critical skills like cooperation, negotiation and conflict resolution through an equal status relationship (Rubin, Bukowski, & Parker, 1998). These learned abilities derived from constructive peer relations are crucial for future social functioning. Positive interactions with peers predict social competency, as well as healthy emotional development and identity establishment (Wojslawowicz-Bowker, Rubin, Burgess, Booth-Laforce, & Rose-Krasnor, 2006). Negative interactions with peers predict social maladjustment, along with increased conduct problems and delinquency (Miller-Johnson, Coie, Maumary-Gremaud, Bierman, & the Conduct Problems Prevention Research Group, 2002). Rejected peers are more likely to face depression, anxiety, substance abuse and academic difficulties or school dropout (Ollendick, Weist, Borden, & Greene, 1992; Parker & Asher, 1987). Furthermore, Cillessen, Bukowski, and Haselager (2000) found peer rejection status to remain consistent over the span of multiple years. Even still, social impairments derived from initial poor relations are predictors of long-lasting adverse behavior through adolescence and even adulthood (Greene, Biederman, Farone, Sienna, & Garcia-Jetton, 1997). Therefore, because future social success derives from original peer relations, it is imperative to understand the contexts and influences of interpersonal rejection among young children.

A common context in which early peer rejection occurs is in the interactions between students with Attention Deficit Hyperactivity Disorder (ADHD) and classmates in elementary classrooms. The elementary classroom is the predominant social setting in which children's peer status is determined (Chang, 2004) because of its apparent predictive power for ability in different domains other than academia (Parker & Asher, 1987). Classes including children with

and without behavioral disorders increases the likelihood of rejection or marginalization of children deviating from behavioral norms (Mikami, Lerner, & Lun, 2010). An influence on the common peer rejection of students with ADHD is classmates' association of ADHD symptoms with inappropriate or problematic classroom behaviors (Abikoff et al., 2002). Certain ADHD symptoms like inattention, hyperactivity, and impulsivity (Barkley, 1998) contribute to peers' exclusion because of the connection of these behaviors to disrupting academic growth (Milich & Okazaki, 1991; Pieper & Pieper, 1990; Tyson, 1999). ADHD symptoms may cause students to display higher rates of off-task, disturbing or noisy actions, which children perceive as rule-breaking (Landau & Moore, 1991). Because the educational setting exists as one of the first environments for socialization among children, certain learning disorders' behavioral issues, as seen with ADHD symptoms, are amplified to peers if the behaviors are perceived as counterproductive to learning or potential for discipline (Kos, Richdale, & Hay, 2006) and cause poor peer relations between affected and non-affected children (Hoza, 2007).

Public perception of the disorder's associated behaviors inevitably impacts children in the classroom. ADHD symptoms are regularly stigmatized in North American society, especially in educational settings (Pescosolido et al., 2007). Stigmatization of mental disorders is not uncommon when the popular consensus believes there to be a deviation in physical attributes, character, or behavior that is undesirable or has negative outcomes (Weiner, Perry, & Magnusson, 1988). These conceptualized beliefs often result in assumptions about a person's incapability or harmful motives therefore justifying exclusion from larger groups (Rusch, Angermeyer, & Corrigan, 2005). The four aspects of mental disorders commonly resulting in stigmatization, all true of ADHD are (a) lack of immediate visibility in the reason for the behaviors associated with the disorder; (b) the disorder is a lifelong problem but is perceived as

something that is short-lived; (c) media portrayal of the disorder in negative light; (d) behaviors associated with the disorder are otherwise seen as controllable in different circumstances (Hinshaw, 2005). Pertaining to the severity of stigmatization in elementary classrooms, children have been found to hold negative views about mental health and related behaviors more firmly and overtly than adults, because unlike other forms of discrimination, mental disorder judgment is not explicitly addressed early in age or deemed as unacceptable (Hinshaw, 2005). Furthermore, children report desire to keep social distance from children with the symptoms of ADHD (Walker, Coleman, Lee, Squire, & Friesen, 2008) and understand parents would not appreciate them to be friends with someone with those associated behaviors (Martin, Pescosolido, Olafsdottir, & McLeod, 2007). Therefore ADHD's associated behaviors being stigmatized in larger society negatively affects children's perceptions of individuals with ADHD symptoms in the classroom. Although altering discourse around public perceptions of ADHD symptoms is a larger issue, educators can take active steps to combat the negative consideration of the disorder in the classroom.

Victims of stigmatization have been found to internalize the discrimination. For example, if an individual recognizes personal traits as being regarded as flawed and ostracizing, then the individual's perceptions of personal internal functioning may be deemed as flawed (Jones, Farina, Hastorf, Markus, Miller, & Scoot, 1984). Individuals being set apart from society by public stigma frequently results in self stigma occurring amongst the individuals facing discrimination, which degrades individuals' views of personal identity and decreases social functioning (Fabrega, 1990). Even more harmful to social functioning among children with ADHD, symptom aggravation is a response to recognizing and internalizing stigma for individuals with the disorder (Burch, 2004). In relation to this, the stigma internalization in

children with ADHD has been viewed as a more complicated analysis because the complexities of ADHD and its effects on self-perceptions of competency. Children with ADHD perceive positive opinions of personal social competencies despite explicit struggle with social skills and rejection from peers a phenomenon otherwise known as the positive illusionary bias (Diener and Milich, 1997). The leading explanation for positive illusionary bias in children with ADHD suggests children overstate success in attempt to self-protect and cope with self and publicly recognized incompetency (Hoza et al., 2002). Children with ADHD defensively reckon with disabilities by reporting inaccurate self monitoring of social interactions. This aligns with research surrounding the abilities of children with ADHD to identify stigma. ADHD students do report negative feelings and beliefs of discrimination concerning treatments for the disorder (Bussing et al., 2016; Clarke, 1997) as well as clear reports of personal behaviors being bothersome and embarrassing, which causes different treatment from peers, parents and teachers (Bussing et al., 2016; Weiner, Malone, Varma, Markel, Biondic, Tannock, & Humphries, 2014). However, when accounting for symptoms of ADHD and the effects on peer relations, many children with ADHD inadequately count the number of symptoms (Weiner et al., 2014) and inflate perceptions of success in social interactions (Linnea, Hoza, Tomb, & Kaiser, 2012) in order to protect themselves from more recognized failure. The positive illusionary bias is connected to poor reception of treatments and further isolation from peers (Linnea et al., 2012). Because of the detrimental effects overestimating self-perceptions of social competency have on social behavior (Owens et al., 2007) and receptiveness to ADHD treatments (Mikami et al., 2010) as well as the negative impacts of internalization of stigmas (Fabrega, 1990), actions to alleviate self-blame for ADHD symptoms and effects on social skills should be included in treatments.

The necessity for these innovative treatments is dire. Based on research about peer difficulties among children with ADHD, the impairments are quickly noticed and remain stable in peer perceptions. Poor social desirability of children with ADHD is almost immediately apparent in new social situations, making the necessity of understanding the disorder to increase effectiveness of treatments more necessary. In a study conducted by Erhardt and Hinshaw (1994) during a summer program for children with ADHD, affected children were recorded as more rejected by peers than non-ADHD children by the end of the first day of the program. In a similarly conducted study, children with ADHD were observed in a play group; non-ADHD children began complaining about the behavior of children with ADHD within the first minutes of the study (Pelham & Henker, 1992). Furthermore, changing peer perceptions proves to be extremely difficult. Because it has been proven peers of excluded children tend to remember negative behavior and forget positive behaviors (Flannagan & Bradley, 1999), accepted peers in larger social groups maintain theories about rejected children with opinions that are very difficult to change (Hymel, Wagner, & Butler, 1990). Hinshaw and Melnick's (1995) research supports these findings, stating peer rejection of children with ADHD remains relatively stable throughout all of elementary school and projects into adolescence.

The significant problems from the behaviors associated with inattention, hyperactivity, and impulsivity among students with ADHD not only contribute to social maladjustment, but jeopardize classroom efficiency. If proper actions are not taken, teachers frequently report difficulties with children diagnosed with the disorder therefore the intricate issues related to ADHD students has called for more intervention for schools, despite empirical studies insisting knowledge advancement among teachers is substantial for academic remediation among children with ADHD. Vaughn, McIntosh, Schumm, Haager & Callwood (1993) found teachers are

willing to engage in instruction or pedagogy adaptations to promote the social adjustment of students with disabilities or disorders. Teachers lacking understanding of the disorder and its effects results in less comprehensive plans for action (Arcia, Frank, Sanchez-LaCay, & Fernandez, 2000). The necessity for authority in the classroom to be willing and able to comprehend the disorder, as well as the intervention tactics to combat its impact on social situations is significant.

Tactics in the 1920s recommended teachers restrain hyperactive children to environments with limited stimulation- less colors, windows, and other students- to prevent disorderly conduct (Strauss & Lehtinen, 1947). Interventions were solely focused on lessening disruption rather than increasing knowledge. Although today, recommended treatments offer dynamic intervention plans, a failure to increase the understanding of ADHD among children directly and indirectly affected by the disorder still exists after decades of research. Multimodal treatment combines the use of medication and behavior modification therapy to tend to the symptoms negatively affecting social situations, as well as the behaviors associated with poor social skills. Combined treatments have been proven to positively impact non-ADHD symptoms effects on different domains of functioning. Also by combining both medication and behavior therapy, it allows for a lessened amount of stimulants and reduced levels of intensity in behavior modification treatments, possibly decreasing the stress associated with ADHD intervention (Pelham & Hinshaw, 1992). Decreasing stress among recipients makes implementation of interventions easier and more efficient. Hinshaw (1995) found that combined therapy is the most conducive for classroom success among elementary students with ADHD. However, despite success of combined approaches, ADHD's negative symptoms decrease, but the rejection by peers remain consistent (Pelham & Bender, 1982). Therefore, peer relation issues, one of the

most detrimental and prevalent issues for children with ADHD, are exacerbated by the lack of understanding of the disorder in the classroom even with the multimodal approach, which is the most widely accepted and established (Hoza, 2007). The research suggesting providing knowledge about ADHD allows peers to accept and empathize with affected children (Barkley, 1998; Cornett-Ruiz & Hendricks, 1993; Law, Sinclair, & Fraser, 2007 ; Sandberg, 2008), and increasing awareness of the effects of ADHD on social life expands affected children's abilities to process and accept the disorder (Haydicky et al., 2012; Morrison, 1996; Hoza & Pelham, 1995) is necessary for additional recommendations for teachers to support peer relations.

Literature surrounding the overt labeling of ADHD on peer judgments is inconclusive, however recent studies have proven there are positive effects on peer relations. During a study (2007) researchers, Law, Sinclair and Fraser found the diagnosis label of ADHD to have no negative effects on attitudes toward the behaviors, rather peers reported students with symptoms alone to be of annoyance. Cornett-Ruiz and Hendricks (1993) also found non-ADHD children are much more influenced by concrete behaviors than by the presence of a diagnostic label. The study even suggested the labeling of ADHD benefits peer relations because students were able to recognize, sympathize and readjust accordingly by being less critical of the student. Peer knowledge of children undergoing treatment for ADHD has been found to have a constructive benefit within social interactions (Sandberg, 2008). During this study, when peers knew partners were taking treatments, they were overtly more friendly and understanding. Peers were also recorded as offering more help to affected peers in academic work and children with ADHD even spoke positively about task completion and more accurately discussed the experience of working with peers aware of the diagnosis (Sandberg, 2008). Additionally, enlisting the aid of peers in classroom objectives offers many different returns than merely aid from adult figures

(Barkley, 1998) and having children with ADHD work with a less disruptive partner is extremely influential (Mrug et al., 2001). Conversations or workshops to produce positive changes in the established attitudes towards stigmatized behaviors can be extremely helpful in interpersonal relations (Pinfold, Toulmin, Thornicroft, Huxley, Farmer, & Graham, 2003). Addressing the diagnosis of the disorder positively affects interactions with affected children. This heightened awareness and increased interpersonal time causes peer relations to be more plausible and familiar during already established interventions.

In regards to increasing awareness among children with ADHD, there are multiple studies proving success. A study (2012) by Haydicky et al. addressing mindfulness among children with ADHD was able to improve externalizing behavior and defiant problems in interpersonal relationships through a process of acceptance, exposure and self-regulation with affected youth. The interventions targeted self-awareness pertaining to the disorder's symptoms, which is beneficial given the results from Weiner et al. (2012) finding ADHD children's ability to understand the consequences of their behaviors, but not the amount of negative symptoms they possess, causing a consistent overestimation in social competency despite recognition of social problems. Morrison (1996) stresses the importance of awareness when coping with ADHD. As children reduce negative behaviors and learn positive social skills, it is necessary for present authority figures to aid in the process surrounding how to think about the disorder relating to other people. By reminding children with ADHD peer relations should not meet every need of the individual, children with ADHD gain more accurate expectations of peer relationships, therefore more accurate perceptions of necessary personal places within the relationship. Because inflated views of social competency relate to poor responses to treatment (Mikami, Calhoun, & Abikoff, 2010), ways to explicitly lower the bias are possible intervention

tactics to increase awareness and accuracy in self-perceptions beyond mindfulness and awareness programming. Aligning with the self-protective theory in positive illusionary bias (Hoza et al., 2002), Emeh and Mikami found authority's reactions to tasks performed by children with ADHD having a major effect on the estimations of competency. Greater levels of criticism increased children's inflation in their competency score, whereas more warmth in response to task outcomes led to children increasing accuracy of personal competency. Consistent with the self-protective theory, more positive reactions allowed children with ADHD to relax and provide more accurate self-perceptions of competency. Hoza et al. (2002) found negative feedback to contribute to increase in estimated self-competency as well. This increased awareness and alteration in the self-protection positive illusionary bias allows children with ADHD to increase understanding of the disorder and accuracy in personal success. More accurate self-perceptions lead to better responses to treatments (Mikami et al., 2010), which aim to positively impact deficits in peer relations.

Children with and without ADHD deal with a misunderstanding of the disorder therefore perpetuating the social deficits associated with the behaviors and preventing impact of established treatments. The stigma of the associated behaviors and treatments among non-affected children and affected children's reluctance towards interventions (Bussing et al., 2016) is counterproductive for positive peer relations and future adjustments in many domains (Mikami et al., 2010). Children with ADHD view personal dysfunctional behavior as a failure to do well within society (Singh, 2015) and a product of uncontrollable internal malfunctioning (Weiner et al., 2012). When asked for messages about growing up with the disorder, adolescents with ADHD asked their peers to be empathetic. They asked for peers to note the disorder is not easy to deal with and observe they endlessly try to be better, but it feels completely uncontrollable.

They begged their peers to forgive and try to see past the social problems (Weiner & Daniels, 2015). The power of peer's understanding and ultimately empathy towards the disorder can truly affect the way children with ADHD live their lives. Teachers comprehension and facilitation of additional ADHD discourse and feedback is imperative. Making sure students with and without ADHD understand not all great minds think alike is one of the most important lessons educators can bestow to help improve peer relations among children with and without ADHD.

Recommendations

Activities facilitating dialogues as well as modifying deliverance of feedback to increase the conceptualization and transparency of the complexities and effects of ADHD as a social disorder will promote peer relations between affected and non-affected children in the classroom. The facilitation of dialogues to decrease stigmatization of the disorder's associated behaviors may increase empathy and acceptance of elementary students suffering with the social impairments. Reducing criticism and increasing warmth and positivity following task completion may allow children with ADHD to relax self-protective positive illusionary and may cause more accurate perceptions of ability. Both the increase of acceptance among non-affected children and accuracy of ability among affected children prompts more effectiveness and sustainability with the existing well-established modes of intervention like multimodal treatments to treat peer relations. Teachers willingness to conduct such activities as well as the urgency for these peer relation interventions in elementary classrooms speaks to the demand for tactics. The concrete recommendations for educators are listed below, in no particular order.

1. *Offering an alternative narrative to the negative portrayal of the disorder.* Displaying the behaviors associated with ADHD in an unconventional, but positive way may dissuade non-affected students from quickly prescribing

negative conclusions to ADHD symptoms or children displaying them. The exposure to a different portrayal may prompt further positive processing about the disorder and its symptoms for both children with and without ADHD (Mueller, Fuermaier, Koerts, & Tucha, 2012). Because society's perception of mental disorders contributes greatly to the way children perceive mental health issues (Hinshaw, 2005), the depiction of disorders in the classroom can be highly influential and propose engaging, novel ways of conditioning children beyond the uncontrollable media or public discrimination outside of school. Teachers may introduce successful role models diagnosed with ADHD as a way to challenge students to not only think of peers' differences, but personal differences as an asset rather than a disadvantage. Teachers could also provide hypothetical situations of success due to certain associated symptoms or behaviors of ADHD to detract from the automatic perception as these behaviors being considered negative in the classroom setting. Another way teachers could provide an alternative narrative of success throughout the ADHD population would be to provide multi-media resources, like books or movies, representing students with behavioral disorders being successful. This discourse may alter stigmatization of associated symptoms among non-affected peers and alleviate the need for self-protection among affected children.

2. *Conducting activities with intent for children to positively identify with unique, personal characteristics.* Ability awareness activities promote the inclusivity of others different from oneself. Educators can conduct classroom programs where students participate in a hands-on activities helping comprehension of others'

developmental challenges. ADHD is among one of the many impairments among classroom students. By including other disorders, diseases or challenges, the explicit signaling out of one student does not need to occur. Allowing students to introduce themselves and disorders and how they affect the individual's life provides the benefits of overt labeling (Cornett-Ruiz & Henrdicks, 1993) and evaluating self (Owens et al., 2007) for children with ADHD. Children without ADHD may become more empathetic with the diagnosis label and offer assistance if children with ADHD show signs of struggle because this intervention combats the misconceptions in three of the four aspects of a disorder commonly linked to stigmatization: visibility, control, and duration (Hinshaw, 2005). By permitting students to only make only positive comments about the presentations of self, the increase of positive feedback pertaining to self-regulation and awareness may result in more accurate perceptions of self (Emeh & Mikami, 2012), ultimately increasing peer relations.

3. *Pairing children together in a consistent partnership for a designated period of time.* Facilitating mutual friendships is a viable alternative therapy for lessening peer rejection. Deliberately implementing a buddy system for children with ADHD related social issues has been found to be a positive way to increase peer relations incomparably to other interventions (Mrug et al., 2001). The two would children spend endless time together, being partners in recreational as well as academic activities and have rules and counselors for any arising problems. The pairing of the two children in an unconditional bond teaches invaluable skills and provides exposure to a possibly unfamiliar same age relationship for children with

ADHD. Teachers may unite two children through intentional pairing if the expectations of the roles of both ADHD and non-ADHD students are clearly presented because increasing opportunities for responsibility among elementary students causes decreases in poor behavior and fulfillment of expectations (Parsonson, 2012). Furthermore, consistency and stability are two factors proven to increase positive responses to treatment among children with ADHD (Barkley, 1998), making the regularity and steadiness of this intervention of outmost significance for the necessary outcomes.

Limitations

The self-protective hypothesis is widely accepted as the underlying mechanism in the positive illusionary bias among children with ADHD. Current research proves self-protection appears to be the leading explanation to why children with ADHD report such high perceptions of personal performance in comparison to other forms of concrete measurement of competence or peer or adult ratings of ability. Nevertheless, alternative justifications for the positive illusionary bias exist, causing a limitation in this paper. Treatments for the positive illusionary bias may vary if the explanation is not based in the self-protection theory. By exclusively examining the phenomenon through the lens of it being a coping mechanism for children defending against consistent failure in many domains of life, the recommendations offered in this paper may not generalize, in accordance with the other theories for the positive illusionary bias.

Moreover, studies explored throughout this paper examining labeling, awareness, mindfulness, stigmatization, and positive illusionary bias reduction may differ in context from the current paper. Particularly, the setting of the study and types of authoritative figures within the study may vary. The diverse research surveyed throughout the paper takes place in academic

as well as recreational settings with many different types of authoritative figures. However, this paper focuses specifically on the elementary inclusive classroom with teachers as the facilitators of intervention. ADHD programs, recreational common space, laboratory controlled settings, or naturalistic home settings are some of the many distinctive research environments. Further, summer support program staff, behavioral specialists or parents are some of the various adult figures of authority recognized throughout the research. These alterations in place and leadership may skew some of the recommendations, being that the paper concludes from studies with different locations and positions in control.

Finally, and arguably most significantly, ADHD is an exceedingly complex disorder. Research surrounding ADHD stresses the examination of subtype, comorbidity, and gender when assessing the effects of the disorder. This paper failed to include a comprehensive analysis of these intricacies and how they may affect peer relations, limiting the specificity in the analysis and recommendations. Although it goes unrecognized in the paper, this depth of complexity in one disorder reiterates the importance of considering that not all great think alike, even within the population of elementary students affected by ADHD.

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