

the **ADHD**

R E P O R T

Russell A. Barkley & Associates

• Volume 27

• Number 7

• ISSN 1065-8025

• November 2019 •

The Maladaptive Coping Cycle: A Model for Understanding Academic and Social Failure in Children with ADHD

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Students with ADHD often experience academic and social failure in school settings. This failure lessens their ability to cope. Coping, in turn, influences how well prepared a student is to handle the next task. We propose that a maladaptive coping cycle can form, which gradually lessens an individual's chances of academic and social success. This article describes how we hypothesize that social and academic failures may exacerbate maladaptive coping, and then we suggest possible intervention points that might to help reverse the cycle and start the student on the path to academic and social success. The focus is on children in the school setting.

CYCLE OF MALADAPTIVE COPING

Decreased Functionality

Students with ADHD struggle with self-regulation (Barkley, 2015) and are more likely to perform poorly in school than their neurotypical peers (DuPaul & Langberg, 2015). Attentional difficulties have been connected with both

lower tolerance for high levels of stress (distress intolerance) and an ineptitude at persisting in the face of trying tasks (resilience) (Mackenzie, 2018; Modesto-Lowe, Yelunina, & Hanjan, 2011). We propose that all of these factors reduce the functionality of students with ADHD in the classroom environment. In this article, decreased functionality will also refer to a temporary state of reduced functionality related to specific situational threats to equilibrium.

Poor Emotional and Behavioral Control

Poor emotional and behavioral control are core ADHD symptoms (American Academy of Pediatrics, 2011; Barkley, 2015). To remain functional when faced

with difficulties and challenges, self-regulation is imperative. Four aspects of emotional self-regulation are hampered in students with ADHD: effortful control, reactive control, emotional clarity, and emotional repair (Martel, 2009; Musser et al., 2011). Effortful control refers to forcing oneself to do that which one does not want to do, or inhibiting actions which one is tempted to do (Wiersema & Roeyers, 2009). Reactive control is the ability to regulate the initial emotional reactions and behaviors. Effortful control and reactive control play an important part in maintaining a healthy emotional functionality, which we hypothesize enables focus by removing emotional distractions (Martel, 2009; Musser et al., 2011).

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NOTICE TO NON-PROFESSIONALS The information contained in this newsletter is not intended as a substitute for consultation with health care professionals.

weiger, 2009; Gay, Schmidt, & Van Der Linden, 2011; Schmidt, Gay, Ghisletta, & Van der Linden, 2010). Evidence also suggests that those with poor emotional repair and emotional clarity are more vulnerable to NITs because they are less able to recognize the source of destructive thoughts and respond appropriately (Baker et al., 2004), which we suggest contributes to decreased functionality. For example, a student may be working effectively in class, when an NIT strikes, and for no clear external reason, the student becomes upset.

While NITs can occur at any time, they are more likely when a circumstance occurs that reminds the victim of a previous failure (Ramos et al., 2007). NITs play a major role in fostering depression and anxiety (Peterson, & Seligman, 1984). NITs not only directly undermine functionality by distracting students, they may also reinforce stereotype threat and negative self-image.

Stereotype Threat and Stigma

Stereotype threat is a well-established phenomenon where those who have a negative stereotype about their performance in a given area—such as “girls are bad at math”—will, at times, perform worse than peers in that area despite being equally capable (Marx, Monroe, Cole, & Gilbert, 2013; Steele, Spencer, & Aronson, 2002). ADHD is one of the most stigmatizing of the mild to moderate mental health disabilities (Mueller, Fuermaier, Koerts, & Tucha, 2012; Wiener & Mak, 2009), with stereotypes ranging from they’re disruptive” to “they’re stupid/lazy” (Gardner & Gerdes, 2015). Because stereotypes about students with ADHD include their social, academic, and behavioral performance, we theorize that the performance of students with ADHD is lowered by stereotype threat, contributing to additional failure (Weiner, 2004; Wiener & Mak, 2009). The resulting failures would then reinforce the stigmas (Aidman & Kollaras-Mitsinikos, 2006; Mavroveli, & Sánchez-Ruiz, 2011; Steele et al., 2002; Zentall, 2005), reducing self-belief and self-efficacy.

Poor Self-Efficacy/Self-Belief

Self-efficacy refers to the evaluation someone does to determine how likely they are to be successful at a given task (Van der Bijl & Shortridge-Baggett, 2002). Studies have found reduced self-esteem and self-efficacy among those with ADHD (Edbom, Lichtenstein, Granlund, & Larsson, 2006; Newark, Elsässer, & Stieglitz, 2012).

Individuals with high self-efficacy are more likely to see a challenging task through (Barling & Beattie, 1983). Students who believe they cannot control themselves are less successful at doing so (Caprara, Regalia, & Bandura, 2002; Ramos et al., 2007; Summerfeldt, 2014). Diminished self-control leads to impaired coping in the next situation requiring a challenging use of social or academic skills (Barling & Beattie, 1983; Beauchaine et al., 2003; Gumpel, 2007). Coping is a means of regaining self-control in the face of obstacles (Hechtman, 1991); we propose that poor coping and low self-efficacy work together to erode performance, and eventually, self-belief. The resulting maladaptive behaviors, such as bullying or outbursts, cause failures that reduce the student’s self-belief that they can succeed, perpetuating the maladaptive coping cycle.

Panic: Fight, Flight, or Freeze

Negative intrusive thoughts (NITs) can also contribute to panic. Fight Flight or Freeze results when heightened states of stress activate the emergency sympathetic system to prepare for life-threatening danger (American Psychiatric Association, 2013). This system is more readily activated in students with ADHD than in typical peers (Musser et al., 2011; Pang & Beauchaine, 2013). During panic, the amygdala inhibits the brain’s problem-solving centers (Baker et al., 2004), narrowing the scope of solutions that an individual under stress can perceive (Peterson & Seligman, 1984)—making them more likely to choose an unproductive solution, and thus underperform (Musser et al., 2011; Wiersema & Roeyers, 2009). We suggest that Fight Flight Freeze directly contributes to maladaptive behaviors in a classroom setting (Pang & Beauchaine, 2013), such as running, failing to re-

spond to instructions, or even throwing a punch (Baker et al., 2004). These maladaptive behaviors cause academic and social failures which feed back into the rest of the maladaptive coping cycle.

CYCLE OF ACADEMIC FAILURE

Organizational Difficulties and Trouble with Directions and Attention

Disorganization and attentional difficulties are an inherent part of ADHD (AAP, 2011; Weyandt & Gudmundsdottir, 2015). The environment that takes up much of an ADHD student’s waking hours, school, is therefore one in which they are likely to encounter frequent failures. We hypothesize that the frustration of recurrent failure can result in disruptive behaviors due to maladaptive coping and emotional struggles (Mavroveli & Sánchez Ruiz, 2011; Seymour, Macatee, & Chronis-Tuscano, 2016).

Productivity Feels Less Rewarding

Students with ADHD have a less functional dopamine reward pathway (Volkow et al., 2011), a phenomenon which both Sonuga-Barke (2005) and Tripp & Wickens (2009) note reduces productivity by reducing responsivity to reward. The brains of ADHD students reward them less for working quietly to improve a skill (Seymour et al., 2016; Volkow et al., 2011). Those students are also less responsive to delayed rewards than their peers (Kohls, Herpertz-Dahlmann, & Konrad, 2009; Tripp & Wickens, 2009). Delayed rewards are the cornerstone of most classroom management systems (Covington, 2000), which makes them less effective for many students with ADHD (Martin, 2013). Continued failure in the presence of a system designed to produce success, we would propose, adds to a student’s negative self-narrative.

Flawed Failure-to-Praise Ratio

Typical students need between three and five affirmations to counteract one negative experience in the classroom (Knoster, 2008). Most teachers might agree that this ratio is difficult to maintain generally; but since students who

have ADHD encounter more academic failure than typical students, then it follows that students with ADHD will need reinforcements more frequently than their typical peers (Modesto-Lowe et al., 2011). When the classroom management system does not work as well for students with ADHD, the frustrated teacher is likely to administer fewer positive messages to these students rather than more. Research suggests that students with ADHD rarely receive the number of positive reinforcements they need to function effectively (Barkley, Murphy, & Fischer, 2010; Kos, Richdale & Hay, 2006).

Performance versus Mastery Goals

Performance goals are goals that depend on the acknowledgment of others to be fulfilled—for example, “I want everyone to see how smart I am,” or “I don’t want to embarrass myself.” Mastery goals focus on maximizing personal ability in a certain area—for example, “I want to be able to solve multiplication problems,” or “I want to be better at spelling” (Covington, 2000; Zentall, 2005; Zentall & Beike, 2012). Mastery goals are associated with increased intrinsic motivation in school, while performance goals correlate with poor satisfaction in school (Covington, 2000; Martin, 2013; Villanueva, 2016). Students with ADHD are more likely than their peers to have performance goals (Barron, Evans, Baranik, Serpell, & Buvinger, 2006; Martin, 2013). Teachers and classroom culture have a significant impact on the development of performance or mastery goals (Frey, Fisher, & Smith, 2019). For example, teachers can inadvertently promote performance goals when they ask students to read out loud, solve problems on the board, raise their hand to answer questions, participate in class discussions, or post graded work on the wall.

We hypothesize that performance goals can transform academic failures into social failures. Under the influence of performance goals, a failing test grade no longer represents just a lack of knowledge or hard work—but the risk that others will think the student is lazy or stupid (Kohls et al., 2009). If so, the stress of academic disappointment would then be doubled, since each aca-

demic failure would also carry with it the stress of feeling like a social disappointment. Research suggests that this kind of habitual disappointment may eventually lead the student to seek out peer groups that do not value academic success, in order to reduce the discomfort of failure (McQuade & Hoza, 2008, 2015). We hypothesize that this doubled stress from each academic failure also increases the risk of being pushed past their frustration threshold.

Pushed Past Frustration Threshold

There is a well-documented curvilinear relationship between performance and stress—too much stress reduces performance, but no stress inspires inaction (Broadhurst, 1957). The line between productive and unproductive stress is the frustration threshold. The threshold tends to be lower in students with ADHD than for typical peers (Seymour et al., 2016). Decreased emotional regulation (typical of ADHD) makes it challenging to maintain the stress “sweet spot” between apathy/disengagement and performance-reducing anxiety. The organizational and attentional struggles of students with ADHD make school inherently stressful (DuPaul & Langberg, 2015). Students who have crossed their frustration threshold are far more likely to shut down or cause disruptions (Beauchaine et al., 2013), which deteriorates their functionality (Kestly, 2016; Porges & Dana, 2018). Functional impairment causes failure, which increases stress and worsens emotional impulsivity (Walerius, Reyes, Rosen, & Factor, 2018), which we hypothesize pushes them even further from their ideal stress-performance level. Stress from academic and social failures contributes to students with ADHD giving up on doing well on specific assignments, and on school work overall in the long term (Zentall, 2005; Zentall & Beike, 2012). Once a student stops trying, their results are even worse, and their performance goals become less related to academic success (Kohls et al., 2009). As they disengage from academic goals, their measures of success are likely to be based on the social feedback they get just after an academic event (Mavroveli & Sánchez-Ruiz, 2011). If their social functionality is also

low, then any failure can be disastrous to their self-esteem (Gardner, & Gerdes, 2015; Mayeux, Bellmore, & Cillessen, 2007), which we hypothesize perpetuates the maladaptive coping cycle.

CYCLE OF SOCIAL FAILURE

Positive social experiences are one of the best documented keys to happiness and quality of life (Berkman & Glass, 2000; Stansfeld, 2006). Research has demonstrated that healthy social experiences help foster innovation and positive coping skills, reduce life stress, and significantly reduce the chances of bullying and depression (Berkman, & Glass, 2000; Weiner, 2004; Wiener & Mak, 2009). Students with ADHD often have problems adeptly handling social situations (McQuade & Hosa, 2015; Normand et al., 2011; Weiner, 2004). They are less likely to have reciprocated friendships (Hoza, 2007), are more likely to misinterpret social feedback (Green et al., 2014; Gumpel, 2007), and are at a higher risk for bullying (Wiener & Mak, 2009). This struggle is in part due to gaps in their social skill set, such as reading social cues, attending to social information, and age-appropriate self-control, like taking turns and filtering thoughts before speaking.

Misinterpreting Social Cues

Students with ADHD often inaccurately perceive the facial expressions and social cues of others (McQuade & Hoza, 2015). Everything from voice tone to body language may be misinterpreted (Uekermann et al., 2010). Children with ADHD have a tendency to misinterpret anger or fear as neutral or sad expressions (Williams, Hermens, Palmer, Kon, Clarke, & Keage, 2008), while adults with ADHD skew towards interpreting neutral faces as angry or sad (Airdrie, Langley, Thapar, & van Goozen, 2018; Miller, Hanford, Fassbender, Duke, & Schweitzer, 2011). If the brain of the watcher inherently misreads a social cue, the person will walk away with entirely the wrong social lesson (Chen & Bullock, 2004; Kestly, 2016; McQuade & Hoza, 2015).

Reduced Support Network

Social rejections leave a lasting mark on the minds of those that experience them (Fleming, 2008; McQuade, & Hoza, 2015). We suggest that fewer friendships and less time spent with those friends, combined with lower social standing, result in a reduced support network, with fewer resources to call upon when problem solving or attempting to cope (Berkman & Glass, 2000). We propose that social failures contribute to maladaptive coping; when the student copes poorly with social failure, their self-control is eroded, their frustration threshold reduced, leading to Fight Flight Freeze, all contributing to socially undesirable behaviors that can be stigmatizing. Stigma feeds self-stereotype threat and NITs. The emotional drain of social struggles can also exacerbate academic struggles, causing the student to miss class material, disengage from class, or act out, which can result in being removed or even expelled.

DISCUSSION

The downward spiral of maladaptive coping can seem like a crushing force, but a downward spiral can be turned upward, and these interconnected factors can be made to work for the student instead of against them. For example, in general populations, Fredrickson & Joiner (2002) found that those who have a wide range of coping skills tend to interpret their experiences as positive, and vice versa. Decreases in intensity, timing, distress, or quality of unpleasant symptoms can positively improve quality of life and functionality. Improved functionality has a reciprocal relationship with physiological, psychological, and situational factors. Intervene in any of these areas, and the others will improve as well (Lenz & Pugh, 2003).

There is no single solution to the downward spiral. Different steps of the maladaptive coping cycle respond to different tools and solutions. Research from many fields continues to find effective interventions against the maladaptive coping cycle.

Intervention Points

Some points in the spiral are more amenable to intervention than others. Some methods of intervention are effective primarily for students with ADHD while others work well with typical students but are ineffective in students with ADHD. Interventions discussed below are intended as starting points for persons in a school setting and do not address medications or home-based interventions.

If-Then Strategies. Implementation intentions are if-then statements used to plan out goal-oriented responses to hindrances (Webb & Sheeran, 2008), such as, "If I feel like yelling, then I will squeeze my eraser instead," or "If I see the phrase 'how many less' in the question, then I will subtract." This practice has been associated with decreases in NITs in the general population when attempting to make behavior changes (Achtziger, Gollwitzer, & Sheeran, 2008). In children with ADHD, if-then planning has been shown to decrease perseverative errors, improve execute function, and promote inhibition of distractions (Gawrilow, Gollwitzer, & Oettingen, 2011b), as well as improve impulsivity, both behaviorally and neurologically (Paul et al., 2007). Both typical peers and students with ADHD experience an increase in delayed gratification when using if-then statements as a self-regulatory strategy (Gawrilow, Gollwitzer, & Oettingen, 2011a).

Strategies to Counter Stereotype Threat. From the earliest studies, it has been demonstrated that stereotype threat can be at least partially mitigated by informing participants that the material has been designed so that the stigmatized group can perform equally well on it (Spencer, Steele, & Quinn, 1999). Presenting students with role models they identify with and who have faced their same problems (in-group role models) has also been shown to help negate stereotype threat (Marx & Ko, 2012; Marx, Ko, & Friedman, 2009). In-group role models who are highly skilled in the supposed area of weakness help girls do better, whereas boys perform best when presented with an in-group role model who is weak in the area they are struggling with (Marx et al., 2013).

Strategies to Curb Negative Intrusive Thoughts. In our model, NITs are a major driver of the maladaptive coping cycle. Trying to argue against or suppress NITs while the student is being bombarded by them will actually strengthen those thoughts (Salkovskis & Campbell, 1994; Schmidt et al., 2010). One strategy to help a student during the immediate intrusive episode is to encourage them to focus on positives like flexibility, love, trust, forgiveness, gratitude, and acceptance, or by providing absorbing distractions (Bond & Dryden, 2004; Flinchbaugh, Moore, Chang, & May, 2012; Frederickson, 2001). However, long-term preventive treatment must occur outside the immediate episode (Gay et al., 2011). Focusing on implementation goals (if-then strategies) has been shown to be protective against NITs for students with ADHD (Achtziger et al., 2008). Dialectical and cognitive behavioral strategies have been shown to be successful in helping overcome NITs (Fairfax, 2008; Jensen, Amdisen, Jørgensen, & Arnfred, 2016; Lepore, Ragan, & Jones, 2000) inside or outside the classroom or school. While a detailed discussion is outside the scope of this article, note that universal classroom-based, teacher-led interventions promoting social and emotional competencies have demonstrated effectiveness in improving executive function among children with deficits (Flook et al., 2010).

Positive Refocusing Strategies. We theorize that the performance of students with ADHD will benefit from experiencing feelings of accomplishment from their school work. Specific positive feedback is one strategy that has demonstrated success in promoting a sense of accomplishment in children with ADHD. Students with performance goals highly value social rewards (Kohls et al., 2009). While mastery goals are preferable, in the short-term utilization of social rewards from the teacher can help students develop a sense of accomplishment. Students with ADHD benefit when they are praised not just for achievements, but for following the rules (Piffner & DuPaul, 2015). Additional contingent praise, such as a personal token system for the student with ADHD that is administered as frequent-

ly and immediately as possible, can be effective as well (Allen et al., 2013; DuPaul, Weyandt, & Janussis, 2011; Fabiano et al., 2009; Pfiffner & DuPaul, 2015). This creates tangible reminders of past success, and possibly helps make up for sluggish productivity/reward pathways.

Ultimately, if students with ADHD are to achieve independence, they must learn to internally source their praise. Journaling the day's successes and gratitude exercises have been shown to improve typical student performance and well-being (Flinchbaugh et al., 2012). Journaling has also been linked to increased emotional regulation and increased emotional clarity (Flinchbaugh et al., 2012), which are key parts of emotional control. Strong emotional control helps to promote coping (Ramos et al., 2007), reduce maladaptive behaviors (Wiersema & Roeyers, 2009), and decrease intrusive thoughts (Musser et al., 2011).

Goal-Setting and Growth Mindset Strategies. Performance goals can undermine success. One way to encourage a shift from performance goals to mastery goals is to help students develop a growth mindset toward their traits, such as intelligence or self-control (Barron et al., 2006; Villanueva, 2016). Growth mindsets recognize that positive identities such as "smart" or "good at school" are not categorically true or false, but instead are gradually developed by putting in effort (Covington, 2000). Growth mindsets are helpful in dislodging negative self-stereotypes (Martin, 2013).

There are many ways to encourage growth mindsets, but one of the most effective ways is to generate a growth culture within the classroom (Frey et al., 2019). For example, the teacher can encourage the students to celebrate growth milestones and display charts that demonstrate personal bests instead of grades.

Another way is to have the teachers themselves act as role models for having mastery goals (Gordon, Dembo, & Hocevar, 2007). Use of if-then statements has also been shown to improve student implementation of their goals (Achtziger et al., 2008; Paul et al., 2007).

Strategies to Check Panic. A student who has been pushed past their frustration threshold and into Flight Fight Freeze mode must be de-escalated. Panicked people may have a temporarily reduced mental age and can be most effectively de-escalated by techniques that are age appropriate for the regressed age (Lokko & Stern, 2015). Soothing techniques and cool-down spaces aid this process (DuPaul et al., 2011). In the long term, both mindfulness training and cognitive behavioral therapy are beneficial in reducing the frequency and severity of the episodes (Jensen et al., 2016; Kestly, 2016), and have been shown to improve regulatory processing as well (Lewis et al., 2008).

Flight and fight precede freeze in the stages of panic. If someone has reached the freeze stage, they must pass back down through fight and flight to reach calm (Hagenaars et al., 2014; Kolacz et al., 2018). This suggests they could be triggered into re-escalating if they are provoked or have the chance to flee while de-escalating (Porges & Dana, 2018). Panicked minds pay more attention to nonverbal cues than to verbal cues (Pang & Beauchaine, 2013), and since they can be in a somewhat regressed state, it may be helpful to communicate with tone (neither yielding nor confrontational) and body language so that the student feels safe and cared for (Lokko & Stern, 2015). The goal is for the student to feel protected enough not to need to flee, and safe enough not to need to fight (Spielfogel & McMillen, 2017).

Suggestions for Future Research

While there is a wealth of information regarding the maladaptive coping cycle as individual components, some of the relationships between the individual elements and the whole cycle we propose have not been proven, particularly in children with ADHD. There are also gaps in our knowledge of how to disrupt the cycle, not just in relation to individual strategies, but in terms of which elements are key to address, and in what order. There needs to be further investigation into the effectiveness of various techniques specifically with students with ADHD, including strategies for dealing with NITs, diffusing panic,

and social skills acquisition and generalization. For example, little research has been done on whether fictional role models can substitute for real life role models in mitigating stereotype threat. There is also a vital need to establish if there is anything special about the way stress increases productivity and when the frustration threshold is reached by students with ADHD.

The problems faced by students with ADHD may be varied and fraught with complications, but interested experts from a variety of disciplines are working hard to find solutions. The more we pool our knowledge and resources, the more effective the interventions that can be implemented to reverse the maladaptive coping cycle and improve both quality of life and social and academic success among students with ADHD.

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