

Treatment Planning Strategies for Youth With Disruptive Mood Dysregulation Disorder



The Professional Counselor™
Volume 12, Issue 1, Pages 36–48
<http://tpcjournal.nbcc.org>
© 2022 NBCC, Inc. and Affiliates
doi: 10.15241/gth.12.1.36

Gregory T. Hatchett

The addition of disruptive mood dysregulation disorder (DMDD) to the fifth edition of the *Diagnostic and Statistical Manual of Mental Disorders (DSM-5)* was a controversial decision in 2013 and one that continues to the present. Researchers have found that DMDD exhibits both poor interrater reliability and discriminant validity from other common childhood-onset disorders, most notably oppositional defiant disorder (ODD). Research also indicates that DMDD might be better conceptualized as a component of ODD, and consistent with such a conceptualization, experts have recommended that effective treatments for ODD be applied to youth who fit the diagnostic pattern of DMDD. The purpose of this article is to help readers understand the problematic diagnostic validity associated with DMDD and to present recommended treatment strategies for working with youth who fit this challenging symptom profile.

Keywords: disruptive mood dysregulation disorder, oppositional defiant disorder, conceptualization, diagnostic validity, youth

A pattern of emotional and behavioral dysregulation—characterized by severe irritability, temper outbursts, and aggressive behavior—is one of the most common reasons that children and adolescents are referred to mental health service providers (Axelson et al., 2012; Brotman et al., 2017; Stringaris et al., 2018) and a common antecedent to inpatient hospitalization (Chase et al., 2020; Rao, 2014). Despite the prevalence and severity of these associated symptoms, mental health professionals have often disagreed as to how children and adolescents who fit this symptom profile should be conceptualized and properly diagnosed. Over the years, chronic irritability and temper dysregulation have been conceptualized as associated features of externalizing disorders (Carlson, 1998), developmental variations of early-onset bipolar disorder (Biederman et al., 2000), and core features of an experimental research phenotype (Leibenluft et al., 2003; Rich et al., 2005; Stringaris et al., 2010).

In 2013, the American Psychiatric Association (APA) provided a new diagnostic home for youth with chronic and severe irritability in the depressive disorders chapter in the fifth edition of the *Diagnostic and Statistical Manual of Mental Disorders (DSM-5)* (APA, 2013). This new disorder—*disruptive mood dysregulation disorder (DMDD)*—was specifically added to the *DSM-5* to prevent clinicians from overdiagnosing a bipolar and related disorder in children and adolescents who exhibited non-episodic irritability and temper outbursts. Beginning in the 1990s, there began an exponential increase in the number of children and adolescents who were diagnosed with bipolar disorder. As just one example of this pattern, Moreno et al. (2007) reported a 40-fold increase of the number of outpatient office visits for children and adolescents treated for bipolar disorder between 1995–1996 and 2002–2003. Not only was this increase unusual from an epidemiological perspective (Van Meter et al., 2011), but researchers also began to accumulate evidence that these youth did not match the profile of either youth or adults with traditional bipolar disorder (Leibenluft, 2011; Towbin et al., 2013). To better characterize children and adolescents who exhibited chronic irritability and temper outbursts, researchers at the National Institute of Mental Health (Leibenluft et al., 2003) developed a new diagnostic phenotype, *severe emotional dysregulation (SMD)*, to differentiate this symptom pattern from traditional bipolar disorder. SMD subsequently became the foundation for the inclusion of DMDD in the *DSM-5* (APA, 2013).

Gregory T. Hatchett, PhD, NCC, LPCC-S, is a professor at Northern Kentucky University. Correspondence may be addressed to Gregory T. Hatchett, MEP 211, Highland Heights, KY 41099, hatchettg@nku.edu.

Many experts disagree about DMDD as a valid and coherent diagnostic category. However, there seems to be a strong consensus that many children and adolescents are severely impaired because of chronic irritability and severe temper dysregulation (Copeland et al., 2014; Rao, 2014). Although early estimates indicate that only 1%–3% of children and adolescents may meet the full diagnostic criteria for DMDD (Copeland et al., 2013), many more may present with at least subthreshold symptoms of the disorder (Baweja, Mayes, et al., 2016; Freeman et al., 2016). Thus, counselors, especially those working in clinical settings, will likely find themselves working with many children and adolescents who exhibit symptoms of DMDD, symptoms which need to be carefully evaluated as part of any differential diagnostic process. To provide the best possible services for this population, counselors need to be familiar with the current literature on both the diagnosis and treatment of DMDD. Consequently, this article summarizes these current DMDD topics and presents treatment recommendations for working with youth diagnosed with DMDD. Because it is important for counselors to understand the questionable diagnostic validity of DMDD and how these diagnostic limitations should inform the treatment planning process, this topic will be preceded by criticisms of DMDD as a valid mental disorder. Also discussed are the challenges of diagnosing youth who present with chronic emotional and behavioral dysregulation.

The Diagnosis of DMDD

The diagnostic criteria and decisional rules for DMDD in the *DSM-5* (APA, 2013) are rather detailed, so only a summary will be provided here. (Readers should consult pages 156–160 in the *DSM-5* for more detailed information.) The core diagnostic features for DMDD include recurrent (3 or more times a week) temper outbursts that are developmentally inappropriate, severe, and disproportionate to any identifiable stressor along with the persistence of a chronically irritable or angry mood between these temper outbursts—a disruption in mood that is noticeable by others. These symptoms must have begun before the age of 10, persist for a minimum of a year (with no more than 3 consecutive months of symptom-free periods), and be present in at least two out of three settings (i.e., home, school, peer relationships). According to the *DSM-5*, this diagnosis should not be made if these symptoms occur exclusively during a major depressive episode or if the symptoms are better explained by another mental disorder, such as autism spectrum disorder. Also, a diagnosis of DMDD cannot be given concurrently with oppositional defiant disorder (ODD), bipolar disorder, or intermittent explosive disorder. If a child meets the diagnostic criteria for both DMDD and ODD, only DMDD should be given. As mentioned previously, DMDD was specifically added to the *DSM-5* to prevent clinicians from overdiagnosing bipolar and related disorder in children and adolescents who exhibit non-episodic irritability and temper outbursts. However, at first glance, a youth who meets the diagnostic criteria for DMDD may be suspected of having a bipolar and related disorder. Thus, it is important for counselors to recognize the fundamental differences between the two disorder classifications.

As explained above, in DMDD, a child or adolescent experiences *non-episodic* irritability that is punctuated by severe and disproportionate temper outbursts. This symptom presentation must occur for at least 365 days, and during the year, have no more than a 3-month period in which the child or adolescent does not experience the core features of the disorder. In contrast, youth who meet the diagnostic criteria for bipolar disorder experience distinctive *episodes* of mania (at least 7 days), hypomania (at least 4 days), or depression (at least 14 days). Although irritability and temper outbursts can certainly occur in the context of a manic or hypomanic episode, there are additional symptoms that must also be present. Specifically, the irritability or temper outbursts should be episodic, accompanied by an increase in goal-directed activity/energy, and include additional symptoms, such as grandiosity, decreased need for sleep, pressured speech, racing thoughts, or reckless impulsivity (APA, 2013). More information on the differential diagnosis of bipolar disorder from DMDD and other conditions can be found in Hatchett and Motley (2016).

Diagnostic Validity of DMDD

Many have argued that adding DMDD to the *DSM-5* traded one problem—overdiagnosis of bipolar disorder—for another: a poorly conceptualized diagnostic construct lacking any evidence-based treatments (e.g., S. C. Evans et al., 2017; Freeman et al., 2016; Parker & Tavella, 2018). As Malhi and Bell (2019) recently observed, “more than half a decade later, the ‘creation’ of this new diagnostic entity [DMDD] has not provided any novel insights or greater understanding and is yet to demonstrate any tangible benefits” (p. 706).

Though DMDD has been criticized for its poor interrater reliability (Regier et al., 2013) and low temporal stability across time (e.g., Axelson et al., 2012), the strongest criticism of DMDD has been directed toward its standing as an independent and coherent diagnostic construct, a concern that was not only present at the time of its introduction in the *DSM-5*, but one that has been bolstered by subsequent research since the publication of the *DSM-5* in 2013. Ironically, the evidentiary basis for including DMDD in the *DSM-5* was not based on studies of children and adolescents who actually matched the specific diagnostic criteria for DMDD. Instead, the research support for DMDD was inferred from research conducted on SMD (Baweja, Mayes, et al., 2016; Bruno et al., 2019; Rao, 2014; Towbin et al., 2013). As mentioned previously, the phenotype of SMD was developed by researchers at the National Institute of Mental Health (Leibenluft et al., 2003) to provide an alternative conceptualization to bipolar disorder for youth who exhibited chronic and severe irritability, temper dysregulation, and hyperarousal. However, there are important differences between the diagnostic criteria for SMD and DMDD. Compared to the diagnostic criteria for DMDD, SMD includes different age parameters, the presence of an abnormal mood characterized by anger *or* sadness, different exclusion criteria, and most importantly, the presence of hyperarousal (e.g., insomnia, agitation, distractibility; Leibenluft, 2011). As S. C. Evans et al. (2017) pointed out, “Given the differences between the operationalization of SMD in the literature and the definition of DMDD, virtually no evidence regarding DMDD existed at the time of its inclusion in *DSM-5*” (p. 33).

Consistent with these differences, researchers have found low levels of correspondence between the two syndromes. For example, Copeland et al. (2013) reported that only 38.9% of those who met the criteria for SMD also met the diagnostic criteria for DMDD. These differences have important implications for the treatment planning process. Specifically, it is unclear whether any of the interventions that have been found to be helpful for youth with SMD (e.g., Towbin et al., 2020) will generalize to youth who match the different diagnostic profile for DMDD (Benarous et al., 2017).

Furthermore, since the publication of the *DSM-5* in 2013, researchers have increasingly challenged the validity of DMDD as a stand-alone diagnostic construct (Freeman et al., 2016). For one, there is very little evidence to suggest that DMDD can be reliably differentiated from other common childhood-onset disorders (S. C. Evans et al., 2017; Malhi & Bell, 2019). Several of the core symptoms of DMDD—chronic irritability and recurrent temper outbursts—are not exclusive to DMDD, but rather represent transdiagnostic symptoms often present in many other disorders, such as ODD, generalized anxiety disorder, depression, autism spectrum disorder, bipolar disorder, and post-traumatic stress disorder (e.g., Stringaris et al., 2018). As Parker and Tavella (2018) pointed out, “Those who meet the criteria for DMDD may in fact have a conduct disorder, ODD, attention deficit hyperactivity disorder (ADHD), or any of myriad other behavioral disorders” (p. 815). However, on the one hand, the diagnostic criteria for DMDD in the *DSM-5* is very extensive and detailed, especially compared to what is commonly delineated for many other disorders in the *DSM-5*. Clinicians who carefully follow these detailed criteria and decisional rules should, in theory, arrive at valid and reliable diagnoses of

DMDD. Yet, in real practice, the diagnostic process is often plagued by careless errors and clinician biases (Garb, 1998; Lacasse, 2014). Consequently, the issue becomes how well clinicians can apply these criteria in often complex clinical situations.

More research is needed on how well counselors and other clinicians can reliably diagnose DMDD and differentiate it from other conditions in ordinary practice settings. Concerns about the diagnostic validity of DMDD have been most pronounced in the differentiation of DMDD from ODD. In the *DSM-5* (APA, 2013), a diagnosis of DMDD automatically supersedes a diagnosis of ODD; thus, these two diagnoses cannot be given concurrently. However, when researchers have removed this exclusionary rule, they have found that nearly all the children and adolescents who met the diagnostic criteria for DMDD also met the diagnostic criteria for ODD (Axelson et al., 2012; Freeman et al., 2016; Mayes et al., 2016). As just one example, Mayes, Waxmonsky, et al. (2015) reported that 91% of the children who met the criteria for DMDD in their study also qualified for a diagnosis of ODD. However, the reverse is not true. Researchers have found that diagnoses of ODD commonly occur in the absence of DMDD. Approximately one-third of children and adolescents who meet diagnostic criteria for ODD do not have significant symptoms of DMDD (Mayes et al., 2016).

According to the hierarchy or parsimony principle in the *DSM-5* (APA, 2013), a clinician should diagnose the most severe disorder that best captures the multitude of symptoms that a client is experiencing instead of adding on several more minor diagnoses to the diagnostic record. For example, children and adolescents who meet the diagnostic criteria for autism spectrum disorder simultaneously meet the diagnostic criteria for social communication disorder. Therefore, an additional diagnosis of social communication disorder is unnecessary. Likewise, in the *DSM-5*, a diagnosis of DMDD is higher on the diagnostic hierarchy than ODD, and thus many of the symptoms of ODD are subsumed under a diagnosis of DMDD. For clinicians who carefully follow the diagnostic rules of the *DSM-5*, both negative affectivity and oppositional behavior can be recognized and targeted as part of a treatment plan for a youth with DMDD.

For an alternative point of view, some researchers have expressed the concern that a single, overruling diagnosis of DMDD will fail to adequately acknowledge the behavioral problems associated with ODD, resulting in suboptimal treatment planning decisions (S. C. Evans et al., 2017; Mayes et al., 2016). Mayes et al. (2016) pointed out that a diagnosis of DMDD fails to acknowledge many of the disruptive behavioral components of ODD that are nearly always present in children and adolescents who meet the diagnostic criteria for DMDD. Likewise, S. C. Evans et al. (2017) argued that

treating DMDD as a Depressive Disorder—and withholding a diagnosis of ODD, per *DSM-5* hierarchical rules—may lead clinicians to conceptualize these youth as having a mood disorder rather than a behavior disorder. For primary care providers and pediatricians, treating DMDD as a mood disorder and removing the ODD label may both decrease referrals for behavioral interventions that are well established (e.g., parent management training) and increase the administration of psychotropic medications such as antidepressants, antipsychotics, and mood stabilizers, for which evidence is limited. (p. 39)

However, the concerns just mentioned may reveal more about problems in the correct use and application of the *DSM-5* by clinicians rather than problems inherent in diagnostic rules prescribed by the *DSM-5*.

Because of the transdiagnostic nature of DMDD symptoms (e.g., Parker & Tavella, 2018), several experts have recommended that DMDD be recognized as either a subtype or specifier under other *DSM-5* diagnoses (Mayes, Mathiowetz, et al., 2015), most often as a subtype or specifier under ODD (S. C. Evans et al., 2017; Malhi & Bell, 2019; Mayes et al., 2016; Mayes, Waxmonsky, et al., 2015). This was the approach recently taken by the World Health Organization (2019) in the 11th edition of the *International Statistical Classification of Diseases and Related Health Problems (ICD-11)*. In the *ICD-11*, clinicians have the option to diagnose a youth with oppositional defiant disorder *with* or *without chronic irritability-anger*. Thus, this diagnostic code allows clinicians to concurrently recognize both symptoms of emotional dysregulation and symptoms of argumentative, oppositional, and vindictive behavior. However, at the time of this writing, the *ICD-11* has not been adopted in the United States, so counselors in the United States are still using the *DSM-5* (APA, 2013) and the *ICD-10* (World Health Organization, 2016).

On the other hand, some have cautioned against the use of DMDD as only a subtype or specifier under ODD (e.g., Benarous et al., 2017; Stringaris et al., 2018). Brotman et al. (2017) expressed the concern that many clinicians do not record available specifiers in diagnostic records, and consequently, children and adolescents who are diagnosed with ODD under the *DSM-5* might not receive targeted interventions for symptoms of severe irritability and temper outbursts. At the very least, perhaps clinicians should be allowed to diagnose DMDD and ODD concurrently.

Another concern in the differential diagnosis of DMDD is potential racial/ethnic bias. As a depressive disorder in the *DSM-5* (APA, 2013), DMDD is conceptualized as an *internalizing disorder*, whereas ODD is conceptualized as an *externalizing or disruptive behavior disorder*. Researchers have found that African American youth are more likely to be diagnosed with externalizing disorders, whereas European American youth are more likely to be diagnosed with internalizing disorders (e.g., Fadus et al., 2020; Minsky et al., 2006). Though this research has not yet been replicated specifically in the diagnosis of DMDD, prior research indicates that African American youth may be less likely to be identified as having DMDD and may not receive adequate treatment for potential depressive symptoms. Furthermore, researchers have found that African Americans and other minority groups who experience higher rates of racial/ethnic discrimination also experience more mental health and psychosocial functioning difficulties compared to those with lower experienced rates of racial/ethnic discrimination (Tobler et al., 2013). Consequently, counselors should evaluate the extent to which irritability and aggression among minority youth are associated with experiences of discrimination as opposed to internal psychopathology implicit in the *DSM* framework (e.g., Carter et al., 2019; Mouzon et al., 2017).

Treatment Planning Strategies

Diagnostic Considerations

Certainly, the main source of information for the proper diagnosis of DMDD is the explicit diagnostic criteria and decision rules in the *DSM-5* (APA, 2013). To document these diagnostic criteria, counselors might consider using one or more of the cross-cutting measures included in Section III of the *DSM-5* (pp. 733–741). Outside the *DSM-5*, there are currently few diagnostic tools for counselors to use in confirming a diagnosis of DMDD (Baweja, Mayes, et al., 2016). The assessment tools most often used in the research literature measure general irritability, such as the Affective Reactivity Index (Stringaris et al., 2012) or the Clinician Affective Reactivity Index (Haller et al., 2020). Specific to the diagnosis of DMDD, Wiggins et al. (2016) developed a DMDD module that was used in conjunction with the Kiddie Schedule for Affective Disorders and Schizophrenia for

School-Age Children–Present and Lifetime Version (K-SADS-PL; Kaufman et al., 1997). However, this is a new module that has not undergone extensive psychometric evaluation.

In addition to confirming a diagnosis of DMDD, counselors should also assess for common comorbid mental disorders (Mayes et al., 2016). Youth who meet the diagnostic criteria for DMDD almost always have comorbid disorders, most often attention-deficit/hyperactivity disorder (ADHD), conduct disorder, and specific learning disorders (Althoff et al., 2016; Bruno et al., 2019). Though one cannot technically diagnose DMDD and ODD concurrently under *DSM-5* rules, counselors should also carefully assess and document symptoms of ODD, which will likely be appropriate targets in the treatment planning process (e.g., S. C. Evans et al., 2017).

Though there are currently not any clearly validated inventories for directly assessing DMDD, there are several inventories available for assessing the comorbid conditions that often accompany the DMDD symptom profile. In addition to the previously mentioned cross-cutting measures in Section III of the *DSM-5* (APA, 2013), there are several commercially available inventories for assessing symptoms of ODD, such as the Achenbach Series (Achenbach & Rescorla, 2006) or the Child and Adolescent Disruptive Behavior Inventory (Cianchetti et al., 2013). Again, though a diagnosis of DMDD technically overrides a diagnosis of ODD, symptoms of ODD will likely be present and a major target area of a counseling plan. Administration of a validated measure of ODD will not only help counselors identify symptom severity at the beginning of the counseling process, but can also be repeatedly administered throughout the counseling process to evaluate areas of improvement and areas that need additional attention. This same assessment process could also be used for other conditions comorbid with DMDD. Counselors might use the Conner's Rating Scales (Conners, 1999) to assess for ADHD and other associated symptoms, such as aggression and learning problems. Symptoms of depression can be evaluated through administering the Children's Depression Inventory (Sitarenios & Kovacs, 1999) or the Beck Depression Inventory with older adolescents (Beck et al., 1996). As is often the case, an assessment and treatment protocol that targets specific symptoms may be more effective than one that tries to remediate global diagnostic constructs, such as DMDD (e.g., Weisz & Kazdin, 2017).

Evidence-Based Treatments for DMDD

This next section will review the currently available research on both the use of pharmacotherapy and psychosocial interventions in working with youth who meet the diagnostic criteria for DMDD. This will be followed by a review of evidence-based treatments for related clinical conditions and will end with a summary of general treatment recommendations for working with youth diagnosed with DMDD.

Psychopharmacology

Researchers have conducted only a few studies on the effectiveness of pharmacotherapy in reducing symptoms of DMDD. For youth diagnosed with both DMDD and ADHD, researchers have found some evidence for the effectiveness of psychostimulant monotherapy (Baweja, Belin, et al., 2016; Winters et al., 2018) as well as the combination of methylphenidate with aripiprazole (Pan et al., 2018); however, in a small ($n = 12$) retrospective study, Ozyurt et al. (2017) found that methylphenidate resulted in increased irritability in children diagnosed with both DMDD and ADHD. Most recently, Rice et al. (2019) found some effectiveness for the use of amantadine with a 12-year-old diagnosed with DMDD who was admitted to a psychiatric hospital. Consistent with this limited research base, there are currently not any medications that have received Food and Drug Administration approval for treating children and adolescents specifically diagnosed with DMDD.

Psychosocial Interventions

Parallel to the research on pharmacological interventions, very little research has been published on the use of psychosocial interventions with youth who meet the diagnostic criteria for DMDD. Perepletchikova et al. (2017) reported that a modified version of dialectical behavior therapy, which also included a parent training module, was more effective than treatment as usual (TAU) in improving irritability, temper outbursts, and overall functioning among youth diagnosed with DMDD. In a subsequent study, Miller et al. (2018) reported that a modified version of interpersonal psychotherapy—interpersonal psychotherapy for mood and behavior dysregulation (IPT-MBD)—was more effective than TAU in reducing irritability and angry outbursts. However, both treatment groups had equivalent scores on measures of depression and anxiety by the end of treatment. There have also been a couple of case studies published in the literature. Tudor et al. (2016) reported that cognitive behavioral therapy was effective in reducing irritability and aggression in a 9-year-old girl diagnosed with DMDD and ADHD. In another case study report, Linke et al. (2020) reported that an exposure-based, cognitive behavioral model was effective in treating an 11-year-old boy diagnosed with both DMDD and ADHD.

Interventions for Comorbid Disorders

In the absence of evidence-based treatments for DMDD, many experts have recommended that clinicians select evidence-based treatments for disorders that are often comorbid with DMDD, most commonly ODD (Baweja, Mayes, et al., 2016). As Freeman et al. (2016) recommended, “Until a better evidence base exists, clinicians should be cautious when diagnosing youth with DMDD, and treatment often might best start with using evidence-based practices for ODD” (p. 129). This recommendation is also consistent with the *ICD-11*, in which the core features of DMDD are conceptualized as a potential subtype of ODD. There are several evidence-based interventions for oppositional behavior in general and ODD in particular, such as cognitive therapy (Greene et al., 2004), parent management training (Costin & Chambers, 2007), and multisystemic therapy (Asscher et al., 2013). There are also several established treatments for ADHD, a condition that is also often comorbid with DMDD. Effective interventions include the use of psychostimulants (Castells et al., 2020) as well as several variations of behavior therapy (S. W. Evans et al., 2014).

Treatments for General Irritability

Another source of information for selecting potentially effective treatments for youth with DMDD may be found in research programs that have targeted transdiagnostic symptoms of irritability and aggressive behavior (Roy et al., 2014). Some evidence suggests that cognitive behavior therapy may be effective in reducing general symptoms of irritability in youth (Derella et al., 2020; S. C. Evans et al., 2020; Sukhodolsky et al., 2016). Along this line, Sukhodolsky and Scahill (2012) have published a treatment manual for working with youth and their families who struggle with anger and aggression. The competencies covered in this manual include, but are not limited to, relaxation training, emotional regulation, problem solving, and social skills training. With regard to pharmacotherapy, Tourian et al. (2015) conducted a literature review on the use of pharmacological agents in reducing symptoms of chronic irritability, aggression, and temper outbursts in children and adolescents. Based on their review, they found that methylphenidate, risperidone, and divalproex may offer some measure of effectiveness in reducing irritability and aggressive behavior.

General Treatment Recommendations

As mentioned earlier, one of the criticisms of adding DMDD to the *DSM-5* was that DMDD provided clinicians with a new diagnostic label in the absence of any evidence-based treatments (e.g., Parker & Tavella, 2018). As evidenced by this review, this criticism continues to be valid. Based on

the limited treatment literature for DMDD and the larger literature for disruptive behavior disorders, only a few general guidelines seem suitable at this time. For one, experts generally recommend that treatment commence with the use of cognitive behavior therapy combined with parent management training (Brotman et al., 2017; Bruno et al., 2019; Roy et al., 2014; Stringaris et al., 2018). As previously mentioned, recent research indicates that dialectical behavior therapy (Perepletchikova et al., 2017) and interpersonal therapy (Miller et al., 2018) may also be promising. Second, if there is comorbid ADHD, it is recommended that pharmacotherapy begin with the use of a psychostimulant (Blader et al., 2016; Roy et al., 2014). Mood stabilizers and atypical antipsychotics may also be considered if psychostimulants prove ineffective or in cases where there is a need for a quick reduction in severe irritability or aggressive behavior (e.g., Baweja, Mayes, et al., 2016; Roy et al., 2014). Stringaris et al. (2018) recommended that these medications should be used very cautiously:

Our recommendation is that antipsychotic prescriptions be reserved for those young people who have not responded to a series of other treatments and that the prescription be for a short period of time during which health indicators such as weight are tightly monitored. (p. 733)

Third, as mentioned previously, counselors should also consider the use of evidence-based interventions for ODD, a disorder that substantially overlaps with DMDD (e.g., Freeman et al., 2016).

Concluding Comments

The addition of DMDD to the fifth edition of the *DSM* was a controversial decision, a dispute that continues to the present. At the time of its inclusion in the *DSM-5*, there was no solid evidentiary foundation for including DMDD as a new diagnostic category (S. C. Evans et al., 2017). Evidence for the validity of DMDD was inferred from the research on SMD, a distinct phenotype (Bruno et al., 2019). Subsequent research since the publication of the *DSM-5* in 2013 on the nature of DMDD has demonstrated that DMDD lacks discriminant validity from other common disorders, most notably ODD (Parker & Tavella, 2018).

As this literature has revealed, there continues to be a paucity of evidence-based treatments for children and adolescents who fit the common symptom profile of DMDD. Although evidence-based treatments for comorbid disorders offer promise, it is important that clinicians and researchers develop and validate psychosocial and pharmacological treatments that directly target the core symptoms of DMDD (Baweja, Mayes, et al., 2016). Yet, in addition to more effective remediation strategies (i.e., tertiary prevention), there is also a clear need for prevention processes that can identify and effectively help those children and adolescents who exhibit severe and chronic irritability (Stringaris & Goodman, 2009). Though research is still emerging, a diagnosis of DMDD seems to be a precursor for a lifetime of impairment. Youth with DMDD are at high risk for developing numerous mental health problems in adulthood, including major depressive disorder, persistent depressive disorder (dysthymia), and generalized anxiety disorder (Copeland et al., 2014; Stringaris et al., 2009; Stringaris & Goodman, 2009). The development and evaluation of such prevention processes should be taken up by professional counselors in both school and community settings, a responsibility that is part of our professional identity (Albee & Ryan-Finn, 1993).

Conflict of Interest and Funding Disclosure

The authors reported no conflict of interest or funding contributions for the development of this manuscript.

References

- Achenbach, T. M., & Rescorla, L. A. (2006). The Achenbach System of Empirically Based Assessment. In R. P. Archer (Ed.), *Forensic uses of clinical assessment instruments* (pp. 229–262). Routledge.
- Albee, G. W., & Ryan-Finn, K. D. (1993). An overview of primary prevention. *Journal of Counseling & Development, 72*(2), 115–123. <https://doi.org/10.1002/j.1556-6676.1993.tb00909.x>
- Althoff, R. R., Crehan, E. T., He, J.-P., Burstein, M., Hudziak, J. J., & Merikangas, K. R. (2016). Disruptive mood dysregulation disorder at ages 13–18: Results from the National Comorbidity Survey—Adolescent Supplement. *Journal of Child and Adolescent Psychopharmacology, 26*(2), 107–113. <https://doi.org/10.1089/cap.2015.0038>
- American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.).
- Asscher, J. J., Deković, M., Manders, W. A., van der Laan, P. H., Prins, P. J. M., & Dutch MST Cost-Effectiveness Study Group. (2013). A randomized controlled trial of the effectiveness of multisystemic therapy in the Netherlands: Post-treatment changes and moderator effects. *Journal of Experimental Criminology, 9*, 169–187. <https://doi.org/10.1007/s11292-012-9165-9>
- Axelson, D., Findling, R. L., Fristad, M. A., Kowatch, R. A., Youngstrom, E. A., Horwitz, S. M., Arnold, L. E., Frazier, T. W., Ryan, N., Demeter, C., Gill, M. K., Hauser-Harrington, J. C., Depew, J., Kennedy, S. M., Gron, B. A., Rowles, B. M., & Birmaher, B. (2012). Examining the proposed disruptive mood dysregulation disorder diagnosis in children in the Longitudinal Assessment of Manic Symptoms Study. *The Journal of Clinical Psychiatry, 73*(10), 1342–1350. <https://doi.org/10.4088/JCP.12m07674>
- Baweja, R., Belin, P. J., Humphrey, H. H., Babocsai, L., Pariseau, M. E., Waschbusch, D. A., Hoffman, M. T., Akinnusi, O. O., Haak, J. L., Pelham, W. E., & Waxmonsky, J. G. (2016). The effectiveness and tolerability of central nervous system stimulants in school-age children with attention-deficit/hyperactivity disorder and disruptive mood dysregulation disorder across home and school. *Journal of Child and Adolescent Psychopharmacology, 26*(2), 154–163. <https://doi.org/10.1089/cap.2015.0053>
- Baweja, R., Mayes, S. D., Hameed, U., & Waxmonsky, J. G. (2016). Disruptive mood dysregulation disorder: Current insights. *Neuropsychiatric Disease and Treatment, 12*, 2115–2124. <https://doi.org/10.2147/NDT.S100312>
- Beck, A. T., Steer, R. A., & Brown, G. K. (1996). *Manual for the Beck Depression Inventory-II* (2nd ed.). Psychological Corporation.
- Benarous, X., Consoli, A., Guilé, J.-M., de La Rivière, S. G., Cohen, D., & Olliac, B. (2017). Evidence-based treatments for youths with severely dysregulated mood: A qualitative systematic review of trials for SMD and DMDD. *European Child & Adolescent Psychiatry, 26*, 5–23. <https://doi.org/10.1007/s00787-016-0907-5>
- Biederman, J., Mick, E., Faraone, S. V., Spencer, T., Wilens, T. E., & Wozniak, J. (2000). Pediatric mania: A developmental subtype of bipolar disorder? *Biological Psychiatry, 48*(6), 458–466. [https://doi.org/10.1016/S0006-3223\(00\)00911-2](https://doi.org/10.1016/S0006-3223(00)00911-2)
- Blader, J. C., Pliszka, S. R., Kafantaris, V., Sauder, C., Posner, J., Foley, C. A., Carlson, G. A., Crowell, J. A., & Margulies, D. M. (2016). Prevalence and treatment outcomes of persistent negative mood among children with attention-deficit/hyperactivity disorder and aggressive behavior. *Journal of Child and Adolescent Psychopharmacology, 26*(2), 164–173. <https://doi.org/10.1089/cap.2015.0112>
- Brotman, M. A., Kircanski, K., & Leibenluft, E. (2017). Irritability in children and adolescents. *Annual Review of Clinical Psychology, 13*, 317–341. <https://doi.org/10.1146/annurev-clinpsy-032816-044941>
- Bruno, A., Celebre, L., Torre, G., Pandolfo, G., Mento, C., Cedro, C., Zoccali, R. A., & Muscatello, M. R. A. (2019). Focus on disruptive mood dysregulation disorder: A review of the literature. *Psychiatry Research, 279*, 323–330. <https://doi.org/10.1016/j.psychres.2019.05.043>

- Carlson, G. A. (1998). Mania and ADHD: Comorbidity or confusion. *Journal of Affective Disorders, 51*(2), 177–187. [https://doi.org/10.1016/s0165-0327\(98\)00179-7](https://doi.org/10.1016/s0165-0327(98)00179-7)
- Carter, S. E., Ong, M. L., Simons, R. L., Gibbons, F. X., Lei, M. K., & Beach, S. R. H. (2019). The effect of early discrimination on accelerated aging among African Americans. *Health Psychology, 38*(11), 1010–1013. <https://doi.org/10.1037/hea0000788>
- Castells, X., Ramon, M., Cunill, R., Olivé, C., & Serrano, D. (2020). Relationship between treatment duration and efficacy of pharmacological treatment for ADHD: A meta-analysis and meta-regression of 87 randomized controlled clinical trials. *Journal of Attention Disorders, 25*(10), 1352–1361. <https://doi.org/10.1177/1087054720903372>
- Chase, D., Harvey, P. D., & Pogge, D. L. (2020). Disruptive mood dysregulation disorder (DMDD) in psychiatric inpatient child admissions: Prevalence among consecutive admissions and in children receiving NOS diagnoses. *Neurology, Psychiatry and Brain Research, 38*, 102–106. <https://doi.org/10.1016/j.npbr.2020.11.001>
- Cianchetti, C., Pittau, A., Carta, V., Campus, G., Littarru, R., Ledda, M. G., Zuddas, A., & Fancello, G. S. (2013). Child and Adolescent Behavior Inventory (CABI): A new instrument for epidemiological studies and pre-clinical evaluation. *Clinical Practice and Epidemiology in Mental Health, 9*, 51–61. <https://doi.org/10.2174/1745017901309010051>
- Conners, C. K. (1999). Conners Rating Scales-Revised. In M. E. Maruish (Ed.), *The use of psychological testing for treatment planning and outcomes assessment* (1st ed., pp. 467–495). Lawrence Erlbaum.
- Copeland, W. E., Angold, A., Costello, E. J., & Egger, H. (2013). Prevalence, comorbidity, and correlates of DSM-5 proposed disruptive mood dysregulation disorder. *The American Journal of Psychiatry, 170*(2), 173–179. <https://doi.org/10.1176/appi.ajp.2012.12010132>
- Copeland, W. E., Shanahan, L., Egger, H., Angold, A., & Costello, E. J. (2014). Adult diagnostic and functional outcomes of DSM-5 disruptive mood dysregulation disorder. *American Journal of Psychiatry, 171*(6), 668–674. <https://doi.org/10.1176/appi.ajp.2014.13091213>
- Costin, J., & Chambers, S. M. (2007). Parent management training as a treatment for children with oppositional defiant disorder referred to a mental health clinic. *Clinical Child Psychology and Psychiatry, 12*(4), 511–524. <https://doi.org/10.1177/1359104507080979>
- Derella, O. J., Burke, J. D., Romano-Verthelyi, A. M., Butler, E. J., & Johnston, O. G. (2020). Feasibility and acceptability of a brief cognitive-behavioral group intervention for chronic irritability in youth. *Clinical Child Psychology and Psychiatry, 25*(4), 778–789. <https://doi.org/10.1177/1359104520918331>
- Evans, S. C., Burke, J. D., Roberts, M. C., Fite, P. J., Lochman, J. E., de la Pena, F. R., & Reed, G. M. (2017). Irritability in child and adolescent psychopathology: An integrative review for ICD-11. *Clinical Psychology Review, 53*, 29–45. <https://doi.org/10.1016/j.cpr.2017.01.004>
- Evans, S. C., Weisz, J. R., Carvalho, A. C., Garibaldi, P. M., Bearman, S. K., Chorpita, B. F., & The Research Network on Youth Mental Health. (2020). Effects of standard and modular psychotherapies in the treatment of youth with severe irritability. *Journal of Consulting and Clinical Psychology, 88*(3), 255–268. <https://doi.org/10.1037/ccp0000456>
- Evans, S. W., Owens, J. S., & Bunford, N. (2014). Evidence-based psychosocial treatments for children and adolescents with attention-deficit/hyperactivity disorder. *Journal of Clinical Child & Adolescent Psychology, 43*(4), 527–551. <https://doi.org/10.1080/15374416.2013.850700>
- Fadus, M. C., Ginsburg, K. R., Sobowale, K., Halliday-Boykins, C. A., Bryant, B. E., Gray, K. M., & Squeglia, L. M. (2020). Unconscious bias and the diagnosis of disruptive behavior disorders and ADHD in African American and Hispanic youth. *Academic Psychiatry, 44*, 95–102. <https://doi.org/10.1007/s40596-019-01127-6>
- Freeman, A. J., Youngstrom, E. A., Youngstrom, J. K., & Findling, R. L. (2016). Disruptive mood dysregulation disorder in a community mental health clinic: Prevalence, comorbidity and correlates. *Journal of Child and Adolescent Psychopharmacology, 26*(2), 123–130. <https://doi.org/10.1089/cap.2015.0061>
- Garb, H. N. (1998). *Studying the clinician: Judgment research and psychological assessment*. American Psychological Association.
- Greene, R. W., Ablon, J. S., Goring, J. C., Raezer-Blakely, L., Markey, J., Monuteaux, M. C., Henin, A., Edwards, G., & Rabbitt, S. (2004). Effectiveness of collaborative problem solving in affectively dysregulated children with oppositional-defiant disorder: Initial findings. *Journal of Consulting and Clinical Psychology, 72*(6), 1157–1164. <https://doi.org/10.1037/0022-006X.72.6.1157>

- Haller, S. P., Kircanski, K., Stringaris, A., Clayton, M., Bui, H., Agorsor, C., Cardenas, S. I., Towbin, K. E., Pine, D. S., Leibenluft, E., & Brotman, M. A. (2020). The Clinician Affective Reactivity Index: Validity and reliability of a clinician-rated assessment of irritability. *Behavior Therapy, 51*(2), 283–293. <https://doi.org/10.1016/j.beth.2019.10.005>
- Hatchett, G. T., & Motley, N. R. (2016). Bipolar and related disorders. In B. Flamez and C. J. Sheperis (Eds.), *Diagnosing and treating children and adolescents: A guide for mental health professionals* (pp. 177–202). Wiley.
- Kaufman, J., Birmaher, B., Brent, D., Rao, U., Flynn, C., Moreci, P., Williamson, D., & Ryan, N. (1997). Schedule for affective disorders and schizophrenia for school-age children-present and lifetime version (K-SADS-PL): Initial reliability and validity data. *Journal of the American Academy of Child & Adolescent Psychiatry, 36*(7), 980–988. <https://doi.org/10.1097/00004583-199707000-00021>
- Lacasse, J. R. (2014). After DSM-5: A critical mental health research agenda for the 21st century. *Research on Social Work Practice, 24*(1), 5–10. <https://doi.org/10.1177/1049731513510048>
- Leibenluft, E. (2011). Severe mood dysregulation, irritability, and the diagnostic boundaries of bipolar disorder in youths. *The American Journal of Psychiatry, 168*(2), 129–142. <https://doi.org/10.1176/appi.ajp.2010.10050766>
- Leibenluft, E., Charney, D. S., Towbin, K. E., Bhangoo, R. K., & Pine, D. S. (2003). Defining clinical phenotypes of juvenile mania. *The American Journal of Psychiatry, 160*(3), 430–437. <https://doi.org/10.1176/appi.ajp.160.3.430>
- Linke, J., Kircanski, K., Brooks, J., Perhamus, G., Gold, A. L., & Brotman, M. A. (2020). Exposure-based cognitive-behavioral therapy for disruptive mood dysregulation disorder: An evidence-based case study. *Behavior Therapy, 51*(2), 320–333. <https://doi.org/10.1016/j.beth.2019.05.007>
- Malhi, G. S., & Bell, E. (2019). Fake views: DMDD, indeed! *Australian & New Zealand Journal of Psychiatry, 53*(7), 706–710. <https://doi.org/10.1177/0004867419863162>
- Mayes, S. D., Mathiowetz, C., Kokotovich, C., Waxmonsky, J., Baweja, R., Calhoun, S. L., & Bixler, E. O. (2015). Stability of disruptive mood dysregulation disorder symptoms (irritable-angry mood and temper outbursts) throughout childhood and adolescence in a general population sample. *Journal of Abnormal Child Psychology, 43*, 1543–1549. <https://doi.org/10.1007/s10802-015-0033-8>
- Mayes, S. D., Waxmonsky, J. D., Calhoun, S. L., & Bixler, E. O. (2016). Disruptive mood dysregulation disorder symptoms and association with oppositional defiant and other disorders in a general population child sample. *Journal of Child and Adolescent Psychopharmacology, 26*(2), 101–106. <https://doi.org/10.1089/cap.2015.0074>
- Mayes, S. D., Waxmonsky, J., Calhoun, S. L., Kokotovich, C., Mathiowetz, C., & Baweja, R. (2015). Disruptive mood dysregulation disorder (DMDD) symptoms in children with autism, ADHD, and neurotypical development and impact of co-occurring ODD, depression, and anxiety. *Research in Autism Spectrum Disorders, 18*, 64–72. <https://doi.org/10.1016/j.rasd.2015.07.003>
- Miller, L., Hlastala, S. A., Mufson, L., Leibenluft, E., Yenokyan, G., & Riddle, M. (2018). Interpersonal psychotherapy for mood and behavior dysregulation: Pilot randomized trial. *Depression and Anxiety, 35*(6), 574–582. <https://doi.org/10.1002/da.22761>
- Minsky, S., Petti, T., Gara, M., Vega, W., Lu, W., & Kiely, G. (2006). Ethnicity and clinical psychiatric diagnosis in childhood. *Administration and Policy in Mental Health and Mental Health Services Research, 33*, 558–567. <https://doi.org/10.1007/s10488-006-0069-8>
- Moreno, C., Laje, G., Blanco, C., Jiang, H., Schmidt, A. B., & Olfson, M. (2007). National trends in the outpatient diagnosis and treatment of bipolar disorder in youth. *Archives of General Psychiatry, 64*(9), 1032–1039. <https://doi.org/10.1001/archpsyc.64.9.1032>
- Mouzon, D. M., Taylor, R. J., Woodward, A. T., & Chatters, L. M. (2017). Everyday racial discrimination, everyday non-racial discrimination, and physical health among African-Americans. *Journal of Ethnic & Cultural Diversity in Social Work, 26*(1–2), 68–80. <https://doi.org/10.1080/15313204.2016.1187103>
- Ozyurt, G., Emiroglu, N., Baykara, B., & Akay Pekcanlar, A. (2017). Effectiveness and adverse effects of methylphenidate treatment in children diagnosed with disruptive mood dysregulation disorder and attention-deficit hyperactivity disorder: A preliminary report. *Psychiatry and Clinical Psychopharmacology, 27*(1), 99–100. <https://doi.org/10.1080/24750573.2017.1293252>
- Pan, P.-Y., Fu, A.-T., & Yeh, C.-B. (2018). Aripiprazole/methylphenidate combination in children and adolescents with disruptive mood dysregulation disorder and attention-deficit/hyperactivity disorder: An open-label study. *Journal of Child and Adolescent Psychopharmacology, 28*(10), 682–689. <https://doi.org/10.1089/cap.2018.0068>

- Parker, G., & Tavella, G. (2018). Disruptive mood dysregulation disorder: A critical perspective. *The Canadian Journal of Psychiatry*, 63(12), 813–815. <https://doi.org/10.1177/0706743718789900>
- Perepletchikova, F., Nathanson, D., Axelrod, S. R., Merrill, C., Walker, A., Grossman, M., Rebata, J., Scahill, L., Kaufman, J., Flye, B., Mauer, E., & Walkup, J. (2017). Randomized clinical trial of dialectical behavior therapy for preadolescent children with disruptive mood dysregulation disorder: Feasibility and outcomes. *Journal of the American Academy of Child & Adolescent Psychiatry*, 56(10), 832–840. <https://doi.org/10.1016/j.jaac.2017.07.789>
- Rao, U. (2014). DSM-5: Disruptive mood dysregulation disorder. *Asian Journal of Psychiatry*, 11, 119–123. <https://doi.org/10.1016/j.ajp.2014.03.002>
- Regier, D. A., Narrow, W. E., Clarke, D. E., Kraemer, H. C., Kuramoto, S. J., Kuhl, E. A., & Kupfer, D. J. (2013). DSM-5 field trials in the United States and Canada, part II: Test-retest reliability of selected categorical diagnoses. *The American Journal of Psychiatry*, 170(1), 59–70. <https://doi.org/10.1176/appi.ajp.2012.12070999>
- Rice, T., Simon, H., Barcak, D., Maiyuran, H., Chan, V., Hassan, Y., Tatum, J., & Coffey, B. J. (2019). Amantadine for treatment of disruptive mood dysregulation disorder symptoms. *Journal of Child and Adolescent Psychopharmacology*, 29(8), 642–646. <https://doi.org/10.1089/cap.2019.29172.bjc>
- Rich, B. A., Bhangoo, R. K., Vinton, D. T., Berghorst, L. H., Dickstein, D. P., Grillon, C., Davidson, R. J., & Leibenluft, E. (2005). Using affect-modulated startle to study phenotypes of pediatric bipolar disorder. *Bipolar Disorders*, 7(6), 536–545. <https://doi.org/10.1111/j.1399-5618.2005.00265.x>
- Roy, A. K., Lopes, V., & Klein, R. G. (2014). Disruptive mood dysregulation disorder: A new diagnostic approach to chronic irritability in youth. *American Journal of Psychiatry*, 171(9), 918–924. <https://doi.org/10.1176/appi.ajp.2014.13101301>
- Sitarenios, G., & Kovacs, M. (1999). Use of the Children's Depression Inventory. In M. E. Maruish (Ed.), *The use of psychological testing for treatment planning and outcomes assessment* (1st ed., pp. 267–298). Lawrence Erlbaum.
- Stringaris, A., Baroni, A., Haimm, C., Brotman, M., Lowe, C. H., Myers, F., Rustgi, E., Wheeler, W., Kayser, R., Towbin, K., & Leibenluft, E. (2010). Pediatric bipolar disorder versus severe mood dysregulation: Risk for manic episodes on follow-up. *Journal of the American Academy of Child & Adolescent Psychiatry*, 49(4), 397–405. <https://doi.org/10.1016/j.jaac.2010.01.013>
- Stringaris, A., Cohen, P., Pine, D. S., & Leibenluft, E. (2009). Adult outcomes of youth irritability: A 20-year prospective community-based study. *The American Journal of Psychiatry*, 166(9), 1048–1054. <https://doi.org/10.1176/appi.ajp.2009.08121849>
- Stringaris, A., & Goodman, R. (2009). Longitudinal outcome of youth oppositionality: Irritable, headstrong, and hurtful behaviors have distinctive predictions. *Journal of the American Academy of Child & Adolescent Psychiatry*, 48(4), 404–412. <https://doi.org/10.1097/CHI.0b013e3181984f30>
- Stringaris, A., Goodman, R., Ferdinando, S., Razdan, V., Muhrer, E., Leibenluft, E., & Brotman, M. A. (2012). The Affective Reactivity Index: A concise irritability scale for clinical and research settings. *Journal of Child Psychology and Psychiatry*, 53(11), 1109–1117. <https://doi.org/10.1111/j.1469-7610.2012.02561.x>
- Stringaris, A., Vidal-Ribas, P., Brotman, M. A., & Leibenluft, E. (2018). Practitioner review: Definition, recognition, and treatment challenges of irritability in young people. *Journal of Child Psychology and Psychiatry*, 59(7), 721–739. <https://doi.org/10.1111/jcpp.12823>
- Sukhodolsky, D. G., & Scahill, L. (2012). *Cognitive-behavioral therapy for anger and aggression in children*. Guilford.
- Sukhodolsky, D. G., Smith, S. D., McCauley, S. A., Ibrahim, K., & Piasecka, J. B. (2016). Behavioral interventions for anger, irritability, and aggression in children and adolescents. *Journal of Child and Adolescent Psychopharmacology*, 26(1), 58–64. <https://doi.org/10.1089/cap.2015.0120>
- Tobler, A. L., Maldonado-Molina, M. M., Staras, S. A. S., O'Mara, R. J., Livingston, M. D., & Komro, K. A. (2013). Perceived racial/ethnic discrimination, problem behaviors, and mental health among minority urban youth. *Ethnicity & Health*, 18(4), 337–349. <https://doi.org/10.1080/13557858.2012.730609>
- Tourian, L., LeBoeuf, A., Breton, J.-J., Cohen, D., Gignac, M., Labelle, R., Guile, J.-M., & Renaud, J. (2015). Treatment options for the cardinal symptoms of disruptive mood dysregulation disorder. *Journal of the Canadian Academy of Child and Adolescent Psychiatry*, 24(1), 41–54.
- Towbin, K., Axelson, D., Leibenluft, E., & Birmaher, B. (2013). Differentiating bipolar disorder–not otherwise specified and severe mood dysregulation. *Journal of the American Academy of Child & Adolescent Psychiatry*, 52(5), 466–481. <https://doi.org/10.1016/j.jaac.2013.02.006>

- Towbin, K., Vidal-Ribas, P., Brotman, M. A., Pickles, A., Miller, K. V., Kaiser, A., Vitale, A. D., Engel, C., Overman, G. P., Davis, M., Lee, B., McNeil, C., Wheeler, W., Yokum, C. H., Haring, C. T., Roule, A., Wambach, C. G., Sharif-Askary, B., Pine, D. S., . . . Stringaris, A. (2020). A double-blind randomized placebo-controlled trial of citalopram adjunctive to stimulant medication in youth with chronic severe irritability. *Journal of the American Academy of Child & Adolescent Psychiatry, 59*(3), 350–361. <https://doi.org/10.1016/j.jaac.2019.05.015>
- Tudor, M. E., Ibrahim, K., Bertschinger, E., Piasecka, J., & Sukhodolsky, D. G. (2016). Cognitive-behavioral therapy for a 9-year-old girl with disruptive mood dysregulation disorder. *Clinical Case Studies, 15*(6), 459–475. <https://doi.org/10.1177/1534650116669431>
- Van Meter, A. R., Moreira, A. L. R., & Youngstrom, E. A. (2011). Meta-analysis of epidemiologic studies of pediatric bipolar disorder. *The Journal of Clinical Psychiatry, 72*(9), 1250–1256. <https://doi.org/10.4088/JCP.10m06290>
- Weisz, J. R., & Kazdin, A. E. (Eds.). (2017). *Evidence-based psychotherapies for children and adolescents* (3rd ed.). Guilford.
- Wiggins, J. L., Brotman, M. A., Adleman, N. E., Kim, P., Oakes, A. H., Reynolds, R. C., Chen, G., Pine, D. S., & Leibenluft, E. (2016). Neural correlates of irritability in disruptive mood dysregulation and bipolar disorders. *The American Journal of Psychiatry, 173*(7), 722–730. <https://doi.org/10.1176/appi.ajp.2015.15060833>
- Winters, D. E., Fukui, S., Leibenluft, E., & Hulvershorn, L. A. (2018). Improvements in irritability with open-label methylphenidate treatment in youth with comorbid attention deficit/hyperactivity disorder and disruptive mood dysregulation disorder. *Journal of Child and Adolescent Psychopharmacology, 28*(5), 298–305. <https://doi.org/10.1089/cap.2017.0124>
- World Health Organization. (2016). *International statistical classification of diseases and related health problems* (10th ed.). <https://icd.who.int/browse10/2016/en>
- World Health Organization. (2019). *International statistical classification of diseases and related health problems* (11th ed.). <https://icd.who.int>