Adolescent Health, Medicine and Therapeutics

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REVIEW

Practical Considerations for Using the Eating Disorder Examination Interview with Adolescents

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Abstract: Approximately 35 years after its initial publication, the Eating Disorder Examination (EDE) remains one of the most widely used semi-structured interviews for assessing eating disorder diagnoses and symptomatology. Although the interview provides certain advantages over other common measurement approaches (ie, questionnaires), there are particular considerations regarding the EDE that warrant attention, including in its use with adolescents. The aims of this paper are therefore to: 1) provide a brief overview of the interview itself, as well as a description of its origin and underlying conceptual framework; 2) describe relevant factors for administering the interview with adolescents; 3) review potential limitations regarding use of the EDE with adolescents; 4) address considerations for using the EDE with pertinent subpopulations of adolescents who may experience distinct eating disorder symptoms and/or risk factors; and 5) discuss the integration of self-report questionnaires with the EDE. Advantages of using the EDE include the ability for interviewers to clarify complex concepts and mitigate inattentive responding, enhanced orientation to the interview timeframe to improve recall, increased diagnostic accuracy compared to questionnaires, and accounting for potentially salient external factors (eg, food/eating rules imposed by a parent/guardian). Limitations include more extensive training requirements, greater assessment burden, variable psychometric performance across subgroups, lack of items evaluating muscularity-oriented symptoms and avoidant/restrictive food intake disorder diagnostic criteria, and lack of explicit consideration for salient risk factors other than weight and shape concerns (eg, food insecurity).

Keywords: eating disorders, disordered eating, youth, semi-structured, measurement, assessment

Introduction

Eating disorders (EDs) are serious psychiatric illnesses that are associated with significant psychosocial impairment, medical complications, and elevated mortality, including death by suicide.[1–11] Nearly 29 million individuals in the US alone will suffer from an ED at some point in their lifetime, with more than 10,000 deaths each year directly resulting from an ED.[7,12] Most broadly, EDs are defined by a persistent disturbance in eating-related behavior leading to substantial negative impacts on physical and/or psychosocial health.[1] Three of the core EDs reflected in the current nosology are anorexia nervosa (AN), bulimia nervosa (BN), and binge-eating disorder (BED).[1] AN is defined by restriction of energy intake resulting in a significantly low body weight given the context, along with cognitive symptoms related to the fear of weight gain and disturbances in body image. BN is defined by engaging in recurrent binge eating (ie, consuming an unusually large amount of food with a subjective experience of having lost control over eating) and compensatory behaviors (eg, purging, fasting, excessive exercise), along with overvaluation of body weight/shape. BED is defined by recurrent binge eating in the absence of regular compensatory behaviors, along with specific characteristics of the binge-eating episodes and the experience of marked distress. Notably, many individuals with clinically significant ED symptomatology may not meet criteria for one of these core disorders,[7,8,13–15] and may instead receive a diagnosis of other specified feeding or eating disorder (OSFED).[1,16] Further, although the prevalence of full-threshold EDs is relatively low within the general population, subthreshold disordered eating attitudes and behaviors are more common.[17]

Received: 19 November 2022
Accepted: 14 February 2023
Published: 23 February 2023

Crucially, adolescence is a developmental period associated with heightened risk for the onset of EDs. Prior to puberty, full syndrome EDs are comparatively rare, and the onset of full-threshold EDs occurs most commonly during mid- to late adolescence,[2,18,19] particularly for AN and BN.[20] Moreover, evidence indicates that the age of onset for AN and BN may have decreased over time,[11] suggesting that the exacerbation of subthreshold disordered eating into full-threshold EDs may be happening earlier in development. Indeed, many youth report disordered eating attitudes and behaviors (eg, body image concerns, loss-of-control eating, restrictive food intake) as early as childhood.[21] As such, appropriate measures for assessing ED symptomatology among youth, and adolescents in particular, are crucial for early detection, prevention, and intervention.

The focus of this narrative review is on practical considerations regarding use of the Eating Disorder Examination (EDE),[22] which is one of the most widely used semi-structured interviews for assessing ED symptomatology. We first provide a concise overview of the interview itself, and then briefly discuss the origin and theory underlying the original development of the EDE. We then describe adolescent-specific considerations and limitations for using the EDE, including among adolescents from particular subgroups. Lastly, we offer considerations for how to concurrently integrate self-report questionnaires, particularly when administration of the full EDE interview is not feasible. Of note, there have been a number of versions of the EDE since its initial introduction. The descriptions of the EDE in the following section are based on the most current version of the interview, the EDE 17.0D, that can be accessed freely via https://www.cbte.co/for-professionals/measures/. However, citations from prior research may have utilized previous versions of the EDE.[23–25]

Overview of the EDE

The EDE is a semi-structured interview that assesses a broad range of ED symptoms. It is important to note that the interview and its core structure (ie, four main subscales) were defined largely based on theory and clinical observations of patients with AN or BN,[23] rather than applying empirical measure development approaches (eg, factor analysis). Specifically, the interview was originally designed with a particular emphasis on assessing constructs relevant to the cognitive-behavioral model of BN.[26] This model posits that the overvaluation of eating, weight, and shape are core to ED symptomatology, such that these domains are experienced as central to one's view of their overall self-worth. This overvaluation thus promotes behaviors intended to control or change one's body weight and/or shape, traditionally viewed from the lens of pursuing thinness and weight loss (particularly among girls and women). These repeated and unhealthy weight/shape-control behaviors increase risk for loss-of-control eating behavior, including binge eating, which in turn exacerbates risk for compensatory behaviors that are meant to compensate for the uncontrolled energy intake (ie, often due to fear of weight gain). The four primary subscales of the EDE reflect constructs that are central to this model, including Dietary Restraint (eg, intentions and attempts to control/restrict one's intake), Eating Concern (eg, preoccupation with eating, fear of losing control over eating), and Weight Concern and Shape Concern (eg, attitudes related to desiring weight loss, avoiding weight gain, pursuing a thin body shape, or body dissatisfaction). The content assessed by the EDE items that comprise these subscales are presented in Table 1. The interview also provides an overall global score calculated as the average of the four subscale scores. Frequencies for core ED behaviors,[1] such as objective and subjective binge-eating episodes and various compensatory behaviors (ie, laxative or diuretic misuse, self-induced vomiting, compulsive exercise), are also assessed (see Table 2). The interview has a primary focus on experiences during the previous four weeks (28 days), and a secondary focus on the preceding two months (ie, past three months overall), allowing for ED diagnoses consistent with criteria in the Diagnostic and Statistical Manual of Mental Disorders, 5th Edition (DSM-5).[1]

With regard to the flow of the interview, the EDE begins with an evaluation of general eating patterns over the prior 28 days. During this assessment, the interviewer and interviewee utilize a personalized 28-day calendar (often completed together at the start of the interview) as a reference for the time period that will be the main focus of the interview. To accomplish this, the assessor queries the interviewee about events in the prior three months that may have impacted their eating behavior (eg, meals eaten at restaurants, birthday or holiday celebrations), as well as events that help them orient to the timeframe (eg, days of the week they have after-school activities, days off of school). This provides an important opportunity to orient the interviewee, as well as to establish rapport. Subsequently, items pertaining to dietary restraint

Table 1 EDE Subscales and Corresponding Item Content

Subscales	Content Assessed by EDE Items
Dietary restraint	• Trying to consciously cut back on overall amount eaten, regardless of success • Going 8 or more waking hours without eating • Desire for one's stomach to be completely empty • Trying to avoid eating foods one likes, regardless of success • Trying to follow definite rules regarding eating (eg, calorie limits, time limits, avoiding certain foods), regardless of success
Eating concern	• Preoccupation about food, eating, or calories • Fear of losing control over one's eating • Concerns about being seen eating by others (outside of binge-eating episodes) • Eating in secret (outside of binge-eating episodes) • Feeling guilty after eating (outside of binge-eating episodes)
Weight concern ("the number on a scale")	• Dissatisfaction with one's weight • Desire to lose weight or weigh less • Hypothetical reaction to weighing oneself exactly once a week for four weeks • Preoccupation about weight or shape* • Extent to which weight influences overall self-evaluation
Shape concern ("the way one's body looks in the mirror")	• Dissatisfaction with one's shape • Preoccupation about weight or shape* • Extent to which shape influences overall self-evaluation • Fear of gaining weight • Discomfort with seeing one's body • Discomfort with others seeing one's body • Feeling fat • Definite desire to have a flat stomach

Notes: *Item loads onto two subscales. The score for each subscale is computed by averaging the ratings of the items corresponding to that subscale. The Global score is then computed by averaging the scores of the four subscales.

are administered. Next, items assessing eating concerns and ED behaviors (ie, objective and subjective binge-eating episodes, purging behaviors, fasting, and excessive exercise) are evaluated. The final items focus on assessing concerns about body weight and shape. Additional items relevant to DSM-5 diagnoses and other symptoms that are not included in the scoring of the four primary subscales and global score are interspersed throughout the interview.

Since its original publication in 1987,[23] the EDE has become a widely used interview for assessing ED symptomatology, particularly in research contexts. Originally developed to primarily assess ED symptoms in patients with AN or BN, it has been updated over time, with the most recent version (17th edition)[27] released in 2014. The core elements of the EDE have remained generally unchanged; however, additional items have been added to the interview to allow for evaluation of updated diagnostic criteria (ie, DSM-5) and assessment of other clinically relevant symptoms such as picking and nibbling food, concerns about body composition, and motivations related to a desire for general (versus weight/shape-specific) control. The EDE has also been translated into numerous languages, including Spanish,[28,29] Italian,[30] and Norwegian.[31] Several adaptations have been developed for use with specific populations, such as children 7–14 years old,[32–34] pregnant women,[35] and people undergoing bariatric surgery.[36,37]

Of particular relevance to adolescents, Bryant-Waugh and colleagues[34] developed a child version of the EDE (ChEDE) for use among children and younger adolescents ages 7–14 years. A primary adaptation that differentiates the ChEDE from the EDE is the use of language that is more developmentally appropriate and a card-sort task to assess overvaluation of weight and shape, which is a concept that may be more difficult for a younger child in particular to grasp. Despite these differences, the adult and child versions of the interview can be used interchangeably when assessing adolescents.[38]

Table 2 Behaviors Assessed by the EDE (Independent of the Subscale Items)

Behaviors	EDE Definition
Pattern of eating	Frequency of eating breakfast, morning snack, lunch, afternoon snack, dinner, after-dinner snack, and night eating in the prior 28 days
Extreme dietary restriction	Eating <1200 calories outside of episodes of binge eating
Fasting	Going 24 hours or more without eating
Objective overeating	Consuming an objectively large amount of food in a relatively short time period with no sense of loss of control while eating
Subjective binge eating (also referred to as subjective bulimic episode)	Endorses experiencing a sense of loss of control while eating (at any point during the episode) an amount of food that is not unambiguously large
Objective binge eating (also referred to as objective bulimic episode)	Endorses experiencing a sense of loss of control while eating (at any point during the episode) an objectively large amount of food in a relatively short time period
Binge-eating episode diagnostic features	Doing any of the following during binge-eating episodes: • Eating much more rapidly than normal • Eating until feeling uncomfortably full • Eating large amounts of food despite a lack of physical hunger • Eating alone due to feeling embarrassed by how much one is eating • Feeling disgusted with oneself, depressed, or very guilty
Purging behaviors	Self-induced vomiting, misuse of laxatives or diuretics
Excessive and driven exercise	Exercise that is driven or compulsive, excessive, does harm, or interferes with other engagements
Other extreme weight control behaviors	Any other extreme behaviors used to control shape or weight. Examples may include use of appetite suppressants, chewing and spitting out food, or misuse of insulin among individuals with diabetes mellitus
Maintained low weight	Assess whether an interviewee of low weight has been trying to lose weight or avoid gaining weight

Concerns About Factor Structure and Psychometrics

It is worth noting that there remain questions about the EDE factor structure and associated psychometric properties across various populations, including in adolescents. Specifically, several studies using factor analytic approaches have failed to replicate the four-factor structure across samples of youth.[33,39–41] Perhaps unsurprisingly, evidence regarding the reliability of the EDE subscales among younger samples has thus been mixed. Generally, the Weight Concern and Shape Concern subscales have shown acceptable internal consistency;[33,39–46] however, the internal consistency of the Restraint and Eating Concern subscales have been reported to be lower or even unacceptable in several studies.[33,39,40,42,43,47] The Global score of the EDE has more consistently been found to show adequate internal consistency.[33,39–43,48] Moreover, data on the factor structure and psychometric performance of the EDE in sex-, gender-, racially-, and ethnically-diverse samples are mostly limited[39,40,42] or absent. EDE normative scores have been published for pediatric ED[41] and community samples,[43] but norms and other psychometric data for specific, relevant subgroups of adolescents (eg, boys, LGBTQIA+ youth, youth across pubertal stages) are generally lacking. Ultimately, more psychometric and

normative data for the EDE interview in pediatric populations are needed, particularly from youth with underrepresented and/or marginalized identities.

Development-Related Considerations for Using the EDE

There are several general issues that warrant consideration when administering the EDE with adolescents, including whether to select the child or standard version of the EDE and the extent to which comprehension and recall may affect responding during the interview. Moreover, adolescence is a period of rapid physical, neurological, and psychosocial growth. Dramatic changes in development and social functioning occur during this timeframe, potentially leading to greater difficulties in distinguishing between developmentally expected versus disordered eating behaviors and attitudes. Below, we address several of these development-related considerations and factors.

Child or Standard Version

One benefit of having both the standard and child versions of the EDE is the ability to utilize the interview with individuals reflecting most of the lifespan, particularly given evidence that the versions are compatible.[38] Given their parallel structure and content, an interviewer can flexibly shift between the ChEDE or EDE, if necessary for particular items, and the scores of items from both interviews can be combined.[38,49] This is highly relevant for adolescents, for whom age may not always serve as a reliable proxy for comprehension level. Ideally, interviewers working with adolescent populations should have training or at least familiarity with both the ChEDE and EDE. Learning both interviews creates some additional training burden, with assessors being required to learn child-related adaptations and develop clinical judgement on gauging participant understanding. However, this additional training has the benefit of allowing interviewers to determine what is the most appropriate approach to assessing ED pathology for any given individual, taking into account their stage of development and associated understanding of the concepts being assessed.

Comprehension, Language, and Recall

Many of the benefits of the interview-based EDE derive from the interactive nature of the assessment, enabling the interviewee to ask clarifying questions in the moment, allowing the interviewer to adjust based on age-related factors, and providing opportunities for key concepts that may be ambiguous (eg, loss-of-control eating, weight/shape overvaluation) to be more thoroughly explained and defined when needed. For example, one key yet complex concept assessed by the EDE is the overvaluation of weight and shape, which is defined as regarding weight and shape as among the most important aspects of one's self worth, and is assessed by asking,

> "Over the past four weeks has your weight (the number on the scale) been important in influencing how you feel about (judge, think, evaluate) yourself as a person? If you imagine the things which influence how you feel about (judge, think, evaluate) yourself and put these things in order of importance, where does your weight fit in?"[24]

Adolescents often endorse that weight and shape are important to them because they want to look a certain way (eg, slender, thin, lean, muscular), or they feel disappointed when they perceive their weight or shape to be different from what they would like. However, grasping the concept of overvaluation can be challenging given that it requires contemplating how one evaluates one's overall self-worth, identifying the various factors that play a role in that evaluation, and determining the comparative/relative importance of weight and shape in the overall judgement. Without the discussion and prompts that an interview format facilitates, adolescents in particular may find this concept difficult to properly understand and accurately rate, especially given that adolescence is itself a period marked by a variety of experiences and changes that may regularly impact self-esteem, identity, and other aspects of self-comprehension.

Interactive, semi-structured interviews also allow for the interviewer to modulate pacing and ensure items are responded to thoughtfully.[50] Although the interview generally takes approximately one hour to administer,[34] it may take longer for adolescents with attention or executive function deficits, or for those who have difficulty comprehending abstract concepts. For example, youth who are malnourished or underweight may exhibit cognitive deficits,[51,52] and the extent to which these deficits remit following weight restoration is unclear.[51] Follow-up queries and clarifications can be

posed at the interviewer's discretion until the adolescent demonstrates adequate comprehension, and may be particularly useful for youth with cognitive functioning challenges or attention-related difficulties.

Use of interviews such as the EDE also allows for the interviewee to explain their subjective experiences in the language that is natural to them, instead of relying only on predetermined descriptions with which they may not identify. For example, there are three specified prompts provided to assess loss-of-control eating in the EDE (ie, "Did you have a sense of loss of control at the time?", "Did you feel you could have stopped eating once you had started?", "Did you feel you could you have prevented the episode from starting?").[27] This contrasts with questionnaires, including the questionnaire version of the EDE (EDE-Q),[53,54] that most often include only one form of phrasing for a given item, and for which additional clarification is generally not available. The greater flexibility provided by the interview may thus enhance accuracy, especially for younger interviewees who may have a more limited vocabulary or use different terminology than adults.

Adolescents, and particularly those who are younger, may have greater difficulty recalling individual eating episodes[55] and the dates of specific events that occurred during the prior three months. As such, another benefit of using the EDE interview is the use of a calendar to orient the interviewee to the timeframe that will serve as the focus for the subsequent questions. When assessing an adolescent, there may also be value in having a parent/guardian fill in the calendar prior to the interview. Asking parents to note both regular events (eg, sports practice, music lessons) and events that were out of the ordinary (eg, eating dinner at a restaurant, play date with a friend, days off school, exams, birthdays, vacations) can assist with the youth's recall of the prior months. During the interview, the adolescent can then review the events that their parent provided and add additional events that they remember. By having parents add both eating-related and general events to the calendar, adolescents are reminded of the specific days during which they may have eaten certain meals or engaged in disordered eating behaviors. It can also provide interviewers with specific events to query about and/or anchors to establish the frequency of various behaviors. For example, an adolescent might have difficulty recalling the frequency of binge-eating episodes, but report frequently engaging in binge eating after sports practice. To help the interviewee arrive at an educated estimate of the frequency of binge-eating episodes, the interviewer might refer to the number of days on the calendar that practice occurred. Taken together, the semi-structured and interactive format of the EDE may be appropriate for a wider range of ages and developmental stages than questionnaire-based modalities, and may be particularly valuable for adolescents.

Autonomy Over Food Choices and Other Eating Behaviors

During childhood and into adolescence, parents/guardians generally play a strong role in their child's eating patterns (eg, timing, frequency, food types). With younger adolescents who may have lower autonomy over food choices and eating behaviors, assessing ED pathology can become more challenging. This may be particularly relevant in the context of assessing certain behaviors for which the motivation or nature of that behavior is primarily imposed by a parent/guardian. Parents often enforce food rules[56] such as "no eating a snack before dinner", "no eating before bedtime", or even "no eating desserts on weekdays". Therefore, when evaluating to what extent an adolescent follows specific dietary rules, it is not uncommon for early adolescents to endorse such rules. When assessing why an adolescent follows dietary rules, the interviewee might report that their parent's rules are designed to "keep them healthy", which can include some level of control over the adolescent's weight or shape. However, there may be parent–child disagreement on food-related rules.[57] Therefore, determining whether the interviewee follows a dietary rule for reasons related to their own weight/shape concerns (which would be consistent with criteria for certain EDE items) or solely because their parents and family enforce dietary rules (which may not be consistent with meeting criteria for EDE items) can be challenging in some contexts.

Additionally, some youth may endorse feeling a lack of control over their eating because their family has an expectation that "you must eat everything on your plate". Even after additional probing, it may remain difficult to discern whether the interviewee experienced a sense of loss of control during the meal, or whether they feel more generally that they do not have full control over what or how much they eat due to expectations within the family. Moreover, an adolescent may endorse eating in secret because they are breaking one of their parent/guardian's rules (eg,

eating a cookie before dinner, eating food reserved for their sibling) rather than identifying eating, weight, or shape-related concerns as motivating the behavior.

Considerations regarding autonomy are also relevant when conducting the EDE with adolescents who are participating in certain forms of treatment for their ED, particularly family-based treatment (FBT), in which parents temporarily assume responsibility for their child's eating (ie, what, when, and how much the child eats).[58,59] In this treatment context, the adolescent may report following dietary rules and feeling as though they do not have control over their eating. This "lack of control" is fundamentally distinct from the subjective sense of loss of control over one's eating that characterizes binge-eating or loss-of-control eating episodes. However, it is possible that an adolescent might experience both a sense of lack of autonomy over their eating, as well as a sense of loss of control while eating. Therefore, when assessing eating behaviors among adolescents enrolled in FBT, or in other contexts in which there are strong external influences on eating behavior (ie, in more intensive treatment settings), assessors may need to take extra time to provide additional examples and definitions of loss-of-control eating. Overall, consideration of developmental level, and family and treatment context should be a central component of training on administering the interview to adolescents so that interviewers are properly educated and informed about how to take these factors into account when making ratings.

Youth in late adolescence begin to have greater freedom and exert more autonomy over their eating, both inside and outside the home, and there are multiple social factors that influence eating behavior during adolescence.[60,61] The ecological model proposed by Story and colleagues[60] describes how factors such as social environmental and interpersonal (eg, peers and classmates, social eating), physical environmental or community settings (eg, school cafeterias and vending machines, fast food and convenience store options), and macrosystem/societal (eg, targeted media, marketing and advertising, social and cultural norms) impact eating behaviors and attitudes. During adolescence, children often gain greater control over spending money, including on food purchases.[62] Additionally, adolescents engage in self-exploration, which coincides with greater social engagement and desire for peer acceptance which can impact both eating behavior[63] and self-esteem.[64,65] This includes the ever-increasing exposure to eating norms, body image ideals, and self-expression via social media.[66,67]

Taken together, increased autonomy over eating, access to food (eg, spending independence, presence of vending machines at school), targeted food advertisements, and concern about social evaluations may promote altered eating behaviors and increased awareness of one's body weight/shape. This period of development also overlaps with the extensive physiological and developmental changes that accompany puberty. Thus, some changes in eating habits and body satisfaction may be normative to a degree in mid-to-late adolescence, and certain maladaptive behaviors and attitudes may resolve naturally as an adolescent learns to navigate increases in autonomy and social influence. For example, naturalistic longitudinal studies have shown that pediatric binge eating remits five to ten years later in up to 50% of youth.[68–70] In summary, additional attention to an interviewee's family, peer, and broader sociocultural influences related to eating and body weight/shape may have value, particularly with regard to understanding the extent to which behaviors are related to parent/guardian rules/expectations, and the extent to which certain attitudes may be influenced by developmental considerations (eg, body changes with puberty) or peer evaluations.

Pubertal Timing and Effects

The onset of full threshold EDs is comparatively uncommon prior to puberty; however, disordered eating behaviors and attitudes about body weight/shape may be evident even in younger children.[21,71–73] As such, it is important to consider the pubertal development stage of the interviewee. Gonadal hormones (primarily estradiol, progesterone, and testosterone) drive the onset and progression of pubertal development. Among girls, genetic vulnerability for developing an ED increases 51% following pubertal onset,[74] and estradiol and progesterone have been implicated in this change.[75] In contrast, pubertal onset does not appear to increase genetic risk for ED development in boys,[75] and increased testosterone may be a protective factor.[76] Notably, earlier pubertal onset compared to one's peers has also been associated with ED symptoms.[77] This is important because there are well-documented sex and racial differences in the timing of pubertal onset.[78–82] Data indicate earlier pubertal onset among girls than boys, non-Hispanic Black girls compared to non-Hispanic White and Hispanic peers, and non-Hispanic Black boys compared to their Hispanic, but not their non-Hispanic

White, peers. Therefore, ED behaviors and attitudes may emerge or exacerbate at different times for youth of different sexes, ages, and racial/ethnic backgrounds.

Among pre-pubertal youth, it is important to assess sub-threshold ED symptoms that could be distressing, and may also potentially be a marker for future ED development, for example loss-of-control eating,[68,70] secretive eating,[83,84] fasting,[85] dieting or dietary restraint,[72,73] and body dissatisfaction.[86,87] Even lower severity item ratings and subscale scores on the EDE may have clinical relevance for children or younger adolescents. Assessing post-pubertal adolescents also comes with its own set of considerations. Following pubertal onset, changes in physical growth coincide with increased energy intake.[88,89] Thus, youth might experience "normative" drives to eat more food depending on their pubertal stage. Yet, as described below, what constitutes an objectively large amount of food at each developmental stage has not been empirically defined and can be difficult to evaluate when assessing for binge eating using the EDE. Therefore, the influence of pubertal development on manifestations of ED symptoms can make evaluating body image concerns and disinhibited eating behaviors particularly challenging, yet especially important. Therefore, the interviewer should be cognizant of the interviewee's pubertal status and the potential impact it may have on their responses.

Limitations to Consider

Other practical issues to consider when utilizing the EDE with youth in either clinical or research settings include challenges related to youth-based reporting and the time-intensive nature of both training and administration (the latter being particularly challenging in clinical settings). Several of these considerations have been discussed elsewhere in detail (see Thomas et al[90]). Thus, we focus here on descriptions of issues especially relevant to the use of the EDE for assessing ED symptomatology in adolescents, including the option of using supplemental parent/guardian-based reports, the lack of empirically supported definitions of "objectively large" amounts of food, the current absence of ARFID diagnostic items, and lack of consideration for the possible impacts of food insecurity.

Potential Sources of Bias in Child and Parent Reports

Adolescents can have difficulty accurately recalling their eating behavior,[55] and engaging the youth's parents/guardians may be helpful. This can be accomplished indirectly, such as by having a parent provide information to assist in interview recall (eg, completing the EDE calendar in advance of the interview), or more directly by gathering information about the youth from a parent or even from other salient informants (eg, teachers, other close family members). Indeed, when feasible and applicable, collecting information from multiple sources to supplement the youth's report may provide the most comprehensive characterization of an adolescent's ED symptoms. Multiple-informant approaches, however, may lead to discrepant information regarding the adolescent's ED symptoms.[91–93] For example, among youth with AN, parent reports indicated more severe pathology compared to child reports.[94,95] Studies among youth with subthreshold binge-eating behavior have found that parent and child reports of the child's ED cognitions are similar in severity, but parent reports of their child's disordered eating were higher compared to their child's reports.[91,93] Parent and child reports may therefore vary based on the nature of the symptoms being assessed (eg, restrictive eating behaviors, binge-eating behaviors, ED cognitions/attitudes). As such, if multiple-informant assessment is used to supplement the EDE, it is important to consider the source(s) of any discrepant ratings that emerge, particularly when making diagnostic and other clinical decisions.

Discordant ratings may arise from one or more possible sources. Parents may have greater awareness that their child's eating-/body-related attitudes or behaviors are disordered. As such, parents might report greater severity of symptoms because an adolescent's distorted perceptions and other cognitive function difficulties may impact recognition and interpretation of the nature and severity of their symptoms. Moreover, diagnostic criteria for certain eating disorders include issues related to awareness, acknowledgement, and secrecy with regard to symptoms, including a lack of acknowledgement of the seriousness of low weight in AN, and eating alone due to embarrassment about how much one is eating as a feature of binge-eating episodes in BED.[1] Accordingly, it has been hypothesized that lower self-reports of ED symptoms among adolescents with AN (compared to parent reports of their child's symptoms) may be due to symptom denial or minimization.[94,95] Alternatively, shame and embarrassment about binge eating and the use of compensatory behaviors might deter a child from disclosing their engagement in these behaviors.. To attempt to mitigate

negative impacts of internalized stigma about certain attitudes or behaviors, interviewers can explain at the outset of the interview that the same questions are asked of all interviewees. Throughout the interview, the interviewer also can work to limit shame and embarrassment by normalizing the discomfort that can arise when sharing private thoughts, feelings, and behaviors with another person. Interviewers should also strive to avoid overt reactions that might be perceived as judgmental or stigmatizing. Although correcting misperceptions or distorted beliefs during the interview is not recommended (as it may impact subsequent ratings), the interviewer might communicate that everyone's eating behaviors and attitudes can be different, and that the goal of the interview is to better understand, and not to judge, the interviewee's attitudes, thoughts, and behaviors.

Other potential sources of discordance between parent and child reports may stem from biases in parental reporting, including due to ED symptoms that are experienced by the parent his or herself. Compared to parents without current ED symptoms, mothers and fathers with current ED symptoms are more likely to report that their child is engaging in binge eating and excessive exercise, as well as endorse greater concerns about their child's weight.[93,96] It is possible that greater reported concerns among parents with EDs are due to their children actually having greater ED symptoms, or they may reflect some degree of biased perceptions and/or inaccurate reporting by the parent.[97,98] However, reasons for this are speculative, and it remains unclear why this occurs.

Alternatively, in some cases parent ratings of their child's symptoms may be lower than the child's own reports. As noted above, minimization of symptoms and secrecy due to shame and stigma are common for many forms of disordered eating behaviors and attitudes, which may lead to parents being unaware of their child's symptoms to varying degrees. Thus, an adolescent may minimize or deny certain ED symptoms with their parents, including engaging in ED behaviors furtively, but feel more comfortable reporting them to an interviewer. Alternatively, it may be that a parent's limited understanding of ED symptoms reduces their awareness of their child's engagement in disordered eating behaviors. This is concerning, as having limited recognition of the severity of a child's symptoms has been identified as a barrier to parents seeking treatment for their child.[92] Additionally, certain ED symptoms may be more "normalized" in some family contexts. For example, expressing dissatisfaction with one's body weight/shape is common among peer groups and families,[99,100] and may reduce the parent's perception of these types of disclosures as potentially indicative of ED symptomatology. This may be especially relevant among adolescents living in larger bodies whose parents more frequently make comments about their weight.[101]

Similarly, the presence of internalized weight bias within the family context may also impact child and parent reports of the child's ED symptoms. Parental internalized weight bias impacts how parents talk to their children about weight,[102] and has been linked to restrictive eating[103] and binge eating in adolescents.[104] Parental internalized weight bias may also contribute to discordant ratings, as parents may not identify certain restrictive eating or exercise behaviors as problematic. Additionally, parents may view their child's eating behavior as overeating or binge eating, even if the child is not consuming an unambiguously large amount of food or experiencing a sense of loss of control. Taken together, differences in parent and child reports of ED symptoms are common across different forms of ED behaviors and cognitions. Although it is not always possible to assess a parent's own weight-/eating-related attitudes when interpreting discordance in child- and parent-based assessments, potential sources of reporting bias in both the child's and parent's reports should be considered.

Lack of Empirically Supported Definitions of "Objectively Large" Amounts of Food

The EDE requires an interviewer to determine the presence and frequency of three different types of eating episodes: overeating episodes, subjectively large binge-eating episodes, and objectively large binge-eating episodes. According to the DSM-5, the regular occurrence of objectively large binge-eating episodes is a core diagnostic feature of several EDs (eg, BED, BN, and some forms of OSFED),[1] making the size of binge-eating episodes a key feature for differentiating between certain diagnoses. Objectively large episodes are defined by consumption of an "unambiguously large amount of food". Unfortunately, this definition itself is ambiguous and often difficult to apply across all ages (eg, children, adolescents, adults), though developmental factors can make it particularly challenging when assessing adolescents.

The ambiguity of what constitutes an objectively large amount of food given contextual factors is particularly notable when determining eating episode sizes for adolescents, who may be poor reporters of energy intake,[105] including during

binge-eating episodes.[106] The use of visual references, such as standardized images of foods commonly consumed in binge-eating episodes, can be helpful for orienting youth to the amounts of foods they may have eaten. However, the interviewer must still determine whether the identified amount of food is unambiguously large. In fact, inter-rater reliability of subjectively large binge-eating episodes has been found to be much lower than for objectively large binge-eating episodes in a community sample, likely due to differing interpretations of eating episode size.[33] Moreover, given the shifting energy and nutritional needs that accompany puberty and expected growth during adolescence, what is considered an objectively large amount of food will vary to some degree based on age, pubertal status, and sex. Specifically, what would be considered an unusually large amount of food to consume in an eating episode would be expected to differ broadly between a typical 17-year-old boy versus an average 11-year-old girl. Additionally, when relatively small amounts of several foods are consumed during an eating episode, it can be helpful to think more wholistically about the amount of food consumed (eg, three full buffet plates or one full plate and a small side plate), but this requires the interviewer to apply their own interpretation of what constitutes a full plate of food to determine episode categorization.

Crucially, cultural sensitivity is required when assessing eating behavior, including food choices and the amount of food consumed.[107–110] In general, dietary assessments that lack cultural sensitivity and consideration may render poorer dietary intake information among individuals from cultural backgrounds associated with non-Western standard diets[109,111] and may similarly reduce accuracy in categorizing eating episodes as assessed in the EDE. If an interviewer is working with an adolescent from a non-Western cultural background, the interviewer may face the added challenge of evaluating quantity of foods with which they may have limited or no familiarity. In these situations, the interviewer may also need to devote additional time gathering specific details about foods that the adolescent consumed during eating episodes. This increases assessment burden and may inadvertently reduce rapport by engendering perceived stigma or even discrimination for the interviewee, especially as it requires them to provide additional details about eating episodes that may already be uncomfortable to talk about. In fact, difficulty of communication has been identified as a key factor in higher perceived discrimination in health-care encounters.[112–114] These factors are detrimental to accurate reporting of eating behavior and should be addressed when possible, potentially through improving interviewers' awareness of their limited knowledge of culturally diverse diets and the biases they may have when making ratings for individuals with different backgrounds than their own.[112]

Interviewers should take care to mitigate participant distress when assessing the amount of food consumed during eating episodes and should consider a variety of important factors (ie, age, sex, cultural background) when evaluating what may be considered an unambiguously large amount of food for a given interviewee. For example, when faced with assessing the size of an unfamiliar food or dish, the interviewer should remain attentive to any discomfort the interviewee may express. If the interviewee becomes uncomfortable or frustrated while describing the details of their eating episodes, an interviewer can focus on obtaining the name and general amount of the food eaten, and then independently research details about the food after the interview. Additionally, if the foods were purchased from common restaurants (eg, chain restaurants, fast-food restaurants) or were common grocery store items (eg, a family size bag of chips, box of candy, bag of popcorn), then brief questions about the amount eaten (eg, order size, how much of the item was consumed) are likely to be sufficient. Further, the interviewer can reiterate and normalize that their questions are difficult to answer, and provide encouragement about the interviewee's effort and thoughtful responses.

Finally, it is generally recommended that interviewers "code down" when there is uncertainty about the amount of food eaten. This means if the interviewer is unsure about how much food was eaten, they should err on the side of rating the episode as not unambiguously large. Ultimately, the development of consistent, empirically supported, and culturally informed guidelines for what constitutes an objectively large amount of food would likely improve assessment of binge eating and loss-of-control eating when using the EDE.

Avoidant/Restrictive Food Intake Disorder (ARFID)

At present, the EDE does not assess for all ED diagnoses that may be relevant for adolescents, most notably ARFID.[1] ARFID is characterized by an eating or feeding disturbance (eg, due to a lack of interest in food or eating, sensory aversion to foods, fear of aversive outcomes from eating, such as vomiting or choking)[1] and is distinguished from AN

largely by an absence of disturbance in the experience of body weight/shape, and also rules out other potential contributing factors (eg, food unavailability). Research has identified ARFID as a common diagnosis among youth presenting for ED treatment, with one study finding that more than one in five treatment-seeking children and adolescents ages 7–17 years met diagnostic criteria for ARFID.[115] A supplemental ARFID module for the EDE, including a parent-report section, was recently pilot tested among children ages 8–13 years.[116] The ARFID interview demonstrated high inter-rater reliability (particularly for the parent version) and high convergence between parent and child reports. Given the noted benefits of semi-structured interviews when assessing for ED symptomatology, an ARFID interview, especially one that interfaces with the EDE, would likely offer improved detection of feeding and eating disorders in adolescents. Due to the current lack of an ARFID module in the standard EDE, it may be warranted to integrate an additional ARFID assessment, such as the Pica, ARFID, and Rumination Disorder Interview,[117] when evaluating for EDs in adolescents.

Food Insecurity

Consistent with the cognitive-behavioral framework of EDs, the EDE focuses largely on symptoms that are theoretically driven by the overvaluation of eating, body weight, and body shape. However, other factors may play a role in the onset and maintenance of ED behaviors, such as positive reinforcement,[118] intermittent access to food (ie, unintentional restriction that prompts binge eating),[119] or negative self-evaluations stemming from interpersonal distress.[120] More recent versions of the EDE have been updated to include items that consider motivations related to asserting/gaining control in general (ie, not specific to eating, shape, or weight), although other situational factors may underlie the occurrence of ED symptoms that are not accounted for by the EDE.

One pertinent situational factor is whether an adolescent has consistent access to food. When assessing relevant constructs (eg, dietary restraint, binge eating, purging), the EDE implicitly assumes that the interviewee has adequate access to foods. However, this may not be the case for individuals with food insecurity, which is defined as having limited or uncertain access to nutritionally adequate and safe foods or having a limited or uncertain ability to obtain these foods in a socially acceptable manner.[121] Emerging research has identified food insecurity as a pertinent risk factor for binge eating and compensatory behaviors in adolescents and adults.[119,122–124] For example, lack of or intermittent access to food may function as an external factor causing disordered eating patterns separate from, or even in addition to, thinness-related body concerns.[119] This is important to be aware of, because DSM-5 diagnostic criteria do not require weight or shape concerns for a diagnosis of binge-eating disorder or sub-threshold variants. Therefore, care should be taken to avoid over-pathologizing youth who are experiencing food insecurity. Alternatively, the presence of other factors (eg, intermittent access to foods, sharing limited food with other family members)[125] that drive ED pathology among adolescents affected by food insecurity may result in underestimation of ED symptoms in this population. Therefore, extra consideration should be taken when assessing adolescents experiencing food insecurity.

Considerations for Using the EDE with Specific Adolescent Subgroups

Despite persistent stereotypes and harmful myths,[126] EDs can affect people of all sociodemographic characteristics and identities, including in relation to race and ethnicity,[127,128] gender,[129,130] body weight,[131] and socioeconomic status.[132] Below we address several adolescent subgroups that may require additional consideration when administering the EDE. We provide a brief rationale for the importance of assessing ED pathology in these subgroups, and then discuss specific issues that may be relevant for using the EDE with each group.

Boys

Although historically excluded from ED studies, more recently research has better characterized ED symptomatology in boys.[133] The prevalence of EDs is estimated to be highest between the ages of 10 and 29 years among boys and men, with ~1.2% of boys ages 10–19 years meeting criteria for an ED.[12] Importantly, sub-threshold ED symptoms and body dissatisfaction also are also common among boys, with reports estimating ~15% of boys with high weight and ~8% of boys with a "healthy" body mass index engage in disordered eating behaviors (eg, fasting, use of harmful compensatory behaviors, binge eating).[134] Approximately 25% of boys also endorse engaging in muscle-enhancing behaviors (eg, supplement use or altering eating behaviors to "bulk up").[135] However, the exact nature of ED symptoms may be more

variable in boys, in part due to differences in sociocultural, gender-based body ideals that can promote body image concerns that are focused more on a desire for muscularity and leanness among boys and men.[136]

Certain previously noted challenges for administering the EDE with adolescents can be especially salient for boys, including the lack of guidelines for objectively large eating episodes (eg, due to the greater energy needs of boys versus girls during pubertal development)[137,138] and the lack of ARFID diagnostic items (eg, given evidence that the prevalence of ARFID in boys may be greater than[139] or comparable to[140] rates in girls). Another notable limitation is the lack of items focused on muscularity-oriented behaviors and attitudes. Interviewers should pay careful attention to potential endorsement of a desire for an idealized, masculine body shape (eg, muscular upper body, toned abdomen) and pursuit of muscularity when assessing boys. Similarly, boys may be more likely than girls to exhibit certain distinctive forms of disordered eating and related behaviors related to a drive for muscularity and leanness.[141,142] Examples include the use of muscle-building or appearance- and performance-enhancing substances (licit or illicit), "bulk and cut" eating cycles that are characterized by periods of greater dietary restraint alternating with periods of less restrictive eating,[143] and "cheat days/meals."[144] Cheat meals may resemble binge-eating episodes as assessed by the EDE because they are often characterized by consuming large amounts of typically forbidden calorie-dense foods.[144] Although evidence suggests that cheat meals are associated with loss-of-control eating and other ED symptoms among men (but not women),[145] the antecedents, correlates, and clinical significance of cheat meals may differ from those of loss-of-control-eating episodes.[145] When assessing ED symptoms in boys using the EDE, additional time may be spent understanding the motivations and impact of muscularity-oriented concerns and masculine eating norms on the interviewee's attitudes and behaviors.

Importantly, boys may also be especially vulnerable to experiencing internalized stigma, shame, or embarrassment about having ED symptoms, given the stereotype that persists regarding EDs being "feminine".[133,141] Boys who more strongly identify with or conform to traditional Western masculine norms (eg, emotional control, self-reliance) may be especially at risk for these experiences, which may impact their ability or willingness to endorse certain ED symptoms.[146,147] For example, the language of the EDE items assessing loss-of-control eating may result in under-identification of the behavior among males.[148] Further, overeating episodes are reported to be more common among men than women,[149] potentially because overeating is less discordant with masculine norms and gender roles compared to loss-of-control eating, which in contrast is less frequently reported by males (compared to females).[148–150] During episodes of overeating, males may report features consistent with binge eating (eg, eating more than planned), but they are less likely to relate to the traditionally defined concept of loss-of-control eating.[150] Thus, when assessing for loss-of-control or binge-eating episodes among boys, the use of additional probes that take into account the potential influence of masculine norms may be beneficial. Additionally, interviewers may want to take extra care to not minimize or disregard potential alternative descriptions of these behaviors when interviewing boys. It is important to avoid inadvertently triggering stigma or shame related to this issue which could cause the interviewee distress, reduce assessment rapport, and potentially motivate symptom denial or minimization.

Marginalized Racial/Ethnic Groups

Studies have suggested that rates of ED behaviors are elevated among marginalized racial/ethnic children and adolescents (ie, Latino/a, Black, Asian American, Native American).[151–156] Here, we use the terminology 'marginalized racial/ethnic groups' to refer to groups that have historically and continue to experience discrimination, systemic racism, and reduced access to healthcare (ie, racial and ethnic minorities), particularly in the United States.[157] Unfortunately, relatively few studies have utilized the EDE in adequately sized samples from these marginalized groups, therefore our understanding of the full nature and extent of limitations of using the EDE among youth from these populations is limited. More generally, some research has found that compared to non-Hispanic White, Asian-American, and Hispanic-American peers, Black women report lower levels of body dissatisfaction and disparate body image ideals.[158–160] However, the lack of culturally sensitive assessments of body image may have inaccurately perpetuated this notion of greater body satisfaction in certain racial and ethnic groups.[161] Other evidence indicates that non-Hispanic Black individuals do indeed report clinically relevant levels of body dissatisfaction.[162] Moreover, in a prospective cohort study of adolescents,

Black racial identity was prospectively associated with higher odds of muscularity-oriented disordered eating in both boys and girls.[163]

The limited extant research on marginalized racial/ethnic adolescents and adults suggests that when using the EDE with adolescents from diverse racial, ethnic, and cultural backgrounds, consideration of cultural differences in body image ideals and culture-specific ED risk and/or protective factors (eg, ethnic identity, acculturation, discrimination)[128,164] is warranted. Specifically, particularly in clinical contexts, it may be useful to ask limited follow-up questions to determine if there are certain factors that may be impacting the adolescent's concerns about weight/shape (eg, sociocultural pressures, stress due to stigma or prejudice). Particular care should be taken not to invalidate body image concerns associated with body ideals that deviate from the prototypical thin ideal. It is also important to be aware that if an adolescent's body image dissatisfaction does not stem from a drive for thinness, the EDE Weight and Shape Concern subscale scores (and the Global score) will likely be lower, yet may not fully capture the degree of concern or distress the adolescent experiences about their weight and shape.

Consideration of other culture-related factors is also warranted when assessing for EDs among diverse youth, including those whose current culture and culture of origin differ. Acculturation (ie, the process of psychosocial change that occurs when a group or individual acquires the cultural values, language, norms, and behaviors of dominant society) to Western culture has been identified as a risk factor for greater ED pathology,[165] including among Asian adolescents, Muslim women,[166,167] South Asian American women,[168] Black women[160,164] and men[169] and Hispanic adolescents and adults.[170,171] The EDE does not assess for the potential role of acculturation or differential body image ideals by culture, and thus may have some limitations with regard to capturing certain ED attitudes and behaviors among culturally diverse adolescents. Moreover, racially marginalized individuals are less likely to be diagnosed with and referred to treatment for ED.[172] Poorer measurement likely contributes to downstream inequities in access to diagnosis and treatment for EDs. People who administer the EDE to youth with marginalized racial/ethnic identities can begin to combat these inequities by increasing awareness of the prejudices they may have regarding what ED symptoms "look like".[173] Being aware of the additional cultural factors that can impact ED symptoms (eg, alternative body ideals, disordered eating as a means to cope with racism and oppression, industrialization and urbanization, social stigma)[160,174,175] may help interviewers identify manifestations of EDs in youth, despite potentially lower scores on the EDE, and refer individuals to appropriate treatments.

Sexual and Gender Minority Adolescents

Recent research indicates that individuals identifying as sexual and gender minorities (SGM; ie, lesbian, gay, bisexual, transgender, queer, and other LGBTQIA+ identities) are at increased risk for ED symptomatology such as binge eating, compensatory behaviors, and drive for thinness.[176–179] Moreover, adolescence is a critical period for the development of sexual orientation and gender identity.[180] Studies indicate that individuals often first self-identify as gay, lesbian, bisexual, or transgender during adolescence,[181] which coincides with a high-risk period for the exacerbation of ED symptoms and the onset of full-threshold EDs.

Similar to the other subgroups of adolescents discussed here, studies using the EDE to assess ED pathology in SGM youth are generally lacking, and there are several considerations that may be warranted for this group. In addition to the influence of standard ED risk factors, SGM individuals also face additional stressors that may increase risk for disordered eating, such as stigma, bullying, and discrimination related to their identities.[129,182–187] Body image ideals may differ from the ideals of cis-gendered heterosexual peers.[188] Certain sociocultural and peer factors, including appearance incongruence and dissatisfaction, stress related to communicating one's identity to others, and social pressure to look a certain way may also be exacerbated for certain individuals with these identities.[187,189,190] Importantly, SGM refers to a heterogeneous group of identities, and distinguishing between gender and sexual orientations is important when considering and assessing body image and disordered eating.[189,191] Transgender and gender diverse adolescents also may exhibit body image concerns and restrictive eating/weight-control behaviors that are related to the experience of gender dysphoria (eg, a transgender boy engaging in restrictive eating to prevent/reduce development of feminine body characteristics). Although some of these attitudes and behaviors may appear consistent with traditional ED symptoms, the underlying motivations may be very different. For instance, drive for thinness may be secondary to the desire to suppress features of one's sex assigned at birth, or to alter one's shape or body composition to better align with one's affirmed

gender.[182] Given that SGM adolescents may experience differential sources of body dissatisfaction, additional training may be warranted for interviewers who will be administering the EDE among SGM youth.

It is important to also acknowledge that the mental health profession has historically pathologized SGM individuals, and the mistreatment of SGM individuals still occurs in clinical contexts.[192] Moreover, in some parts of the United States and in other nations around the world there are laws preventing the delivery of certain forms of gender-affirming health care to SGM individuals, particularly youth, which has been linked to greater mental health concerns.[193] Therefore, consideration of unique ED risk factors that SGM individuals experience and training in the evaluation of gender dysphoria and delivery of competent and affirming assessment would likely both improve the accuracy of the interviewer ratings on the EDE and enhance rapport and mitigate inadvertent stigmatization by the interviewer.

Military Dependents

According to a report published in 2017 by the Defense Health Board (a Federal Advisory Committee to the United States Secretary of Defense), there are an estimated 2.3 million child and adolescent military dependents (ie, children of military personnel) in the United States alone.[194] Compared to their civilian peers, adolescent military dependents report greater levels of loss-of-control eating and concerns about eating, weight and shape.[195] For example, Schvey et al[195] reported rates of binge-eating disorder at ~17% for military adolescents and 2% for civilian adolescents. This is consistent with data reporting that one in five adolescent military dependent girls endorse ED behaviors such as binge eating, purging, and restrictive eating.[196] Preliminary evidence also suggests that among military dependent youth, contrasting with civilian samples, girls and boys do not differ in average ED symptomatology.[48]

Military dependent youths face a number of unique stressors such as parental deployments, shifting responsibilities during deployments and homestays, concerns about parental safety, and repeated moves and relocations due to permanent change of station orders.[197] Military families move, on average, once every two to three years. Frequent changes of station have been shown to negatively impact body-image in adolescent military dependents,[198] potentially due to increased stress and frequent changes of social context/support. In addition, dependents may be influenced by the military culture's emphasis on fitness and maintaining a lean physique via parental communication and/or modelling of these standards. Among military families, approximately 40% of female adolescent dependents who screened positive for ED symptoms also had a parent screen positive.[196] Youth may, for example, observe and mimic their parent's engagement in unhealthy weight control efforts, such as fasting, compulsive exercise, or compensatory behaviors, or witness a parent talking negatively about weight prior to physical readiness testing and body composition assessments. Further, weight-based teasing appears to be common within military families,[199] and this type of experience is robustly associated with ED pathology.[200,201] Given that stress has been an identified as a prospective predictor of ED symptoms in civilian adolescents,[202] the addition of military culture-specific stressors during adolescence may increase risk for eating pathology. In summary, when assessing military dependents, parent and family context may need to be disentangled from the adolescent's motivations for eating and exercise.

Summary

Adolescence generally is a key period for the emergence and/or exacerbation of ED symptomatology, and the sub-populations described above may experience additional risk and unique symptoms. Extra care and consideration are warranted when using the EDE to assess ED symptoms among these and other uniquely vulnerable subgroups of adolescents. Ultimately, research to support the utility and validity of the EDE across groups that have been under-recognized and under-researched in the field is warranted.

Although we present considerations for different subpopulations separately, it is also important to consider an intersectional perspective and how various identities (eg, racial, ethnic, gender, sexual orientation) and social factors (eg, socioeconomic status, food security, military family) interact to influence ED symptoms and risk among adolescents.[203] Several studies have shown that the intersection of several factors influence EDE psychometric properties and scores in children and adolescents.[39,204,205] For example, body image concerns and disordered eating behaviors may be exacerbated specifically among Black adolescents with larger bodies[39] and among Black (compared to White) military

dependents.[205] Thus, interpretation of EDE scores should be considered within intersectional frameworks when working with adolescents.

Finally, given that the EDE is grounded the cognitive-behavioral model of EDs and is primarily focused on current symptomatology, there are ED risk and maintenance factors (including those that may be especially relevant for certain populations) that are not captured in the interview. Alternative theoretical models of EDs have been discussed as especially salient for specific subgroups, including interpersonal theory for Black youth in rural environments[206] and minority stress and self-objectification theories for LGBTQIA+ individuals.[207] As such, the use of other questionnaires and interviews, in addition to the EDE, may have utility in more broadly assessing potentially important ED risk and maintenance factors when working with relevant pediatric subpopulations.

Integrating the EDE Interview and Self-Report ED Questionnaires

Although the focus of this review is on the EDE, which is a semi-structured interview, it is worth noting that self-report questionnaires, including the questionnaire version of the EDE (EDE-Q; accessed freely via https://www.cbte.co/for-professionals/measures/),[53,54] are used even more widely. In some circumstances, administration of the entire EDE interview may not be feasible or necessary, and use of some EDE sections (eg, classifying eating episodes and determining frequencies of behaviors) in conjunction with self-report questionnaires might be a more practical and sufficient method for evaluating ED symptoms. Below we discuss relevant factors and issues to consider with regard to using self-report ED questionnaires in conjunction with the EDE interview.

Generally, compared to administering the EDE, the use of standard self-report measures to assess ED pathology reduces burden at the potential expense of accurate comprehension and detection. Use of questionnaires requires less extensive administration training, is less time consuming, and offers greater perceived privacy to the adolescent. Increased anonymity when reporting symptoms is especially relevant here, as the EDE assesses behaviors and attitudes that are highly stigmatized.[208] An adolescent may feel sensitive and embarrassed by their ED behaviors, potentially leading to more difficulty endorsing such experiences in a face-to-face context versus on a questionnaire. With regard to youth in particular, internalized weight-related biases may be present even at a young age,[209] which can promote feelings of shame about the changes in their body during development from childhood into adolescence. Privacy considerations, and the related implications of responding in the context of social desirability, are also particularly important for adolescents because of their high concern with social judgment, self-consciousness, and perception of the self as the target of social evaluation.[64] Even with adequate rapport, and when the interviewee feels comfortable with the interviewer, adolescents may have concerns about symptom disclosure. These concerns may be, in part, why methods of assessment that do not involve direct face-to-face communication (eg, questionnaires, computerized assessments) have yielded higher rates of eating pathology.[95,210–212]

Contrasting with potential benefits with regard to perceived anonymity and privacy, self-report questionnaires have generally been found to have poorer sensitivity and specificity for detecting ED pathology among adolescents, particularly subthreshold symptoms.[47,213–215] It is possible that clinician rapport, warmth, and validation might actually increase the likelihood of reporting certain sensitive behaviors during face-to-face interview-based assessments compared to self-report formats. Moreover, the ability to clarify complex concepts, such as loss-of-control eating and overvaluation of weight and shape, may facilitate more accurate ratings by adolescents at risk for developing EDs. Notably, even when employing the same items and underlying theory to assess ED pathology, assessment format can influence symptom reports. For instance, adults have been found to endorse greater dietary restraint and cognitive symptoms (ie, subscale scores) on the EDE questionnaire versus the EDE interview, but more binge-eating behavior on the EDE interview versus questionnaire.[216]

Given the respective strengths of each administration format, when administration of the full EDE interview is not possible, employing a mix of questionnaires and some portions of the EDE interview may be a reasonable compromise. For example, in both research and clinical settings, one may elect to use a self-report questionnaire such as the EDE-Q to capture the four subscale scores, and concurrently administer only the overeating and compensatory behavior sections of the EDE interview to obtain the most accurate assessment of ED behaviors, make diagnostic decisions, and track changes in symptoms over time.[217]

Conclusion

The EDE was originally published more than three decades ago, and remains among the most widely used interviews for assessing ED symptoms, particularly in ED-focused research.[218,219] Core benefits of using the EDE interview among adolescents include: the ability to clarify complex concepts with interviewees who may find certain abstract concepts difficult to comprehend; potentially improving recall via careful orientation to the timeframe captured by the interview; ability to mitigate inattentive or impulsive responding; accounting for external factors that could impact responding (eg, family and cultural context, parent/guardian-influenced food/eating rules); and improved diagnostic accuracy over self-report questionnaires. However, as with any semi-structured interview-based assessment, the EDE requires more extensive training and is associated with greater burden given the time necessary to complete the interview. Additional limitations include the lack of specific consideration for certain factors that could influence ratings (eg, food insecurity); lack of items assessing muscularity-oriented behaviors and attitudes (of particular relevance for boys) and ARFID diagnostic criteria; and potentially variable psychometric performance of the measure across various subgroups of youth. Notably, numerous other measures/modalities are available for assessing ED symptomatology (eg, other interviews,[220–223] self-report questionnaires,[221,224,225] ecological momentary assessment protocols[226–228]). As such, it is vital to consider the benefits and limitations of the various options in the context of one's clinical or research aims, as well as in relation to the sociodemographic characteristics and identities of the person or persons who will be assessed.

Acknowledgment

The opinions and assertions expressed herein are those of the authors and are not to be construed as reflecting the views of the Uniformed Services University of the Health Sciences (USU) or the US Department of Defense.

Author Contributions

All authors made a significant contribution to the conception of this review article; took part in drafting, revising, or critically reviewing the article; gave final approval of the version to be published; have agreed on the journal to which the article has been submitted; and agree to be accountable for all aspects of the work.

Funding

Preparation of this manuscript was supported in part by funding from the Defense Health Agency, USU-Metis Awards #HU00012120008 and #HU00011920029.

Disclosure

The authors have no competing interests to disclose.

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