Chapter 2
Challenging Behaviors

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Introduction

Challenging behaviors (CB) are one of the most important comorbid conditions found in individuals with intellectual disability (ID). Given the debilitating nature of CB, and their frequent comorbidity with ID (Durand and Carr 1992; Loftin et al. 2008; Matson and Dempsey 2009; Matson et al. 2009b; Matson et al. 1997; Morrison and Rosales-Ruiz 1997), it should come as no surprise that a wealth of literature exists regarding CB in this population (Matson and Cervantes 2013; Matson et al. 2011). The purpose of this chapter is to review the definition, prevalence, and intervention of CB in individuals with ID.

Definition of CB

While an abundance of literature exists on the topic of CB, many researchers have different definitions for the term and no clear consensus exists (Didden et al. 2012; Medeiros et al. 2012). Further complicating matters is that CB are often given different labels by different researchers, such as maladaptive, aberrant, externalizing, or problem behaviors (Mudford et al. 2008). However, as research in this area has developed, a general consensus on using the term CB has emerged (Brylewski and Duggan 1999). Emerson et al. (2001) described CB as those that “present a significant challenge to carers and support agencies.” He later went on to define them as “culturally abnormal behavior of such intensity, frequency or duration that the physical safety of the person or others is placed in serious jeopardy, or behavior which is likely to seriously limit or deny access to the use of ordinary community facilities” (Emerson 2005). Mudford et al. (2008) defined CB as “Any behavior...
performed to excess in frequency or intensity, and beyond the immediate resources available for effective treatment.” Additionally, in a similar fashion to Emerson et al. (2001), they included any behaviors that might interfere with learning, safety, or community integration. Furthering these definitions, Holden and Gitlesen (2006) distinguished between more and less demanding CB. This distinction was based on the amount of support needed to manage the behaviors and the amount of interference caused by these behaviors. Together, these definitions reflect an evolving definition of what categorizes a behavior as CB.

Researchers have further debated the definition of CB as they relate to psychopathology. More specifically, some researchers have argued that CB in individuals with ID represent so-called “behavioral equivalents” of psychopathology (Hurley 2006; Marston et al. 1997; Witwer and Lecavalier 2010). This argument has been made due to the fact that it can often be difficult to apply the diagnostic criteria of various forms of psychopathology to individuals with ID. As such, authors have argued that CB, such as aggression or self-injury, may represent observable signs of psychopathology, such as depression (Marston et al. 1997). However, other researchers have cautioned against such assumptions (Ross and Oliver 2003; Tsiouris et al. 2003; Witwer and Lecavalier 2010). Sturmey et al. (2010) examined the relationship between a measure of depression and hypothesized behavioral equivalents of depression in a sample of 693 adults with ID. They found little relationship between measured depressive symptoms and CB and concluded that there is little support for interpreting CB as symptoms of psychopathology, at least as related to depression. Other researchers have found similar results and made similar conclusions (Ross and Oliver 2003; Tsiouris et al. 2003; Witwer and Lecavalier 2010). While Sturmey et al. (2010) did find a relationship between some CB and symptoms of mania, they cautioned that such findings are still preliminary and recommended that clinicians continue to focus on core symptoms when making a diagnosis. It has been argued that CB may be a general indicator of overall impairment, rather than indicative of a specific form of psychopathology (Witwer and Lecavalier 2010).

While there has been some debate as how to best define the term CB, there is more agreement as to what behaviors actually fall under this category. In fact, most researchers define CB by the specific classes of behaviors being studied. The most frequently cited CB include self-injurious behavior (SIB), aggression towards others, stereotypy, destruction of property, inappropriate sexual behaviors, screaming, noncompliance, disruptions, and eating inedible objects (Emerson et al. 2001; Holden and Gitlesen 2006; Matson and Nebel-Schwalm 2007). Yet, even within these terms, ambiguity exists as to what specific behaviors fall under each of these categories. As such, a brief discussion will be given regarding the definitions and various topographies of the most frequently cited categories of CB.

**Self-injurious Behavior (SIB)**

SIBs can, in their simplest form, be defined as self-directed behaviors that either cause or have the potential to cause injury, such as tissue damage (Didden et al. 2012; Kress 2003; Schroeder et al. 1980; Tate and Baroff 1973). This definition
does not include behaviors such as suicidal behaviors, sexual behaviors, or socially typical behaviors (Didden et al. 2012; Winchel and Stanley 1991). While the basics of this definition are typically agreed upon, researchers have argued whether additional factors should be included in the definition. For example, some authors have argued the importance of intent, arguing that deliberate intent is inherent to the definition of SIB (e.g., Glaesser and Perkins 2013; Klonsky and Muehlenkamp 2007; Winchel and Stanley 1991). Others have removed the requirement of intent, focusing only on observable behavior in an attempt to avoid making incorrect inferences (e.g., Rojahn et al. 2007; Tureck et al. 2013). Other definitions of SIB have included (or purposefully excluded) their repetitive nature, degree and type of damage caused, self-evidence, pathological nature, the presence of frustration or anxiety motivating the behaviors, their relationship to ID and ASD, and the various topographies typically included under the label of SIB (Matson and Turygin 2012; Oliver et al. 1987; Rojahn et al. 2001; Schroeder et al. 1980; Tureck et al. 2013). Additionally, Matson and Turygin (2012) stressed the need to differentiate the term SIB from the term self-injury that has been traditionally used in the mental health field and has been associated with disorders such as borderline personality disorder, depression, and sexual abuse. In a similar fashion to CB, researchers often define SIB by the individual topographies included under the term.

Researchers have described numerous behaviors as encompassing the term SIB. The Behavior Problems Inventory (BPI; Rojahn et al. 2001), an assessment of CB in individuals with ID, lists the following behaviors under the domain of SIB: self-biting, head-hitting, body-hitting, self-scratching, vomiting, self-pinching, pica, stuffing objects, nail-pulling, poking, aerophagia, hair pulling, over drinking, and teeth-grinding. Other behaviors that have previously been included under this term include face slapping, self-choking, eye poking, hand-mouthing, and finger sucking (Didden et al. 2012; Iwata et al. 1994; Kahng et al. 2002). In a review of behavioral interventions for SIB, Kahng et al. (2002) found head-banging/hitting to be the most frequently cited form of SIB, followed by biting, hand-mouthing, and body-hitting. In a review of various forms of SIB, Didden et al. (2012) emphasized additional factors that must be considered when discussing the various topographies of SIB, including range of severity, frequency of occurrence, and social basis for the behaviors.

**Aggressive Behaviors**

As with SIB, no single definition of aggressive behaviors exists; Didden et al. 2012). Rojahn et al. (2001) defined aggressive behaviors as “abusive, deliberate attacks against other individuals or objects.” In a study on aggressive behaviors in children with an autism spectrum disorder (ASD), Farmer and Aman (2011 discuss a number of problems that arise when trying to define aggressive behaviors. Firstly, a variety of terms have been used to describe aggressive behaviors, in an attempt to avoid the negative social connotations inherent to the aggressive label; Crocker et al. 2006; Farmer and Aman 2011). Additionally, researchers have traditionally attributed intent to the definition of physical aggression (as in the definition above),
which can be difficult when applied to the ID population. Individuals with ID have impaired cognitive ability and may have difficulty empathizing with or taking the perspective of another individual (Farmer and Aman 2011). Thus the assumption of intent may be somewhat misguided when used with the ID population. Because of this, Farmer and Aman (2011) recommended looking at the various subtypes and topographies of aggressive behaviors when attempting to create a definition. An additional roadblock to a clear operational definition of aggressive behaviors is that different researchers often include and exclude different topographies when studying aggressive behaviors; Cooper et al. 2009; Crocker et al. 2006). For example, some authors have included destruction of property under the label of aggressive behaviors (e.g., Rojahn et al. 2001; Sturmey et al. 2008; Vitiello and Stoff 1997), while others categorize such behaviors separately (e.g., Lowe et al. 2007). This has led to widespread difficulties in comparing studies of aggressive behaviors (Crocker et al. 2006). In an attempt to make a clear operational definition that takes these difficulties into consideration, Didden et al. (2012) defined aggressive behaviors as “behavior that (potentially) results in injury or harm in another person or in property destruction without consideration of whether the aggressive behavior is ‘deliberately’ exhibited or not.” However, they concede that a distinction usually needs to be made between aggressive behavior directed at objects and aggressive behavior directed at other people. Additionally, they agree on the presence of subcategories of aggression, including physical aggression, verbal aggression, and possibly self-directed aggression (i.e., SIB). Other researchers have similarly agreed on the need to separately examine these subtypes of aggressive behaviors; Cooper et al. 2009; Szymanski 2002). Additional ways to categorize aggression include proactive versus reactive aggression and the type of reinforcement maintaining the aggression (Didden et al. 2009, Farmer and Aman 2011; Matson et al. 2012).

A number of behaviors have been included by researchers under the label aggressive behaviors. The aforementioned BPI (Rojahn et al. 2001), includes the following behaviors under the domain of Aggression/Destruction: hitting, kicking, pushing, biting, grabbing, pulling, scratching, pinching, spitting, verbally abusive, destroys, and cruel. Other behaviors that have previously been included under this term include using threatening gestures, throwing objects at others, ripping clothes, yelling or shouting at others, banging on objects, forcibly taking objects, taking food, using weapons against others, and choking (Lowe et al. 2007; Matson and Rivet 2008a; Sigafoos 1995).

**Stereotyped Behaviors**

Stereotyped behaviors are often overlooked as a class of CB; yet the consequences of such behaviors can be as significant as those of the others discussed in this chapter (Didden et al. 2012; Loftin et al. 2008; MacDonald et al. 2007; Matson et al. 1997). Such consequences include reduced opportunities for interaction, exclusion from general education settings, impaired adaptive functioning, increased use of psychotropic drugs, and stress for parents and caregivers (Durand and Carr 1992;
Koegel and Covert 1972; Loftin et al. 2008; Matson and Dempsey 2009; Matson et al. 2009; Matson et al. 2009a; Matson et al. 1997; Morrison and Rosales-Ruiz 1997). As with the other CB discussed in this chapter, some debate exists as how to best define stereotyped behaviors. This may be due, in part, to a lack of empirical evidence looking at the defining features of stereotyped behaviors (Rapp and Vollmer 2005). Rojahn et al. (2001) defined stereotyped behaviors as “peculiar or inappropriate voluntary acts which occur habitually and repetitively.” Berkson (1983) provided additional criteria for behavior to be categorized as stereotyped, including persistence over time, lack of variability, resistance to environmental change, and abnormality for age-related development. This last point is critical, as stereotyped behaviors are frequently displayed by typically developing infants and toddlers (Foster 1998; Mac-Donald et al. 2007). However, the frequency and intensity of stereotyped behaviors are much higher in atypically developing children (Klonsky and Muehlenkamp 2007). Additionally, they continue to persist throughout life in atypically developing individuals, whereas they decrease with age in typically developing children (MacDonald et al. 2007; Matson and Horovitz 2010). In contrast to Berkson’s (1983) definition, some have argued that a degree of variability may exist for some types of stereotyped behaviors (Rapp and Vollmer 2005). Other factors that may be considered when defining stereotyped behaviors include the degree of repetitiveness, periodicity, time spent engaging in the behaviors, the context in which the behaviors occur, function of the behaviors, and the salience of the behaviors (Mac-Donald et al. 2007; Rapp and Vollmer 2005; Ross et al. 1998; Tierney et al. 1978).

It should be noted, that of the CB discussed in this chapter, stereotyped behaviors are the only included in the diagnostic criteria for multiple DSM-5 diagnoses (American Psychiatric Association 2013). Stereotyped behaviors are the essential feature of stereotypic movement disorder. The DSM-5 definition of stereotyped behaviors includes their repetitive nature, lack of apparent purpose, and interference in social, academic, or other activities. Coding of stereotypic movement disorder includes specifiers indicating the presence or absence of SIB and the association with any known medical, genetic, neurodevelopmental, or environmental factors. In addition to being the essential feature of stereotypic movement disorder, stereotyped behaviors are one of the core features of ASD (American Psychiatric Association 2013). The DSM-5 places stereotyped motor movements in the same class as other restricted, repetitive behaviors/interests, including insistence on sameness, inflexible adherence to routines, unusual fixed interests, and hyper- or hyporeactivity to sensory input. Given that stereotyped behaviors are a core feature of both of these disorders that are commonly diagnosed comorbidly with ID, it should be expected that stereotyped behaviors are frequently evinced by individuals with ID.

A number of behaviors have been included by researchers under the label of stereotyped behaviors. Perhaps of all the categories of CB discussed, stereotyped behaviors have the most variability, as any unusual, repetitive behavior can be classified under this label. The aforementioned BPI (Rojahn et al. 2001) includes the following behaviors under the domain stereotyped behavior: rocking, sniffing objects, spinning, waving arms, head-rolling, whirling, body movements, pacing, twirling, hand movements, yelling, sniffing self, bouncing, spinning, running,
finger movements, manipulating, sustained finger movements, rubbing self, gazing, posturing, clapping, grimacing, and hand-waving. Other topographies reported in the literature include repetition of words or phrases, unprovoked laughing or giggling, and echolalia (MacDonald et al. 2007).

Prevalence

Many researchers have examined the prevalence of CB in individuals with ID and factors that may increase the risk for the presence of CB. However, due to the tremendous variability in how to best define, significant variability has been seen by researchers on this topic. Emerson et al. (2001) identified a number of additional difficulties that have affected research on the prevalence of CB in individuals with ID: (1) many prevalence studies have focused on specific categories of CB (e.g., SIB), rather than CB as a whole; (2) studies have often focused on subpopulations of people with ID (e.g., those who are institutionalized), rather than the general population of individuals with ID; and (3) the few studies that have looked at CB in general have often failed to collect detailed data on specific forms of CB. Fortunately, the highlighting of these difficulties has led to more methodologically sound studies on the prevalence of CB in recent years. This section will first review various studies on the prevalence of CB in general, particularly those that have taken large-scale approaches and have attempted to address the methodological issues discussed above. This will be followed by findings on the prevalence of specific high-frequency categories of CB (i.e., SIB, aggressive behaviors, and stereotyped behaviors). Finally, risk factors associated with prevalence, both of CB in general and of specific categories of CB, will be discussed.

A number of large-scale population studies have been conducted looking at the prevalence of CB in the ID population. Emerson and colleagues (2001) conducted a total population study in two areas of England. They found CB to be present in 10–15% of individuals with ID that were screened. Additionally, they found that 5–10% of individuals with ID exhibited more demanding CB, meaning at least one of the following criteria were present: (1) engaging in the CB at least once a day; (2) the CB usually prevented the person from taking part in program or activities appropriate to their level of ability; (3) the CB usually required physical intervention by staff; or (4) the CB usually led to major injury. In order to be included in this study, less demanding CB had to be perceived as being, or potentially being, significantly difficult to manage. In addition to the findings on more and less demanding CB, Emerson and colleagues (2001) found that most participants engaged in multiple forms of CB (e.g., SIB and aggressive behaviors) and that many engaged in multiple topographies of the same category of CB (e.g., multiple forms of SIB).

A similar total population study was completed in Hedmark, Norway, examining 904 children and adults receiving at least a minimum of care for ID (Holden and Gitlesen 2010 2006). They found the overall prevalence of CB to be 11.1%. Using similar criteria to define more and less demanding CB, they found that 7.3% of the
participants engaged in less demanding CB, while 3.8% engaged in more demanding CB. Holden and Gitlesen (2006) found that individuals with more demanding CB engaged in an average of 2.1 forms of CB, while individuals with less demanding CB engaged in an average of 1.7 forms. They also found that individuals with more demanding CB engaged in a higher number of specific topographies than did people with less demanding CB.

Lundqvist (2013) criticized previous prevalence studies, citing the fact that few studies used a psychometrically sound assessment instrument to determine the presence and frequency of CB. Additionally, Lundqvist (2013) argued that many prevalence studies, in defining what will be considered to indicate the presence of CB, have required the presence of at least one behavior problem considered to be severe. However, less severe problem behaviors may be overlooked by such a definition, despite their clinical significance. For example, the previously discussed studies by Emerson et al. (2001) and Holden and Gitlesen (2006) excluded CB that were not considered to cause significant impairment, despite the use of the high- and low-demand categories. Lundqvist (2013) therefore examined the prevalence of CB in 915 individuals with ID in Örebro, Sweden, using the previously discussed BPI (Rojahn et al. 2001). Lundqvist (2013) found that 62% of participants engaged in at least one behavior problem on the BPI. However, this number dropped to 18% if the behavior was required to be rated as severe. This number dropped to 11.8% if the behavior was required to be rated as severe on a daily basis, meeting criteria similar to the high-demand CB discussed above. These distinctions, in addition to those previously discussed, may help to explain the wide variety of prevalence rates reported in the literature.

**Prevalence of Specific Categories of CB**

**SIB** While studies on the prevalence of SIB have been numerous, rates of prevalence have varied greatly, particularly due to the samples included in such studies and the ways in which SIB has been defined (Didden et al. 2012). Emerson et al. (2001) found the prevalence of SIB to be 4% of the total population of individuals with ID studied. Holden and Gitlesen (2006) found a similar rate, at 4.4%. They found SIB to occur at similar rates in those engaging in high- and low-demand SIB. However, they found biting and scratching to be two specific topographies that were more common in the high-demand group. As previously discussed, Lundqvist (2013) applied a broader definition to CB, resulting in much higher overall rates of prevalence. As such, he found an overall prevalence rate of 30.9% for SIB. This meant that 30.9% of participants were reported to have engaged in at least one form of SIB, regardless of severity or frequency. However, when applying a stricter definition more in line with that of other researchers, this rate dropped to 8.4%. More demanding forms of SIB were found to occur in 6% of participants. Lundqvist (2013) found that, of those exhibiting at least one behavior problem, the mean number of SIB topographies was 1.93, and the maximum number of SIB topographies engaged in by one individual was 9. Other researchers have cited slightly higher
prevalence estimates, ranging from 10–12% of individuals with ID (Didden et al. 2012). Factors associated with the prevalence of SIB, such as gender and age, will be discussed further below.

**Aggressive Behaviors** Emerson et al. (2001) found the prevalence of aggressive behaviors to be 7% of the individuals investigated. It should be noted that Emerson et al. (2001) categorized aggressive and destructive behaviors separately. They found destructive behaviors to have a prevalence of 4–5%. Holden and Gitlesen (2006) again found a similar rate at 6.4%. In contrast to SIB, they found aggressive behaviors to be more frequent in those engaging in high-demand CB. In particular, they found hitting others, hitting others with objects, and biting to occur more frequently in the high-demand group. Additionally, the use of weapons, such as a knife or chair, was more common in the more demanding group. Similar to Emerson et al. (2001), Holden and Gitlesen (2006) categorized aggressive and destructive behaviors separately. They found a prevalence rate of 2.3% for destructive behaviors. While such behaviors were more frequent in the high-demand group, this difference was not significant. Lundqvist (2013), using his broader definition of CB, found an overall prevalence rate of 34.4%. He found 11.9% participants to engage in severe aggressive behaviors. More demanding forms of aggressive behaviors were found to occur in 6.7% of participants. Of those exhibiting at least one behavior problem, the mean number of aggressive behavior topographies was 3.06, with a maximum of 21.

**Stereotyped Behaviors** Less research is available on the prevalence of stereotyped behaviors. Neither Emerson et al. (2001) nor Holden and Gitlesen (2006) specifically examined the prevalence of stereotyped behaviors. Lundqvist (2013) found an overall prevalence rate of 41.3% for stereotyped behaviors. However, only 6.1% of participants were reported to engage in severe stereotyped behaviors and only 0.8% of participants were reported to engage in more demanding stereotyped behaviors. This drop may be due to the fact that stereotyped behaviors do not typically have the same likelihood of causing significant injury when compared to SIB and aggressive behaviors and are often viewed as less problematic (Murphy et al. 2009). Other researchers have argued that as many as 50% of individuals with ID may engage in at least one stereotyped behavior (Didden et al. 2012).

**Risk Factors Associated With Prevalence of CB**

Researchers have found a number of factors to be associated with higher and lower rates of CB. Such factors include gender, age, level of intellectual impairment, ASD, seizure disorders, genetic syndromes, comorbid psychopathology, level of adaptive behavior functioning, sensory impairments, medical problems, and institutionalization (Didden et al. 2012; Emerson et al. 2005; Holden and Gitlesen 2006; Lundqvist 2013; McClintock et al. 2003). While findings on the effects of these factors have been at times contradictory, some trends have been observed in the
literature. A brief discussion will be given on the relationship between these factors and rates of CB.

**Gender** Many researchers have examined the relationship between gender and prevalence of CB, with often-conflicting findings. Emerson et al. (2001) found that approximately two-thirds of the individuals identified as engaging in CB were male. No statistical comparisons were made, however, limiting the interpretability of this finding. McClintock et al. (2003) conducted a meta-analysis looking at risk factors associated with SIB, aggression, stereotyped behaviors, and destruction of property. While they found no relationship between gender and SIB, they found that males were significantly more likely to engage in aggressive behaviors. However, they cited the need for caution when interpreting this finding, given that only two studies examining this relationship were found. Not enough studies were found by the researchers to examine the relationship between gender and other forms of CB, such as stereotyped behaviors. Lundqvist (2013) similarly found no relationship between gender and SIB, while also finding no relationship between gender and stereotyped behaviors. However, he found a different pattern in regards to gender and aggressive/destructive behaviors. Lundqvist (2013) found that women evinced significantly more aggressive/destructive behaviors and women’s aggressive/destructive behaviors were rated as more problematic than men’s. These findings were found to be particularly true of hitting, kicking, biting, scratching, being verbally abusive, and being cruel to others. In contrast to these findings, Holden and Gitlesen (2006) found no significant relationship between gender and prevalence, although a slightly higher nonsignificant percentage of males were found to engage in CB (14.3% compared to 9.1%). Additionally, they found no relationship between gender and any specific type of CB (e.g., aggression towards others). Finally, no relationship existed for either less demanding or more demanding CB. These conflicting findings call to the need for more rigorous studies examining the relationship between gender and CB (McClintock et al. 2003).

While none of the aforementioned studies found a relationship between gender and stereotypic behaviors, Hattier et al. (2011) found males with ID and ASD to engage in significantly more stereotyped behaviors than females. However, it is possible that this finding relates more to ASD than ID specifically.

**Age** Similar to gender, findings on the relationship between age and CB have often been conflicting. Emerson et al. (2001) found that approximately two-thirds of individuals identified as engaging in CB were adolescents or young adults. However, this finding was again not evaluated statistically and the authors cautioned against interpreting this finding. Holden and Gitlesen (2006) more rigorously examined the relationship between age and CB. They found more demanding CB to increase between the ages of 10 and 20 years, peak between the ages of 20 and 40 years, and then decrease later in life. They found less demanding CB to be fairly evenly distributed under 60 years of age. In general, they found CB to be rare in those above 60 years. CB were shown to be present in young children, with approximately 20% of those under 10 years showing less demanding CB.
Lundqvist (2013) examined the relationship between age and specific categories of CB. He found SIB and stereotyped behaviors to be fairly constant across age groups, with a nonsignificant peak between the ages of 40 and 49 years. Aggressive and destructive behaviors were found to be significantly higher in those aged 40–59 years, when compared with younger ages. Additionally, a peak was seen among those aged 70 years and older. However, further analysis revealed that this peak only applied to males. In reviewing the relationship between age and SIB in individuals with ASD, Didden et al. (2012) found insufficient evidence to make clear conclusions.

**Level of ID** Findings on the relationship between level of ID and CB have been more consistent. In general, researchers have found overall rates of CB to increase as level of intellectual impairments increases (Emerson et al. 2001; Holden and Gitlesen 2006; Lundqvist 2013). McClintock et al. (2003); Murphy et al. 2009; Oliver et al. 1987; Rojahn et al. 2001). That is, those with lower levels of intellectual functioning are likely to engage in more CB. However, this finding does not appear to hold true for all categories of CB. Both Emerson et al. (2001) and Holden and Gitlesen (2006) found aggressive behaviors to be more common in those with mild to moderate ID, while SIB was found to be more likely in those with severe and profound ID. Lundqvist (2013) found that all categories of CB investigated (i.e., SIB, stereotyped behaviors, and aggressive/destructive behaviors) increased with increasing severity level of ID. However, this difference was only statistically significant for SIB and stereotyped behaviors. Similarly, McClintock et al. (2003) found, in a meta-analysis, that individuals with severe and profound ID were significantly more likely to engage in SIB and stereotyped behaviors when compared to individuals with mild to moderate ID. Other researchers have similarly reported the finding that SIB and stereotyped behaviors are more prevalent in those with more severe intellectual impairment (Didden et al. 2012; Oliver et al. 1987; Rojahn et al. 2001). McClintock et al. (2003) found a nonsignificant relationship between severity of ID and aggressive behaviors. More research on the relationship between aggressive behaviors and level of intellectual impairment appears warranted.

**ASD** Another consistent finding in the literature is the impact of ASD on rates of CB in individuals with ID. Researchers have consistently found that those with ID and ASD exhibit more CB than those with either condition alone (Didden et al. 2012; Holden and Gitlesen 2006; Matson and Rivet 2008a; Matson and Rivet 2008b; McCarthy et al. 2010; Tureck et al. 2013). Holden and Gitlesen (2006), for example, found that 35.8% of participants with autism and ID exhibited CB, compared to the 11.1% reported for the overall sample of individuals with ID. They did not, however, find the presence of an ASD to be particularly associated with more demanding CB.

Lundqvist (2013) found the prevalence of SIB, stereotyped behaviors, and aggressive/destructive behaviors to all be significantly greater in those with an ASD diagnosis. Similar findings were obtained by Mcclintock et al. (2003) in a meta-analysis. Lundqvist (2013) found rates of SIB and stereotyped behaviors to increase
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