



## CHILDREN WITH EMOTIONAL AND BEHAVIORAL DISORDERS IN SAUDI ARABIA: A PRELIMINARY PREVALENCE SCREENING

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### Abstract:

Education in Saudi Arabia, including the education of children with special needs, is developing rapidly. However, children with emotional and behavioral disorders are neither consistently identified nor adequately served in Saudi Arabia although they are recognized as a distinct category of children who require special education services. The goal of this study was to examine the prevalence of emotional and behavioral disorders among children in Saudi Arabia to assess the need for intervention services to help those children reach their potential. The current research identified the types of behaviors that are most evident in the study sample. Also, the relationship between demographics and emotional and behavioral disorders is studied to identify possible predictors of disruptive forms of behavior. Parents of children aged 4-17 years in Saudi Arabia were surveyed using the Strengths and Difficulties Questionnaire. The findings of the study suggest that children with emotional and behavioral disorders in Saudi Arabia may account for 20% of the population of children between the ages of 4 and 17. The findings also revealed that over 20% of children in Saudi Arabia have difficulties in peer relationship and lack the necessary prosocial behaviors. The parent reporting, child gender, child education type, the geographical region, the father's education level, and the family's socioeconomic status were found to be statistically significant predictors of children difficulties. However, these predictors were only able to explain a small portion of the difficulty scores.

**Keywords:** special education, prevalence screening, emotional/behavioral disorders, parents, Saudi Arabia

### 1. Introduction

Public schools face challenges daily due to their diverse student population. This diversity places additional demands and expectations on schools to meet the various

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needs of all children (Sprague & Perkins, 2009; Walker, 2004). Further, successfully meeting the social and behavioral expectations of today's schools and classrooms is an overwhelming stressor for young children, educators, and school administrators. Failure to meet the needs of children can result in adverse life outcomes such as school dropout, depression, substance abuse, divorce, unemployment, and/or confrontation with justice and mental health systems (Harrison, Vannest, & Raynolds, 2013).

Negative life outcomes can be avoided if children whose social and emotional needs that are unmet are addressed at early stages (Cooper, Masi, & Vick, 2009). These needs can be addressed through careful assessment and planning of behavioral interventions. Research shows that children's problems during childhood can persist through adolescence and adulthood in chronic forms (Caspi, Henry, McGee, Moffitt, & Silva, 1995; Moffitt, Caspi, Dickson, Silva, & Stanton, 1996; Molina & Pelham, 2003). Before interventions for children with emotional and behavioral disorders (E/BD) are planned and implemented, it is important to define and identify the disorders appropriately. The definition of E/BD is important because once we accept a definition, it will reflect on how we conceptualize the problem and what intervention strategies we consider appropriate (Kauffman & Landrum, 2013). Without an operational definition, it is difficult to screen children for E/BD. Screening is important because early identification of children with or at risk for E/BD, followed by the delivery of prevention programs for behavioral disorders, has the potential to decrease the wide range of adverse outcomes that children might experience in their lives (Harrison et al., 2013).

Abdel-Fattah et al. (2004) conducted a screening study to identify the percentage of children who have E/BD in Saudi Arabia. However, the sample included in the study consisted only of male students in one school in the city of Taif, Saudi Arabia. Although the findings have limited generalizability, the researchers found that 8.3% of the population of that school were identified with E/BD. Assuming the percentage to be correct and generalizable to the whole nation of Saudi Arabia, the rate of 8.3 represents almost .5 million children in schools who might be diagnosed with E/BD. With a 2.1% growth of the Saudi population, according to the General Authority for Statistics (2016), the number of children with E/BD would be expected to increase by 10,000 students per year. The rate of 8.3% of the school population is alarmingly high, necessitating immediate attention from professionals and the Saudi Government.

The educational system in Saudi Arabia recognizes E/BD as a category of special education despite the insufficiency of efforts to identify and serve children with E/BD. The lack of sufficient research implies a need for an intensive investigation into the area of E/BD starting with the task of defining and measuring the magnitude of the problem of E/BD in Saudi Arabia. It is important to determine the prevalence of E/BD among children in Saudi Arabia before discussing the need for interventions and services for this population (Conroy & Brown, 2004). Therefore, screening for children with E/BD in Saudi Arabia is an initiative which must be undertaken to estimate the extent to which E/BD interventions are needed.

In the current study, two substantial problems are identified. The first problem is that the prevalence of E/BD among children in Saudi Arabia, which determines the need for intervention services for this population, is unknown. The second issue is the insufficiency of interventions for children with E/BD in Saudi Arabia, which may result in those children experiencing many adverse life outcomes. If the prevalence of E/BD among children in Saudi Arabia can be determined, it is possible to make and support an argument that E/BD interventions are needed.

The current study aimed to identify a population that might be at risk of experiencing future adverse outcomes including social isolation, school failure, unemployment, or encounters with the justice system (Harrison et al., 2013). Determining the prevalence of E/BD provides researchers and policymakers in Saudi Arabia with a starting point to evaluate the need for E/BD interventions which can improve the quality of life of children, their families, and other stakeholders. For instance, in the school system, addressing the emotional and behavioral needs of children with E/BD will not only improve the lives of children and their families but also help teachers to minimize classroom management time and effort and improve instruction. This study has the potential to become a cornerstone in the process of serving children with E/BD in Saudi Arabia.

The current study was guided by three research questions:

1. What is the approximate prevalence of behaviors/characteristics associated with E/BD among children aged 4-17 in Saudi Arabia?
2. What types of behaviors/characteristics associated with E/BD do children in Saudi Arabia experience?
3. In what ways can behaviors/characteristics associated with E/BD among children in Saudi Arabia be predicted according to (a) the child's gender and age, (b) the parents' level of education, (c) respondent's relationship to the child, (d) schooling status and type, (e) parent's marital status, (f) parents' employment status, and/or (g) socioeconomic status?

## **2. Literature Review**

Although human behavior is complex and may be the result of a chain of causes, scholars and scientists have devised numerous theories and devised a variety of means to measure and understand human behavior (Ormrod, 2011). Also, understanding human behavior can help professionals notice deviant forms of behavior and identify the factors leading to those behaviors which deviate from the norm. Although it is beyond the scope of the current study, it is of interest to note that many schools have different approaches to understanding how human behavior is formed or learned. Behaviorists, for example, perceive learning as resulting from conditioning which involves rewards and punishment (Skinner, 1963; Pritchard, 2014). In other words, in their view, rewarded behaviors are more likely to occur in the future than punished behaviors. Cognitivists, on the other hand, believe that learning is more than just a

change in behavior. They examine learning through focusing on the complexity of memory and on how information is processed within the mind of the learner (Piaget, 1964; Pritchard, 2014). Constructivists believe that learning relies heavily on what the learner already knows and understands (Magoon, 1977). That is, learning occurs when the learner establishes connections between previous and new knowledge (Ormrod, 2011). Children learn to engage in defiant forms of behavior, and those behavior forms tend to produce hostile effects that influence not only the life of the individual who is producing the behavior but also the lives of people around that individual.

Children may learn unacceptable forms of behaviors because their social-emotional needs may have been neglected or unmet (Cooper et al., 2009). There are many possible contributors to antisocial behaviors. Parents and adults may contribute significantly to unwanted behaviors (Shaw & Bell, 1993). Parents may accidentally reinforce unwanted behaviors or punish prosocial behaviors. For example, a child who attains his needs through crying and screaming is more likely to cry and scream when he has a need. However, if crying is disregarded and the child is taught and rewarded for requesting his needs verbally, it is more likely that the child will no longer cry. In school, for instance, teachers ask children to raise their hands before talking. However, teachers tend to attend to students who blurt out answers and ignore those who raise their hands. Children have a variety of needs but, sometimes, they lack the appropriate means to express those needs.

### **3. Emotional and Behavioral Disorders Defined**

The term emotional/behavioral disorders (E/BD) is one of a variety of terms commonly used to refer to children who exhibit unacceptable forms of either internalizing or externalizing behaviors. The term "serious emotional disturbance" refers to a diagnosed mental health problem that prevents children from functioning socially, emotionally, and academically. It is an official term used by state and federal agencies to identify a population of children who have significant emotional and behavioral problems and who have a high need for services (Brauner & Stephens, 2006; Kauffman & Landrum, 2013). Other terms, such as antisocial behaviors, emotional disturbance, problematic behaviors, severe emotional disturbance (SED), and disruptive behaviors, are also used to refer to behaviors exhibited within the range of E/BD (Forness & Knitzer, 1992). Over the years, many definitions have been proposed to describe and specify the phenomena of E/BD. Those definitions were proposed based on the purposes they serve for the professions by which they were introduced. For example, psychiatrists have developed a definition of E/BD for diagnostic purposes that help them refer a child to the appropriate therapeutic program, as will be discussed below. On the other hand, educators define E/BD based on its implications for a child's academic performance and the effects of those behaviors on the continuity of the educational process of the child and those who are around the child (Kauffman & Landrum, 2013).

The official definition of emotional disturbance adopted by all school districts in the United States of America is the federal definition proposed by the Individuals with Disabilities Education Act (IDEA, 2004). According to the IDEA (2004):

Emotional disturbance means a condition exhibiting one or more of the following characteristics over an extended period and to a marked degree that adversely affects a child's educational performance:

- a) An inability to learn that cannot be explained by intellectual, sensory, or health factors;
- b) An inability to build or maintain satisfactory interpersonal relationships with peers and teachers;
- c) Inappropriate types of behavior or feelings under normal circumstances;
- d) A general pervasive mood of unhappiness or depression;
- e) A tendency to develop physical symptoms or fears associated with personal or school problems.

Emotional disturbance includes schizophrenia. The term does not apply to children who are socially maladjusted, unless it is determined that they have an emotional disturbance under paragraph (c)(4)(i) of this section.

As shown, the IDEA's (2004) definition of E/BD reflects an emphasis on learning and the social interactions between the child and others in the educational environment. This definition represents the eligibility criteria for children to receive special education services under the category of E/BD in public schools. The definition does not refer to behaviors that are exhibited outside of the educational environment. Thus, other descriptions must be considered to cover unacceptable patterns of behaviors regardless of the settings where they occur. However, the IDEA's definition is sufficiently comprehensive to include a wide-range of problematic behavioral patterns because the definition states the consequences of the problematic behaviors which should qualify a child for special education services.

From a social perspective, problem behaviors may be recognized differently. Simcha-Fagan, Langer, Gersten, and Eisenberg (1975) defined antisocial behaviors as those involving repeated violations of social norms across a range of contexts such as home, school, and community. Social rules and standards are created and adopted by the society itself or inherited from previous generations of that community. In other words, social norms and standards are community-specific, and each community has its own rules and standards. Social rules and standards define the expectations the community has for its members. Those standards define which behaviors are acceptable and which are not. Walker, Ramsey, and Gresham (2004) note that antisocial behavior is the opposite of prosocial behavior, which refers to cooperative, positive, and mutually reciprocal forms of social behavior. The society expects its members to cooperate and engage in positive interactions. However, the violation of these expectations makes the violator who has veered away from these norms appear deviant. Berger (2003) defines antisocial behaviors as actions that harm or lack consideration for the well-being of others. Antisocial behaviors involve deviations from accepted rules and expected

standards governing appropriate behaviors across a range of settings (Walker et al., 2004). Although this definition of antisocial behavior takes into consideration the variety of settings where the unaccepted behavior occurs, it relies heavily on the norms of the society, which can differ from one society to another and from one culture to another. Such differences make it difficult to establish a list of acceptable and unacceptable behaviors that can be generalized to all societies. Some actions may be judged differently across cultures. However, there is a high agreement among cultures on the rejection of some behaviors that violate not only the social standards but also violate rules related to humanity such as aggression and violence (Barber, Stolz, Olsen, Collins, & Burchinal, 2005).

Psychiatrists have their own approach to recognizing E/BD. Psychiatrists perceive E/BD as related to mental diseases. They see that E/BD and diseases have significant similarities (Cullinan, 2004). Unlike educators and social professionals, psychiatrists define each problematic behavior specifically and do not have a general definition of E/BD. For example, anxiety, depression, conduct disorder, and compulsive behavior are defined separately, with each having its specific characteristics and remedies. Psychiatrists refer to the Diagnostic and Statistical Manual of Mental Disorders-5 (DSM-5; American Psychiatric Association [APA], 2013) to help them identify and classify each mental disorder and then refer the case to the appropriate services. The manual was created in the mid-20th century by psychiatric authorities to aid fellow psychiatrists in the diagnosis process (Cullinan, 2004). Therefore, the description of each disorder is specific and narrow. For example, the DSM-5 (APA, 2013) describes anxiety disorders as disorders that share features of excessive fear and anxiety and related behaviors. Fear is the emotional response to real or perceived imminent threat, whereas anxiety is the anticipation of future threat. In another example, the DSM-5 describes disruptive, impulse-control, and conduct disorders as conditions involving problems in the self-control of emotions and behaviors, resulting in violations of the rights of others (e.g., aggression, destruction of property) and/or problems that bring the individual into significant conflict with societal norms or authority figures. Each of these two categories includes a list of disorders that are described explicitly. What makes the definitions presented in the DSM-5 different is the purpose of the manual and the goals for a clinical diagnosis. The psychiatrist's job is to study each case individually and employ any measurement tools necessary to diagnose the case. The DSM-5 makes the psychiatrist's job easier because it provides a single manual containing information on almost all mental health disorders along with the symptoms and the remedies of each one.

Dissatisfied with the IDEA's definition of E/BD, the Council for Children with Behavioral Disorders (CCBD) and other professional advocates cooperated to form the National Mental Health and Special Education Coalition, which offered an alternative to the federal definition (Kauffman & Landrum, 2013). The Coalition proposed the following definition:

- a) The term emotional or behavioral disorder means a disability characterized by behavioral or emotional responses in school so different from appropriate age, culture, or ethnic norms that they adversely affect educational performance. Educational performance includes academic, social, vocational, and personal skills. Such a disability (a) is more than a temporary, expected response to stressful events in the environment; (b) is consistently exhibited in two different settings, at least one of which is school-related; and (c) is unresponsive to direct intervention in general education or the child's condition is such that general education interventions would be insufficient.
- b) Emotional and behavioral disorders can co-exist with other disabilities.
- c) This category may include children or youth with schizophrenic disorders, affective disorders, anxiety disorder, or other sustained disorder of conduct or adjustment when they adversely affect educational performance in accordance with section (Forness & Knitzer, 1992, p. 13).

Among the four approaches to defining E/BD, the definition of the National Mental Health and Special Education Coalition stands out because it addresses certain limitations in the federal definition while proposing an alternative definition. Although the proposed definition shares some elements with the federal definition, the proposed definition adds age, culture, and ethnic norm specifications. A pitfall in the proposed definition is the vagueness associated with some of the terms used in the definition, such as "appropriate age" and "ethnic norms." Although it is important to include these two factors, defining and describing them can be difficult because the appropriate age and ethnic norms can be perceived differently in different situations, and there are no clear guidelines on how to determine the specifications of these terms.

The three approaches to definition share some similarities and have certain differences since each approach observes the problem from a different perspective. However, the educational approach and the sociological approach may be more compelling with the identification of children with E/BD in Saudi Arabia. It is important to screen for children with E/BD in the school system and society because these settings are interconnected, and neither can operate in isolation. School failure might result in failure in other life domains. Therefore, the problem should be addressed comprehensively. That is, the problem should be assessed in the school, home, and community simultaneously. Although this can be difficult in the United States of America because of eligibility and funding issues (Brauner & Stephens, 2006), the situation in Saudi Arabia is different because it has only one government, the federal government.

#### **4. Prevalence of E/BD**

Accurately estimating the prevalence of E/BD is critical to providing services to children who need them. This process is difficult due to the lack of a comprehensive definition of a minimum level of functional impairment in some or all domains for an agreed-upon

duration (Brauner & Stephens, 2006). However, many efforts have been devoted to estimating the prevalence of E/BD. According to the latest count by the U.S. Department of Education (2016), children with E/BD represent 5.9% of children with disabilities who are served under the IDEA. This estimate may not be definitive because it excluded children who were not identified or served. Researchers have been occupied with determining an estimated prevalence of E/BD across the world. In the United States of America, Pastor, Reuben, and Duran (2012) concluded that children with E/BD represent 7% of the children between the ages of 4 and 17 in the United States of America. While this estimate may be conservative, Owens et al. (2015) found that 15% of kindergarten children can be classified as having E/BD. In their review, Brauner and Stephens (2006) found that across studies, estimates of the prevalence of E/BD in the United States of America ranged from 5% to 26%. Studies in other nations also reveal a wide range of estimates. In Pakistan, estimates of the prevalence of E/BD range from 34% to 42% (Hussein, 2008; Syed, Hussein, & Mahmud, 2007). In the Netherlands, a study identified 13.2% of Moroccan-Dutch students between the ages of 9 and 16 as having E/BD (Adriaanse, van Domburgh, Zwirs, Doreleijers, & Veling, 2015). In Germany, the prevalence is estimated to be 16% for kindergarten aged children (Fuchs, Klein, Otto, & Klitzing, 2013) and 18.5% for schoolchildren between the ages of 6 and 16 (Woerner et al., 2002). The discrepancy in estimating the prevalence of E/BD can only add additional challenges for professionals who are interested in serving children with E/BD. To solve the problem of prevalence and to ensure children with E/BD receive the mental health services they need, Brauner and Stephens (2006) recommended expanding the research and establishing the use of valid and reliable screening measures. They also suggested revising the formal definition of E/BD and reporting its prevalence in ranges. These recommendations may help children with E/BD to be accurately identified and served so that they can reach their full potentials.

## 5. Screening

Early identification of children who have or are at-risk for E/BD followed by the delivery of prevention programs for behavioral disorders has the potential to decrease the wide range of negative outcomes children with E/BD might experience in their lives (Harrison et al., 2013). The issue of identifying and supporting students with EBD is more than a special education problem since the majority of these students are part of the general education population. Although prevalence estimates of E/BD range from 2% to 20% of the school-age population, less than 1% of students receive special education services under the IDEA's (2004) definition of emotional disturbances (Lane, Kalberg, Lambert, Crnabori, & Bruhn, 2010). Children are exposed to environmental risk factors which can increase the rates of severe behavior problems. Identifying the relationship between environmental predictors such as poverty, substance abuse, domestic violence, and abuse and neglect and the development of E/BD, professionals can anticipate the prevalence of children with or are at-risk for E/BD (Conroy & Brown,

2004). Anticipating the prevalence of children with E/BD is not a goal by itself. Instead, it is a means for discovering the need for services and interventions for children with E/BD and for prevention programs for children who are at risk for developing chronic forms of disruptive behavior.

One way to identify children with E/BD is through universal screening. Universal screening is linked to prevention and early intervention with children with E/BD, a population that continues to experience a wide range of poor outcomes. However, social, emotional, and behavioral screening occurs in only two percent of schools in the United States of America (Harrison et al., 2013). Children with E/BD are usually referred for special education evaluation through teacher nomination. Unfortunately, teacher nomination still guides referral processes despite evidence of its leading to disproportionate special education placement for children of minority groups (Raines, Dever, Kamphaus, & Roach, 2012). Teachers may be subjective when referring students for special education services. Their judgment can be influenced by their cultural, social, and educational backgrounds (Luiselli, Putnam, Handler, & Feinberg, 2005). Also, covert forms of disruptive behaviors are hard for teachers to detect because teachers tend to flag behaviors that disturb the harmony of the classroom. Teacher nomination might help in identifying children with E/BD in the schools; however, this identification process targets only children who attend schools. To address this issue, it is important to screen for children with E/BD in early stages to ensure their access to early intervention programs and prevent their problem behaviors from escalating. Whether or not children are in school, parents are a valuable source of information about their children.

## **6. The Role of Parents**

Parents have an important role in the lives of their children. After birth, parents are responsible for providing their children with the care the children need to develop adequately and succeed in life. Teachers and educators may tend to blame parents for the challenges children experience in school (Thompson, Warren, & Carter, 2004). Although parents may be intentionally or accidentally responsible for the difficulties their children face (Shaw & Bell, 1993), it is undeniable that the role of parents is critical in the education of their children. Instead of perceiving parents as a source or part of the problem, educators and administrators should consider parents as an essential component of the solution. Parents can assist professionals in addressing the needs of children with E/BD from the screening or identification stage through interventions. Glascoe (2003) studied whether parents' concerns are associated with E/BD in children and the extent to which these concerns are predictive of E/BD. Parents' concerns about behavior and social skills were identified as predictors of mental health status. If one or more of these concerns was present, children were eight and a half times more likely to have mental health issues.

Before children start attending preschool or kindergarten, parents can be the only information source that professionals have in assessing young children's status. Parents' concerns at the time of entry into kindergarten offer significant, unique, and meaningful data about children's risk status beyond that provided by the school district's academic screening and deserve to be included in future research and practice (Owens et al., 2015). Some parents' concerns can be depended on to aid in the detection of mental health problems if children are four and a half years old or older and at low risk of developmental problems. Regarding children younger than four and a half years, professionals should guide parents regarding disciplinary techniques and follow-up and should administer a behavioral and emotional screening test when necessary (Glascoe, 2003).

Children with E/BD are at high risk for a wide range of long-term, adverse developmental outcomes, including school dropout, vocational adjustment problems, drug and alcohol abuse, relationship problems, and higher hospitalization and mortality rates (Kauffman, Mock, & Simpson, 2007; Quinn & Poirier, 2004; Walker et al., 2004). These negative life outcomes not only impact the individual but also have adverse outcomes for the society and the government. When children fail in life because of failing at school and work, they become a substantial burden for the government and the society. Governments and communities spend millions of dollars on correctional facilities and jails to provide services for inmates and pay prison employees. Instead of doing this, governments can reduce their costs by taking a proactive approach and developing intervention programs to address current problems and prevent them from escalating in the future (Barker, 2011).

## **7. Academic Concerns**

One important area in which children with E/BD frequently struggle is academic achievement. Nelson, Benner, Lane, and Smith (2004) found that children with E/BD experience large academic achievement deficits across all content areas (i.e., mathematics, reading, and written language). Academic achievement is important because it is in the education system that children are prepared for life. Without education, children would not reach their full potential. Because of their behavior, children with E/BD frequently struggle in school and are more likely to fail and drop out of school. The educational policies of most nations encourage the placing of children with disabilities in the least restrictive environment. The goal is to put as many children with disabilities as possible in the general education system, adhering to the Salamanca Statement (United Nations Educational, Scientific, and Cultural Organization [UNESCO], 1994), which states that all children, including children with disabilities, must have the opportunity to be educated in the regular school. Children with E/BD have broad-based academic deficits that remain stable or even increase in severity over time (Lane et al., 2010). Therefore, because they are considered the most challenging group to be handled in the general education classroom, children with

E/BD are more likely to be placed in the most restrictive settings (i.e., separate schools and self-contained classrooms; Stoutjesdijk, Scholte, & Swaab, 2012). This shows clearly that children with E/BD have different academic, behavioral, emotional, and social needs from children without E/BD.

Academic achievement has been an area of great concern to many parents of children with E/BD. When surveyed to identify their concerns about their children's difficulties, the highest proportion of parents reported significant deficiencies in learning or education (Fuchs et al., 2013). Parents reported hyperactivity/inattention in the borderline or abnormal range more frequently than other ranges of symptoms; thus, it is assumed that there is a strong relationship between increased levels of hyperactivity/inattention and problems in learning. The finding that E/BD is related to learning difficulties is predictable because children with E/BD usually exhibit disruptive forms of behavior that impede their ability to learn and disrupt the learning environment, hindering other students' learning.

Although it may seem safe to conclude that E/BD and the associated risk factors are highly correlated with learning and academic difficulties, Trout, Nordness, Pierce, and Epstein (2003) found that research on the academic achievement of children with E/BD has been conducted in psychiatric or residential settings, which limits the extent to which the results can be generalized to students served in the general education setting or other placements. Also, they found that most studies evaluated students' academic achievement through standardized tests, which may result in misidentification and misplacement of students. Finally, they found that the number of studies on the academic achievement of children with E/BD had dramatically decreased during the ten years before the review (i.e., from 1991 to 2000). This might be true when the study was published. However, many studies related to the academic status of children with E/BD were published afterward (e.g., Nelson et al., 2004; Lane et al., 2010; Stoutjesdijk, et al., 2012).

## **8. Unemployment**

Unemployment is one of the biggest problems facing the Saudi Arabian government, a problem it has tried to address for decades. Unemployment is a concern because it undermines the ultimate goal of education, which is helping children to become productive citizens. According to the Saudi General Authority for Statistics (2016), 11.5% of the Saudi population is unemployed. Currently, the population of Saudi Arabia exceeds 20.7 million, with a growth rate of 2.1%. The total population of Saudi Arabia, including foreign workers, exceeds 30.7 million, with a growth rate of 2.55%. Of the total population of Saudi Arabia, 18% (5.55 million) are enrolled in the public school system. The population growth increases the chances for production and economic growth, but it also leads to some problems such as the growing demand for high-quality education and additional jobs.

## 9. Family Disintegration

In addition to unemployment and the growth of the population, certain issues related to family and parenting are of growing concern and might increase the risk of E/BD in children. Parents are a significant source of social and emotional nurturing for their children (Brendtro & Shahbazian, 2004). Stressed and dysfunctional parenting can produce adverse outcomes in children. Family breakup, divorce, and single parenting can affect children in a variety of ways. According to Brendtro and Shahbazian (2004), children whose parents are divorced report experiencing social embarrassment, fantasies of parental reconciliation, and fears of being abandoned by both parents. Parenting plays a significant role in the social, emotional, and intellectual development of children. Although parents should care for their children and provide them with the best atmosphere for promoting growth and success, some parents struggle to provide basic care for their children for many reasons (e.g., the lack of financial and knowledge resources, divorce, drug and alcohol abuse). Among these reasons, two, which are divorce and the lack of knowledge, may be considered significant and alarming not only in Saudi Arabia but also in the United States of America. Divorce might reduce conflicts but can produce other stressors such as financial instability and interruption of regular contact between children and parents.

Divorce is not equivalent to single parenting. Divorce can result in single parenting, shared parenting, or even neglect by both parents. In the United States of America, Child Protection officials work to ensure that children receive the appropriate care they need to grow up and become independent and productive citizens (Obiakor, Algozzine, & Bakken, 2007). However, Child Protection intervenes only when the child shows signs of abuse or neglect. In Saudi Arabia, the Ministry of Social Affairs has a department that specializes in addressing domestic violence. However, due to cultural and traditional norms, domestic violence is usually dealt with by the families of the couple before officials are involved. In recent years, the rate of divorce in Saudi Arabia has increased dramatically, reaching 25 divorce cases to 1 marriage case per day (The Saudi Ministry of Justice, 2016). Regardless of the reasons behind the growing divorce rate, some divorces involve children whose future might be jeopardized. Because children whose parents are divorced might experience devastating problems, the high level of divorce may be seen as an indicator of an increasing need for E/BD services in Saudi Arabia.

Underserving children with E/BD or delaying services to them has catastrophic consequences. If children with E/BD are not identified or provided with appropriate educational services, their problems tend to become chronic and require intensive services and resources. According to Kauffman et al. (2007), many reasons contribute to the underserving of children with E/BD in the United States of America, including the social stigma associated with the label, negative attitudes towards special education, and the exclusion of children who are socially maladjusted from special education services as a result of the federal definition of E/BD. When developing identification

and intervention programs for children with E/BD, it is critical to take into consideration the social stigma associated with the condition and society's attitudes towards special education. The term E/BD conveys many connotations and negative associations that the Saudi Arabian population might find unpleasant. It is important to realize that the Saudi Arabian population operates with the belief that children represent not only themselves but also their homes and the environment from which they come. In Saudi Arabia, the term E/BD might be taken to indicate poor parenting or dysfunctional families. Owing to the pride families feel about the raising of their children, parents may reject the idea that their children could be labeled with E/BD. Social stigma and negative attitudes towards special education often prevent parents and educators from being willing to label children with E/BD even if those children require alternative education to reach their full potential (Kauffman & Landrum, 2013).

#### Special Education in Saudi Arabia

Saudi Arabia was the first Arab country to officially implement inclusion in its schools. The first successful trials of inclusion took place in the city of Hufuf in 1984. In 1989, the kindergarten at King Saud University in Riyadh was opened for children with special educational needs. In 1990, the Ministry of Education started implementing inclusion in its schools on a limited scale. Yet, the significant jump in inclusion took place in 1996, when the Ministry proposed an educational strategy with ten major themes. The first theme focused on activating the role of public schools in the education of exceptional children, who were integrated with their typical peers (Al-Mousa, Al-Saratawi, Al-Abduljabbar, Al-Batal, & Al-Husain, 2008).

Although the category of E/BD is listed as a separate class of children with special needs served by the General Department of Special Education, the term E/BD was merged with that of autism in the name applied in the formation of the Department of Emotional/Behavioral Disorders and autism. The department primarily provides services for children with autism. The E/BD part of the department's name refers to behavioral modification techniques used with children with autism. In other words, children with E/BD are not actually served, but the term is used in conjunction with the term autism to refer to the behavioral interventions provided as a part of educating children with autism.

## 10. Previous Studies

A review of the literature on special education and the area of E/BD in Saudi Arabia revealed that there had been only two previous studies directed toward the identification of children with E/BD. In the following section, we will briefly describe and discuss the two studies.

The first study was conducted by Abdel-Fattah and colleagues (2004) to estimate the prevalence of E/BD among male schoolchildren and adolescents in the city of Taif. The study was conducted in two phases: a screening phase through a cross-section approach to assessing E/BD, and a case-control phase to study risk factors associated

with E/BD. The screening phase conducted using the parent's form of the Child Behavior Checklist (CBCL) as a self-administered tool. The case-control phase compared the results of each student identified with E/BD with three randomly selected students within the same age group. The study involved the whole population (n = 1,313) of a school compound designed for educating the children of personnel who worked for the Ministry of Defense. Abdel-Fattah et al. (2004) found that out of the entire sample, 8.3% were identified as having E/BD (n = 109). The study also revealed that children in middle school were at higher risk of developing E/BD than those in primary school. Furthermore, children with working mothers were at more risk of developing E/BD than those with non-working mothers. On the other hand, no statistically significant relationships were found between E/BD and child age, paternal occupation, the paternal or maternal level of education, the number of siblings, or birth order.

The results of Abdel-Fattah et al. (2004) are neither generalizable nor conclusive for various reasons. The study targeted only male students from one school, who had similar backgrounds. Therefore, generalization of the findings to the national population cannot be justified. Another issue relates to factoring and measurement in the second phase of the study. The researchers concluded that the child's educational level was highly related to the presence of E/BD. However, they found that the relationship between the child's age and E/BD was not statistically significant. Further examination of the factor of the child's age showed that children were divided into two groups: children 15 years old and younger, and children older than 15 years of age. The sample sizes of the two groups were drastically different (n ≤ 15 = 420, n > 15 = 16). The extreme difference in the sample sizes jeopardizes the validity of the analysis. Also, children's level of education should be highly correlated with their ages. However, the age cutoff at which the researchers decided to assign groups may have played a significant role in the results obtained from the study.

The second study by Al-Modayfer and Alatiq (2015) screened children for E/BD using the Strengths and Difficulties Questionnaire (SDQ). The study targeted children who lived in a housing compound designed for government sector employees (n = 924). The study also consisted of two phases: screening to assess E/BD, and follow-up interviews with children who showed a high risk for E/BD. The results showed that out of the entire sample, 36.3% were found to have E/BD. Also, out of the entire sample, 25.7% of children had behavioral disorders (BD), while 21.7% had emotional disorders (ED). Regarding specific disorders, the researchers found 15.9% of the sample had oppositional defiant disorder, 8.4 % had attention-deficit/hyperactivity disorder, 7.8 % had general anxiety disorder, and 7.8 had separation anxiety. The study identified two strong predictors of E/BD: the mother's level of education and access to the internet at home.

The study targeted children of families who lived in a specific housing compound. Thus, generalization of the results to the whole Saudi population is questionable. Also, the study identified only two predictors of E/BD, one of which may

not be a direct predictor. Access to the internet may not be a predictor by itself. Instead, many factors may contribute to internet accessibility including socioeconomic status, the level of education, and/or familiarity with technology.

In addition to the two previously mentioned studies in Saudi Arabia, other research has investigated the prevalence of E/BD in the United Arab Emirates (UAE). Although Saudi Arabia and the UAE are different nations, the two societies share common characteristics. Eapen, Jakka, and Abou-Saleh (2003) conducted a study to estimate the prevalence of E/BD among children between the ages of 6-18 in the UAE. They found that 22% of their sample (n = 329) met the criteria for E/BD. Another study by Eapen, Al-Sabosy, Saeed, and Sabri (2004) found that 43% of their sample (n = 278) had been given a diagnosis of E/BD. Among those who were diagnosed with E/BD, 38% were males, while 62% were females. Eapen et al. (2004) found that the most common diagnosis was anxiety disorder, followed by depression. Both studies in the UAE identified several predictors of E/BD, including gender, the number of siblings, family relationship problems, and a history of psychiatric illness in the family. Other factors were also studied, but no statistical significance was found. Among these factors were age, nationality, socioeconomic status, and parental education. Saudi Arabia and the UAE are developing countries that have many commonalities. However, the studies conducted in the UAE may not be generalizable to Saudi Arabia due to the difference in the population size and the government system. Also, the two studies reported two considerably different estimates of E/BD prevalence (22% and 43%). Thus, the results of the two studies should be approached with caution.

Neither the Saudi studies nor the studies in the UAE were found generalizable or conclusive. All studies had targeted participants. Targeted samples do not usually represent the general population. The studies were conducted by psychiatrists and researchers who were associated with the Medical field. The different studies resulted in drastically different estimates of the population with E/BD (i.e., 8.3% and 36.3% in Saudi Arabia, 22% and 43% in UAE). This inconsistency in estimating the prevalence of E/BD necessitates additional research efforts that take into consideration the limitations of the previous studies.

## **11. Methods and Materials**

### **11.1 Participants**

The current research investigates the characteristics of children between the ages of 4 and 17 as a subset of the population of Saudi Arabia. The participants of this study (N = 1236) were parents of children who are between the ages of 4 and 17. The population of Saudi Arabia is divided into five geographical or regional clusters (i.e., western, eastern, northern, southern, and central). After the researcher identified a convenient sample within each region, the selected individuals identified other participants they know who were willing to participate in the study. Around 61% of the participants were mothers (n = 748) while 39% were fathers (n = 488). Ninety-four percent of the

participants were married; 5% divorced; and 1% widowed. Seventy percent of the sample reported to be within an average socioeconomic status; 27% above average; and 3% reported below average. Regarding parents' education level, 44% of fathers hold undergraduate degrees; 23% hold graduate degrees; and 33% hold degrees lower than a bachelor degree (i.e., elementary, intermediate, high school, and a two-year college certificate). Fifty-four percent of mothers hold undergraduate degrees; 16% hold graduate degrees; and 30% hold less than a bachelor degree. As for the geographical regions, 59% reported from the western region (n = 734); 17% from the eastern region (n = 205); 14% from the central region (n = 168); and 5% from each the northern (n = 62) and the southern regions (n = 67). As for the children involved in this study, 64% were males and 36% were females. Among those children, 51% attend public schools; 39% attend private schools; and 10% attend international schools.

Parents were asked to complete a 25-item Likert-scale questionnaire about their children's behavior. Because of the large target population, the study sample was selected based on snowballing sampling (Faugier & Sargeant, 1997). While snowballing is a non-random sampling, social systems, like the population in the current study, are beyond the researcher's ability to randomize. However, to ensure equal probability selection, the researcher utilized social media channels (e.g., Facebook, Twitter, and LinkedIn) and communication applications (e.g., WhatsApp) to recruit participants.

To ensure randomization, the researcher approached social media groups and well-known individuals in Saudi Arabia of different interests (e.g., education, politics, religion, art) who shared the survey with their followers. It is important to notice that the researcher had no previous connections with these social media groups or the famous individuals. Social media groups and individuals voluntarily shared the survey without incentives. Every time the survey is shared on social media, the researcher checked the number in-progress responses to monitor the influence of the action (e.g., retweet, repost, share) on the number of active responses.

According to the Saudi General Authority for Statistics, the entire population of Saudi Arabia has recently been projected to be around 30.7 million. For the sample to be representative of the population, a large sample size was needed for the current research (n = 1067), based on a confidence interval of  $\pm 3$  and a confidence level of 95%. The only criterion for participation eligibility in the present study was being the parent of a child between the ages of 4 and 17. It was expected that with support from colleagues and other professionals in Saudi Arabia, it should be possible to reach a large representative sample since no stratification of the population was required.

## 11.2 Research Design

The current study followed a nonexperimental cross-sectional survey design. Because the aim of the present study was to estimate the prevalence of E/BD across the entire population in Saudi Arabia, the survey design was likely the most feasible approach to achieve the intended objectives. It would be impossible to reach and survey the whole population of Saudi Arabia; therefore, a representative sample from the overall

population provides valuable information about the characteristics of that population. Although the survey provided descriptive information about the targeted population, the analysis of the data went beyond description by studying the relationships between the results of the questionnaire and the demographic data. Studying the relationships between the questionnaire's results and demographic data permitted the identification of possible predictors of E/BD. Therefore, the present research used a descriptive-correlational design to estimate the prevalence of E/BD while examining the relationship between demographics and the results obtained from the questionnaire.

#### Instrumentation

The present study utilized the parents' version of the Strengths and Difficulties Questionnaire (SDQ), originally developed and published in English by Goodman (1997). The SDQ is a free brief behavioral screening questionnaire for children around the ages of 4-17 years. Validating the instrument on a British population, Goodman (2001) found that the SDQ had overall satisfactory psychometric properties (Cronbach  $\alpha = .73$ , cross-informant correlation mean = 0.34, and retest consistency mean = 0.62). Alyahri and Goodman (2006) translated and validated an Arabic version of the SDQ and concluded that it is a valid and reliable screening measure for mental health difficulties in young people. It is important to note that the English version of the SDQ for parents has three slightly different versions based on the child's age group. However, the Arabic SDQ includes all children between the ages of 4 and 17 in one version.

The SDQ consists of 25 items that are divided into five scales: emotional symptoms, conduct problems, hyperactivity/inattention, peer relationship problems, and prosocial behavior. Each scale is measured by five items where respondents specify their level of agreement or disagreement on a symmetric true-not true scale (i.e., not true, somewhat true, and certainly true). After scoring, the questionnaire will provide seven outcomes: a total difficulty score (range 0-40), an impact score (range 0-10), and separate scores for each of the five scales (each with range 0-10).

#### Variables

The present study identified dependent and independent variables that allow for a variety of possible analyses. While all dependent variables are included in the descriptive analysis, only one dependent variable was considered for advance analysis (i.e., the Total Difficulties Score).

### 11.3 Dependent Variables

After it had been administered, the SDQ generated six different scores, one of which was used in the advanced statistical analysis. The Total Difficulties Score represented the dependent variable of the current study. This score was generated by summing the scores from all the factors except for the prosocial behavior factor (range 0-40). The SDQ measures five different domains in addition to an impact score. These domains are:

- Emotional problems (0-10): Emotional abnormalities that may include, but are not limited to, depression, anxiety, and withdrawal.

- Conduct problems (0-10): These are repetitive and persistent patterns of behavior in which the basic rights of others or social norms are violated. These behaviors are also referred to as “antisocial behaviors” (Hinshaw & Lee, 2003).
- Hyperactivity/inattention (0-10): According to the DSM-5 (APA, 2013), ADHD is a persistent pattern of inattention and/or hyperactivity-impulsivity that affects functioning or development, has symptoms presenting in two or more settings, and has direct negative impacts on social, academic, or occupational functioning. Several symptoms must have been present before age 12.
- Peer relationship problems (0-10): Difficulties forming appropriate peer relationships are a major indicator of E/BD and may be the result of either internalizing or externalizing behaviors. However, the SDQ lists peer relationship problems as a contributor to internalizing behaviors.
- Prosocial behavior (0-10): Prosocial behaviors are actions that benefit others or the entire society. Those behaviors may be motivated by empathy and may include sharing, helping, volunteering, and donating.
- Independent Variables

The objectives of the present study included the identification of possible predictors. Because there is a lack of conclusive research on E/BD in Saudi Arabia, the present research included demographics and primary information as independent variables. Those variables are:

- The child’s gender: Because males and females may behave differently, it was important to examine the effect of gender on SDQ scores. Respondents reported the gender of the child on whom they are reporting (male or female).
- The child’s age: The SDQ has been validated on children between the ages of 4 and 17. Therefore, only children in that age range were included in the current study. Respondents reported the age of the child about whom they are reporting. Including the age of the child made it possible to determine whether specific age groups are more likely to display behavioral problems than others.
- The respondent’s relationship to the child: Parents have different roles in the family. Therefore, mothers might answer the questionnaire differently from fathers. Respondents selected their relationship to the child about whom they are reporting. Since the SDQ has been validated on parents, respondents had only two options from which they selected (mother or father).
- Parents’ marital status: The marital status of the parents could have a significant effect on how children behave. Therefore, it was important to include it as an independent variable in the current research. Respondents had to choose their marital status from three options (married, divorced, or widowed).
- The parents’ educational level: Parents with different educational levels may contribute differently to their children behaviors. Also, parents with different educational levels may notice and report their children’s behaviors differently. Thus, it was helpful to examine the relationship between parents’ education and

SDQ scores. For each parent, the respondent indicated the level of education they hold (elementary, intermediate, secondary, undergraduate, or graduate).

- The parents' employment status: Parents' work obligations and the amount of time spent with children may have a significant impact on children's behavior. An examination of the relationship between parents' employment status and SDQ scores may provide results valuable to the current study. Each respondent indicated whether or not each of the child's parents is employed.
- The child's school type: In Saudi Arabia, there are only three types of schools that provide general education (i.e., public, private, or international). Each of the three sectors provides different kinds of educational experiences. Therefore, including questions about the type of school the child attends could provide information valuable for explaining children's behaviors.
- Socioeconomic status (SES): Children from different SESs have access to varying levels of resources. Although the SES may correlate with other independent variables in the present study, it could also provide an independent explanation of children's behavior. Respondents indicated one of three levels of SES (high, average, or low).

#### **11.4 Data Analysis**

The data collection process produced a large dataset which allows for a variety of statistical analyses related to the research purposes and questions. The current research aimed to identify the estimated prevalence of E/BD in Saudi Arabia, along with the types of difficulty children have, while examining the relationship between possible predictors and E/BD. Therefore, the data analysis for the current research was a two-stage process. After descriptive reporting was completed, the second stage was conducting a Multiple Linear Regression (MLR) analysis with one dependent variable (i.e., the total difficulties score) and eight independent variables (i.e., gender, age, parent reporting, parents' education, parents' work status, parents' marital status, school type, and SES).

The data analyses were organized and processed using the latest version (24.0.0) of IBM's SPSS (Student Version). The data gleaned from the SDQ produced seven different scores on a continuous scale. Although only one score was included in the second stage of the analysis, the other six scores were used to identify the types of difficulties that were more evident than others within the study sample. Before any statistical analysis was run, the data were prepared, a process that included the running of calculations and the coding of categorical variables. Before participants' responses were entered into SPSS, categorical data were coded and assigned numerical values. After the data were entered into the software, the seven SDQ outcomes were calculated based on the SDQ Scoring Manual. A reliability check was conducted on the instrument to determine the internal consistency of the scale.

After the dataset was prepared and ready for analysis, a descriptive analysis was carried out to calculate the estimated prevalence of E/BD, which was interpreted through the total difficulties score. According to the SDQ Scoring Manual, children can be categorized into either three-band (normal, borderline, and abnormal) or four-band (close to average, slightly raised, high, and very high) solutions based on their total difficulties scores. The analysis of the current research was reported based on 4-band categorization. Children who score in the “high” and “very high” ranges were interpreted as having E/BD, while children who score in the slightly raised range were perceived as being borderline. The incidence of very high scores provided critical clues regarding the percentage of children who have chronic E/BD and have a critical need for immediate intervention. The analysis also provided descriptive results on demographics and the most evident difficulties in the study sample.

The second stage of the data analysis was running of a MLR with the SDQ total difficulties score as the dependent variable and the demographic variables as predictors. MLR analysis is appropriate for this stage because the goal of the second analysis is to examine the ability of the independent variables to predict the dependent variable. The analysis indicated how much of the variance in the dependent variable was explained by the independent variables. The analysis also identified the amount of variance that cannot be explained by either the independent variables. After the analysis was run, various outcomes were reported including statistical significance, effect sizes, the total amount of variance explained, the predictors that contributed the most to the explanation of the variance, and the amount of error or unexplained variance in the dependent variable.

## 12. Results and Discussion

The number of responses on the SDQ was higher than expected ( $N = 1236$ ). A reliability test of the SDQ resulted in an acceptable level of overall reliability (Cronbach  $\alpha = .70$ ). However, deleting items related to the Prosocial Behavior subscale resulted in a higher level of consistency (Cronbach  $\alpha = .73$ ). The analysis of the results of the SDQ revealed an average of the total difficulties scores of 13.55 ( $SD = 6.57$ ). Based on the scoring guide of the SDQ, 20% of the sample scored in the “very high” category ( $n = 249$ ), 12% scored in the “high” category ( $n = 152$ ), 15% were counted in the “slightly raised” category ( $n = 182$ ), and the remaining 53% were the norm of the sample or categorized as “close to average” ( $n = 653$ ) (See Table 1).

The MLR analysis of the demographics predicting the “Total Difficulties Scores” revealed an overall  $R^2 = .069$ ,  $F_{(13,1222)} = 6.99$ ,  $p < .001$ . In other words, 6.9% of the variance in the difficulties scores can be explained by the independent variables (See Table 2). The parent reporting significantly predicted difficulties scores,  $\beta = -.072$ ,  $t_{(1222)} = -2.44$ ,  $p < .05$ . The child’s gender also significantly predicted difficulties scores,  $\beta = -.082$ ,  $t_{(1222)} = -2.93$ ,  $p < .01$ . The results of the MLR also revealed that difficulties scores can be significantly predicted by the knowledge of the child’s education type,  $\beta = .083$ ,

$t_{(1222)} = 2.90, p < .005$ . In addition, the geographical region where the respondent is located was found to be a statistically significant predictor of the difficulties scores  $\beta = .10, t_{(1222)} = 3.66, p < .001$ . Unlike the mother's educational level ( $\beta = .003, t_{(1222)} = .10, p > .05$ ), father's level of education was found to be a statistically significant predictor of the difficulties scores,  $\beta = -.083, t_{(1222)} = -2.69, p < .01$ . The family's SES was found to be a statistically significant predictor of the difficulties scores,  $\beta = -.143, t_{(1222)} = -4.931, p < .001$ . On the other hand, the child's age ( $\beta = .01, t_{(1222)} = .158, p > .05$ ), child's educational level ( $\beta = -.020, t_{(1222)} = -.332, p > .05$ ), school type ( $\beta = -.02, t_{(1222)} = -.657, p > .05$ ), father's employment status ( $\beta = .009, t_{(1222)} = .295, p > .05$ ), mother's employment status ( $\beta = -.029, t_{(1222)} = -.913, p > .05$ ), and the social status of parents ( $\beta = .032, t_{(1222)} = -1.099, p > .05$ ) were not found to be statistically significant predictors of the SDQ difficulties scores.

The data in the current study were collected from a national sample that is distributed all over Saudi Arabia as divided by the five main regions. The targeted sample size ( $N = 1067$ ) was set to represent the entire Saudi Arabian population (i.e., 31.7 million). However, the number of actual responses was higher than expected ( $N = 1236$ ) which allows for more representation from the five geographical regions and more confidence in the results interpretation.

The results of the reliability test on the SDQ are overall satisfactory (Cronbach  $\alpha = .70$ ) and (Cronbach  $\alpha = .73$ ) when excluding the Prosocial Behavior subscale given the fact that the latter subscale is not included in the Total Difficulties Score. This level of internal consistency matches the findings of Goodman (2001) who implemented the English version of the SDQ on a British population.

Scoring and analyzing the SDQ provides the answer for the first research question which relates to the estimation of the prevalence of children with E/BD in Saudi Arabia as indicated by the "Total Difficulties Scores." The results of the present study show that 20% of children between the ages of 4 and 17 may meet the criteria of E/BD as indicated by the SDQ scores. In other words, those children scored in the "very high" category which indicates that they are more likely to have severe E/BD or experience the adverse consequences of E/BD which, in return, may negatively affect their lives and the lives of those who are around them. Children who scored in this category may require immediate attention to their emotional and social needs. This estimate of the current study (i.e., 20%) falls within the range (i.e., 5-26%) identified by Brauner and Stephens (2006) for children with E/BD in the United States of America and lower than the estimate (i.e., 36.3%) found by Al-Modayfer and Alatiq (2015) of children with E/BD in Saudi Arabia.

Children who scored "high" in the SDQ can also be categorized as having E/BD. Although their difficulties may not be as severe as for those who scored in the "very high" category, those children (i.e., who scored high) may also require intervention services to address their social and emotional needs. Some 12% of children in Saudi Arabia may meet the criteria for moderate E/BD, and their difficulties may escalate if they are not provided with any prevention or intervention services. Children who

scored in “slightly raised” may also have emotional and behavioral difficulties. However, those children may not require any intervention services. They may benefit from universal prevention programs that are provided to the entire population to raise awareness and equip children with the social skills and tools they need to navigate their path in life. While the estimates of the current study may be valid and reliable, the paradox relies on the interpretation of these results.

The second research question demands recognizing the most evident behavioral patterns in children in Saudi Arabia as reported by parents on the SDQ. Based on the analysis of the SDQ’s five subscales, the most evident behavioral patterns are “Peer Relationship Problems” and “Prosocial Behavior” difficulties. 18% of the sample scored “very high” in difficulties related to forming appropriate relationships with peers while almost 22% scored “very high” in difficulties related to prosocial behaviors. These results indicate that almost fifth the population of children between the age of 4 and 17 lack the appropriate social skills that empower them to form friendships and engage in acceptable social relationships with others. These results can be perceived as valid and reliable because they were reported by parents who judged the social competencies of their children based on the social rules and norms of their own society. In other words, social rules and norms can vary from one society to another. However, parents who responded to the survey judged their children’s social skills from perspectives that are sensitive to the native social rules of the society where both children and parents are living.

While difficulties in behaviors related to social competencies were the most evident patterns in children behavior in Saudi Arabia, the SDQ scores also revealed that children scored “very high” on the other three subscales (i.e., Emotional Problems, Conduct Problems, and ADHD). Children who scored “very high” on “Emotional Problems” account for almost 11% of the entire children population between the ages 4 and 17. Around 11% of children scored “very high” on “Conduct Problems.” 6.1% of children scored “very high” on “ADHD.” At a glance, these percentages seem small compared to the percentages gleaned from the social competencies subscales. However, the percentages are neither small nor insignificant given the magnitude of the negative outcomes that can manifest from either unmet emotional needs or conduct problems. Therefore, all children who scored “very high” on any subscale should be flagged for attention and should be evaluated for E/BD diagnosis. Comparing these results to the findings of Al-Modayfer and Alatiq (2015), it is clear that the findings are slightly different. For instance, Al-Modayfer and Alatiq (2015) found that 21.7% of their sample meets the criteria for Emotional Disorders. However, the current research found that only 11% of the sample may have “Emotional Problems” as shown by the SDQ subscale. The results for ADHD in both studies are close. Al-Modayfer and Alatiq (2015) found that 8.4% of their sample met the criteria while the current study found 6.1% of the sample to have ADHD.

The third research question points towards studying the relationship between demographics and the “Total Difficulties Scores” as indicative of E/BD. To do so, an

MLR analysis was implemented to detect how much variance in the “Total Difficulties Scores” can be explained by the knowledge of demographics. The MLR analysis revealed that only 6.9% of the variance in the SDQ difficulty scores could be explained by the knowledge of the demographical variables used in this study. That leaves around 93% of the variance in difficulty scores unexplained. Among all the independent variables listed in this study (i.e., demographics), only six were found to be statistically significant predictors of E/BD as indicated by the difficulty scores including: parent reporting, child gender, child education type, the geographical region, father’s level of education, and the family’s socioeconomic status.

When parents reported on the SDQ, mothers are found to report more difficulties than fathers. This finding was anticipated by the researcher knowing that mothers in Saudi Arabia spend more time with their children than fathers who spend most of their time at work or socializing with friends, which makes mothers more familiar with their children’s behaviors than fathers. Regarding child gender, parents reported more difficulties for their male children than for females. In other words, males are more likely to have a high level of difficulties compared to females. This finding contradicts the findings of Eapen et al. (2004) who found that among children who met the criteria of E/BD, 38% were males while 62% were females. This contradiction might be explained by further investigation that goes beyond the scope of the current research.

Based on the MLR analysis, the “geographical region” where participants are located is found to be a statistically significant predictor of the difficulties scores on the SDQ. This predictor alone can explain .9% of the variance in the difficulty scores. Parents from different geographical regions reported differently on the SDQ. Ultimately, the MLR analysis indicates that the geographical region of the respondent matters in predicting the difficulty scores and contributes to the regression equation. Further examination of the characteristics of each region may provide some answers as for why and how some regions differ regarding children’s difficulties. For example, children’s difficulties may be similar in all regions but the difference persists within parents’ perspectives in judging children’s behaviors.

Father’s level of education was found to be a statistically significant predictor of E/BD as indicated by the SDQ scores. Fathers with a higher level of education are less likely to have children who have high difficulty scores. In other words, as the father’s level of education increases, the child’s difficulties score decreases. The knowledge of the father’s level of education can explain around 2% of the variance in the difficulty scores. Because of the nature of the current study, the goal is only to identify relationships between the predictors and the outcome variable. The explanation of the relationship between children’s difficulties and father’s level of education can be studied in depth in future research.

Among all the predictors that are found to be statistically significant in predicting the difficulties scores, SES alone is responsible for most of the variance explained in the MLR model (i.e., 3.1% of the total variance). Based on the MLR results, families with low SES are more likely to have children with high difficulty scores. In

other words, as the family's SES increases, children difficulties decrease. This finding can be well explained. For example, families with high SES have access to many resources such as technology and high-quality education services. On the other hand, children of families with low SES may have many unmet needs due to financial limitations. These unmet needs can produce many difficulties that negatively affect the lives of those children.

## 12.2 Limitations and Future Research

The current study was designed to address a gap existing in the literature on E/BD in Saudi Arabia by estimating the prevalence of E/BD in Saudi Arabia as a starting point towards meeting the needs of children with E/BD. Even though the current study is intended to address some limitations in previous studies, it has its own limitations. The estimates gleaned in this study should be interpreted with caution. The estimates imply that children do have difficulties, but they do not necessarily meet the criteria for E/BD. This study is designed to provide a preliminary overview of the problem of E/BD in Saudi Arabia. Nevertheless, it is not intended to be the basis of diagnostic decisions. For referral decisions and diagnosis, children should receive intensive screening and testing to officially determine whether they have or are at-risk for E/BD.

Although academic standing is critical in estimating the problem of E/BD in Saudi Arabia, teachers and school personnel were not involved in this study due to the scope of the study and the time factor. However, school staff and educators should be involved in future screening studies taking a different approach to the same problem. The current study only relied on a single informant (i.e., a parent). However, confidence in the results would be better if responses were gathered from different informants such as the child, the other parent, and teachers.

The current study answered the proposed research questions. On the other hand, it opened many opportunities and questions for future studies. Since the current study was exploratory in nature, it identified few statistically significant predictors but did not explain these findings in much depth regarding why these predictors were significant based on theory and literature. Perhaps, future research can address these inquiries.

**Table 1:** Descriptive of the Strengths and Difficulties Questionnaire

Outcome	Close to Average	Slightly Raised	High	Very High
Total Difficulty Score	653 (52.8)	182 (14.7)	152 (12.3)	249 (20.1)
Emotional Problems	686 (55.5)	160 (12.9)	255 (20.6)	135 (10.9)
Conduct Problems	588 (47.6)	203 (16.4)	308 (24.9)	137 (11.1)
ADHD	846 (68.4)	233 (18.9)	81 (6.6)	76 (6.1)
Peer Relationship Problems	540 (43.7)	250 (20)	223 (18)	223 (18)
Prosocial Behavior	583 (47.2)	228 (18.4)	159 (12.9)	266 (21.5)

**Note:** Count (Percentage)

**Table 2:** Results of Multiple Linear Regression Model by Demographics

Demographic	<i>t</i>	<i>P</i>	<i>B</i>	<i>F</i>	<i>df</i>	<i>p</i>	<i>R</i> <sup>2</sup>
Overall model				6.99	13, 1222	.000	.069
Parent reporting	-2.44	.015	-.07				
Gender	-2.93	.003	-.08				
Education type	2.90	.004	.08				
Geographical Location	3.66	.000	.10				
Father's education level	-2.69	.007	-.08				
Family SES	-4.93	.000	-.14				

**Note:** The dependent variable of the regression model was Total Difficulties Score

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