AMERICAN UNIVERSITY OF BEIRUT

ADAPTATION AND VALIDATION OF CONNERS-3 TEACHER AND PARENT RATING SCALES ON LEBANESE CHILDREN

by
ZAINAB AHMAD HAIDAR

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AMERICAN UNIVERSITY OF BEIRUT

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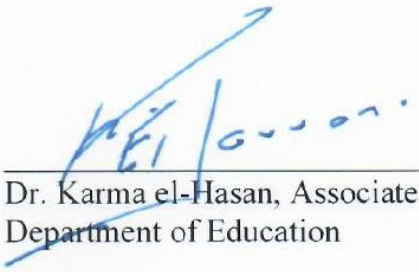

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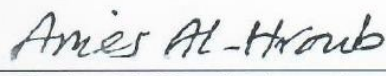
Department of Education



Dr. Anies Al-Hroub, Associate Professor — Member of Committee
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Dr. Pia Zeinoun, Assistant Professor — Member of Committee
Department of Psychology

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AN ABSTRACT OF THE THESIS OF

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Conners-3 rating scale is primarily used in the assessment of ADHD and it has been found to be instrumental in variety of areas such as screening, assessment, and treatment monitoring. Most, if not all, rating scales are developed on western standards and available in different languages especially, English. For this reason, we adapted the Conners-3 teacher and parent rating scales since we are ethically responsible to have a rating scale that assess ADHD and takes into consideration the linguistic and cultural differences among the Lebanese population.

The procedure of this study was adaptation and validation of Conners-3 teacher and parent rating scales. The forward/backward translation procedure was used based on the guidelines of the ITC. Both Conners-3 teacher and parent rating scales were pilot tested on 33 students (from grade 1 to grade 12) in one school to insure its adequacy before going on the validation process. Later, the adapted Conners-3 teacher and parent rating scales were given to the parents and teachers of students from grade 1 to grade 12 that were selected randomly from nine private and public schools (six private and three public) in Greater Beirut, Lebanon. Hence, the parent rating scale sample consisted of 455 students rated by their parents, and the teacher rating scale sample consisted of 509 students rated by their teachers. After two weeks, re-administration of the adapted Conners-3 teacher and parent rating scales were done for test-retest reliability. The sample of students, who already participated in the study before, were randomly selected from each grade level (grade 1 through grade 12). Only 29 parents and 26 teachers participated by refilling the adapted Conners-3 teacher and parent rating scales.

Moreover, statistical analysis was done in order to investigate reliability and validity of the adapted Conners-3 parent and teacher rating scales by examining reliability (test-retest reliability), internal consistency, construct and discriminant validity between ADHD and non-ADHD groups among gender and age and Exploratory Factor Analysis. The reliability coefficients of the rating scales, both internal and over time, were good. Both A-Conners-3 teacher rating scale and A-Conners-3 parent rating scale proved to have moderate to high construct and discriminant validity. Investigating factor analysis of the adapted Conners-3 parent rating scale loaded 4 factors while the adapted Conners-3 teacher rating scale loaded 3 factors. Results were discussed and explained; limitations of this study were presented and recommendations for the future studies were proposed.

CONTENTS

page

Chapters

Appendix

LIST OF TABLES

LIST OF FIGURES

CHAPTER I

INTRODUCTION

This chapter will shed the light on the context and statement of the problem, purpose, rationale, and significance of the study.

Context of the Problem

One of the most important steps for better treatment of a behavioral disorder is to have an appropriate and eligible assessment process. Hence, assessment is a critical factor in the diagnosis and treatment of the behavioral disorder. Attention Deficient Hyperactivity Disorder (ADHD) is one of the most common referrals to the school psychologists (DuPaul & Stoner, 1994) (as cited in Demaray, Eliting & Schaefer, 2003). After assessing and diagnosing the child, a treatment plan will be developed based on the diagnosis. Actually, early identification and treatment of children with behavioral disorders, psychological, educational or developmental problems has been widely encouraged as a valuable and appreciated approach for helping these children to have a better life.

According to Demaray and his colleague (2003), child psychologists (examiners) are faced with problems especially in the selection of appropriate measures to assess the child who is at risk and specifically the child with ADHD. Therefore, the best practice in the assessment of ADHD is to use multiple tools. Behavior-rating scales have become a crucial part of the psychoeducational assessment of children and adolescents (Andrews, Saklofske, & Janzen, 2001). These rating scales represent how the behavior of youngsters or adolescence is viewed by parents, teachers, and the children/ adolescent themselves (Andrews, et al., 2001). Moreover, rating scales are one of the primary components in the assessment of ADHD because they are provided with normative data (Demaray et al., 2003). Besides, they are

convenient and easy to administer and score. Different rating scales are available for the assessment of ADHD such as ADHD-rating scale IV, ADHD Symptom Checklist -4, Conners-3 rating scale, and Behavior Assessment System for Children (third edition) …

Conners-3 Rating Scale is the most recent scale for Conners, and it is a reviewed version of the Conners Rating Scale-R. It aims to measure Attention Deficit/Hyperactivity Disorder (ADHD) and most common comorbid problems in children and adolescents. For ages 6 to 18, two forms are available parent form and teacher form, while for ages 8 to 18, there is a self-report form (Conners, 2008). Respondents are asked to rate behaviors that have been problematic over the preceding month using a four-point Likert scale ranging from 0 (not true at all, never, seldom) to 3 (very much true, very often, very frequent). According to Demaray and his colleague (2003), Conners is primarily used in the assessment of ADHD and it has been found to be instrumental in several areas such as screening, assessment, and treatment monitoring.

Research Problem

Richa and his colleagues (2012) demonstrated that published studies on ADHD in the Arab world are scarce and the percentage of children and adolescents having ADHD yielded rates ranging from 5.1% to 14.9% in the school settings. Richa and his colleagues' (2012) study was the first epidemiological study to estimate ADHD prevalence in the Lebanese schools. Many assessment tools that are used to assess children's psychological, emotional, behavioral, educational, and social disorders are developed in the Western countries and are standardized according to their societies. However, these tools are not standardized for the assessment of children in non-western countries (Sue & Chang, 2003) and specifically Lebanon. Lack of availability of the standardized measures with Lebanese norms will impact the selection of a suitable assessment tool, making appropriate diagnosis,

offering the proper recommendations for the intervention, and finally evaluating the impact of the intervention. Hence, the problem is the presence of a gap in literature, specifically in Lebanon in having an instrument/ tool to assess children's behavioral problems especially ADHD. Consequently, it is important to adapt and validate an assessment tool to assess ADHD in Lebanon, such as Conners-3, a comprehensive tool that serves as a thorough and focused assessment of ADHD and comorbid conditions of childhood (Conners, 2008). Christiansen and her colleagues (2016) reported that there were no studies (published) on adaptation of Conners-3 in other languages (till the date of their study 2016) and they adapted and validated Conners-3 rating scales for parents, teachers, and children to the German language. Recently, a study was published (2018), "Standardization and cross-cultural comparisons of the Swedish Conners-3 rating scale", where the standardization of the Swedish Conners-3 was presented and the norms were compared to those collected in the US and Germany (Thorell, Chistiansen, Hammar, Berggren, Zander, & Bölte, 2018).

Purpose of Study

The purpose of this study was to adapt and validate Conners-3 teacher rating scale and parent rating scale to the Lebanese population so that it can be used to assess behavior, emotions, academic, and social problems of children aged from 6 to 18 years. Specifically, Conners-3 offers a thorough assessment of ADHD. The second purpose was to establish normative sample based on responses of 509 Lebanese teachers and 455 parents' ratings of Lebanese school students registered in public and private schools. Norms in the form of percentile rank and t-scores for each age group and by gender were reported for the total score and for the thirteen subscales of the adapted Conners-3 teacher rating scale and fourteen subscales of the adapted Conners-3 parent rating scale. The third purpose was to establish internal consistency and consistency over time for the whole scales and for each of the

thirteen subscales of the adapted Conners-3 teacher rating scale and fourteen subscales of the adapted Conners-3 parent rating scale. The Fourth purpose was to investigate construct validity of the adapted Conners-3 parent and teacher rating scales. It was examined through the discriminatory ability of the adapted Conners-3 parent and teacher rating scales between ADHD and non-ADHD groups. Two-way ANOVAS (gender by age) were done to investigate whether age and gender differences exist. In addition, exploratory factor analysis on content scale items were conducted to obtain the factor structure for the Lebanese version and to replicate the factor structure of the original American version.

Justification or Rationale of the Problem

For this study, both the theoretical and practical considerations should be taken into account. Although there are different ADHD assessment tools or rating scales that are used to assess and screen symptoms and criteria of ADHD, there is still a gap due to linguistic and cultural differences. Thus, the rationale for this study is to fill the gap in the literature and specifically in Lebanon for ADHD assessment using different formats such teacher, parents and self-report formats. According to the theoretical aspect, both the culture and the linguistic differences of the population of the adapted version, Lebanese society, will be taken into account. On the other hand, with respect to the practical aspect, it is very important to have an assessment tool (rating scale) that is suitable for the Lebanese contexts.

According to theoretical aspect, language is one of the most apparent issues in cross-cultural testing. Most of the assessments are done in the western countries and usually are done in English language. According to de Klerk (2008), as an example, if a test is written in English, it is not expected to be appropriate for French population. Therefore, it is better to adapt it and make it accessible in the native language of a specific group and in this case the French (de Klerk, 2008). This will give both English and French candidates the same starting

position in completing the test since both versions of the test are equivalent (de Klerk, 2008). Not only is the test language inappropriate, but also the assessment instrument (content or items) may lack item equivalence (Sue & Chang, 2003). As an example, on the Mattis Dementia Rating Scale, older Chinese adults performed poorly on its verbal fluency item when they were asked to generate items found in the supermarket (Sue & Chang, 2003). That is because they were not familiar with supermarket, so they performed poorly on its item. According to Muller and his colleagues (2011) in some cases the mean number of ADHD symptoms differs across countries although the clinician is using the same instruments (as cited in Schmidt, Reh, Hirsch, Rief & Christiansen, 2017). As an example, a behavior might be estimated differently across ethnicities, cultures, and countries. Hence, the conceptual differences between cultures seem to influence ADHD assessment (Schmidt, Reh, Hirsch, Rief & Christiansen, 2017). Consequently, there is an ethical responsibility to use assessment tools and measures, which are culturally valid.

On the other hand, the practical aspect is important in order to address early intervention. Early intervention is done by identifying ADHD cases as soon as possible. Andrews and his colleague (2001) demonstrated that Conners Rating Scale is a useful tool to identify ADHD. In Lebanon, we lack practical assessments and rating scales that are suitable to the Lebanese population. Therefore, it is important to adapt and validate Conners-3 rating scale to the Lebanese population.

The second rationale would be the replication of a past research, "Norming and Validating the Conners' Teacher Rating Scale-Revised (CTRS-R) on a Lebanese Sample of Children," done during the year 2000 by Tania Moheiddine Al Aghar at American University of Beirut. It showed promising results and it was used as an assessment tool for diagnosing ADHD. The difference between the previous research and this study is that Conners-3 is the

new edition of Conners' Rating Scale-Revised (CTRS-R). The Conners-3 is designed to provide a more thorough and focused assessment of ADHD and other disruptive behavior in children and adolescents. Those working in the field of child and youth psychology can use Conners-3 to assess ADHD and its most common comorbid problems in children and adolescents aged between 6 to 18 years by using three different forms parent, teacher, and self-report (Conners, 2008). In addition, it has been updated to provide a new scoring option for the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5) Symptom Scales. Therefore, it is important to revisit this study by adapting and validating Conneres-3 to the Lebanese population. Besides, according to our knowledge, only two published researches about adaptation and validation of Conners-3 were conducted in Germany and Sweden. The first research study, "German Validation of the Conners3 Rating Scales for Parents, Teachers and Children", was conducted two years ago by Christertiansen and her colleagues. This study represented the translation and validation of the Conners-3 rating scales for parents, teachers, and children to the German language. Conners-3, updated version of CRS and CRS-R, is valuable adjuncts for the identification and diagnosis of ADHD because it offers parents, teachers, and self-rating of children susceptible for ADHD (Christiansen et al., 2016). Besides, Christiansen and her colleagues confirmed (2016) that Conners-3 is widely used internationally however cross-cultural comparability has hardly been confirmed. The second study was published recently (2018), "Standardization and cross-cultural comparisons of the Swedish Conners-3 rating scale", where the standardization of the Swedish Conners-3 was presented and the norms were compared to those collected in the US and Germany (Thorell, et al., 2018). Thorell and her colleagues (2018) demonstrated that Conners rating scales are the most widely used questionnaires in international research and clinical practice for rating symptoms of ADHD and other comorbid disorders such as

oppositional deficit disorder (ODD) and conduct disorder (CD). Recently, Conners-3 rating scale has subsequently been adapted to several cultures and languages but only two studies were published (Thorell, et al., 2018). Hence, it is important to adapt Conners-3 rating scale on Lebanese children. To our knowledge, Conners-3 teacher and parent rating scales have not been adapted and validated for Lebanese culture.

Significance i.e. Implications of Findings to Practice and Theory

Adapting Conneres-3 rating scale to the Lebanese context serves to inform both the research (theory aspect) and the treatment (practical aspect) of children with ADHD.

It can aid the theory aspect because "diagnosis is a necessary part of obtaining services and funding and can also help connect a child's symptoms to relevant bodies of literature (e.g., effective treatment options, potential risks)" (Sparrow, 2010, p. 218).

Conners-3 also serves the practical aspect (treatment). Early diagnosis and identification of children with academic, behavioral, and social-emotional difficulties is very important because it can help for better treatment (Andrews, et al., 2001). Moreover, early intervention has a positive impact on the child. Therefore, Adapted Conners-3 has been found to be instrumental in a variety of arenas (screening, assessment, treatment monitoring, and research) (Demaray et al., 2003). In the pretreatment level, adapted Conners-3 will be useful for collecting data from parents, teachers, and even the child by using the different forms parent, teacher, and self-report form (Andrews, et al., 2001). After diagnosing the child with ADHD, adapted Conners-3 can help to plan, monitor, and adjust treatment. When the adapted Conners-3 rating scales are administered repeatedly, results can easily be compared to determine whether there has been any progress and, if so, in which areas (Sparrow, 2010).

Therefore, adapting and validating Conners-3 to the Lebanese population will help clinicians to assess student, make appropriate diagnosis, offer recommendations for intervention, and finally evaluate the impact of this intervention.

Assumptions

1. The selected sample was representative of public and private schools in Great Beirut.
2. Teachers who participated in this study know well their students in order to make objective and accurate judgment. At the elementary level, homeroom teachers and parents of the students completed the Adapted Conners-3 teacher and parent rating scales. On the other hand, at upper levels (the intermediate and high school), teachers who were most familiar with the students were the primary respondent. That is because in the upper grade level students are taught by different teachers according to the subject of study.
3. Parents who participated in this study know well their children.
4. Teachers were familiar with rating scales forms.

CHAPTER II

LITERATURE REVIEW

Attention Deficit Hyperactive Disorder (ADHD) has become a topic of intense scientific research in the past years. In this section, evolvement of historical concept of Attention Deficit Hyperactive Disorder ADHD, current definition of (ADHD), and criteria for the diagnosis will be presented. Then, causes behind this disorder, associated problems, and comorbidity will be discussed and followed by prevalence of ADHD. In the following section, there will be discussion of the literature on assessments that used to measure ADHD, specifically Conners-3- teachers and parents rating scales, and a brief review of ADHD treatment. After that, a section will introduce ADHD in Lebanon focusing on the tools for diagnosis and treatment methods that are used. Finally, development, key changes, normative sample, administration and scoring, reliability and validity of Conners-3 rating scale will be described.

Now, we will start with definition and criteria for the diagnosis of ADHD before discussing comorbidity, prevalence, treatment, and ADHD assessment tools.

Historical Concept of ADHD

ADHD is an abbreviation for Attention Deficit Hyperactivity Disorder, which is used to describe children, adolescents, and adults who are easily distracted, inattentive, over reactive and impulsive in their behavior (Millichap, 2010). It arose in eighteenth and nineteenth century as a medical problem of uncontrolled behavior (Taylor, 2011). Hence, ADHD was recognized under different names. In the late 1700s, ADHD was found in literature as a reference to individuals with inattention, hyperactivity, and poor impulse control (Barkley & Murphy, 2014). In the mid of nineteenth century, a German pediatrician

and poet, Heinrich Hoffman, published a book of poems about psychological conditions of children based on his clinical observations (Barkley & Murphy, 2014). He wrote about “fidgety Phil” who moves around and annoys his parents (Taylor, 2011). The characteristics of this child distinctively describe behavior of a child with ADHD.

In the early twentieth century, George Frederick Still, the founder of pediatrics in England, described 43 children who had serious problem with attention (Barkley & Murphy, 2014). His description of those problematic behavior overlaps with those of ADHD. However, he does not give primacy to characteristic such as inattention, impulsiveness, and/or overactivity (Taylor, 2011). He aims to describe "defects of moral control" and attributes behavior problems to constitutional medical conditions (Taylor, 2011).

During the twentieth century, childhood behavioral problems were referred to as medical issues. Hence, there was an association of brain disease (head injury) with behavioral abnormalities (Barkley & Murphy, 2014). In the 1950s, children with ADHD were referred to as "hyperkinetic impulse disorder.” Then, the Minimal Brain Dysfunction (MBD) was formed as a disorder of attention (Taylor, 2011). Between 1960 and 1969, MBD was replaced by specific labeling such as dyslexia and hyperactivity' learning disorder (Barkley & Murphy, 2014) .... This stage was set for the development of the key idea of attention deficit disorder (ADD) where it was mentioned for the first time in the third edition of Diagnostic and Statistical Manual (Taylor, 2011). The DSM-III recognized two subtypes of ADD- ADD with hyperactivity and ADD without hyperactivity (Millichap, 2010). Therefore, this was the beginning of an era of understanding ADHD.

Current Definition of Attention Deficient Hyperactive Disorder

Initially, the concept of brain damage syndrome in children passed in different names starting with post-encephalitic behavior disorder in 1922, brain injured child (1947), and the

perceptually handicapped child (1963) (Millichap, 2010). It ended with minimal brain dysfunction in 1966 when the emphasis turned into symptoms. In 1968, the American Psychiatric Association included the syndrome in their Diagnostic and Statistical Manual (DSM) (Millichap, 2010). ADHD was originally presented as a disorder involving hyperactivity in the DSM-II. In 1980, two subtypes of Attention Deficit Disorder, ADD with hyperactivity and ADD without hyperactivity were recognized by the DSM-III and DSM-III Revised (DSM-III-R) (Millichap, 2010). In 1994, the DSM-IV identified three more specific subtypes of this syndrome: ADHD-inattentive type, ADHD-hyperactive-impulsive type, and ADHD-combined (Millichap, 2010). Finally, in 2013, DSM-V was published using the same name ADHD, short for Attention Deficit Hyperactivity Disorder. Which describes children and adolescence who show symptoms of inattention, hyperactivity, and/or impulsivity. Inattention behavior in ADHD usually lack persistence, have difficulty in sustaining focus, wander off task, and are disorganized (American Psychiatric Association [APA], 2013). Hyperactivity refers to excessive talkativeness, tapping, or fidgeting and excessive motor activity (American Psychiatric Association [APA], 2013). Finally, impulsivity refers to an individual who performs actions that occur in the moment without consideration of the consequence. The difference between DSM-V and other editions is that it contains a more precise characterization that also addresses adults so children with ADHD can continue to receive care throughout their lives when needed (American Psychiatric Association [APA], 2013).

Criteria for the Diagnosis of ADHD

According to Diagnostic and Statistical Manual of Mental Disorder (5th edition, 2013) - DSM-5, there should be a persisting pattern of inattention and/or hyperactivity-impulsivity (Appendix A). Symptoms of inattentive or hyperactive-impulsive should be

present in two or more settings such as school, home or work for at least 6 months. In addition, there should be clear and strong evidence that these symptoms interfere with academic, social, and occupational functioning. Moreover, these symptoms should not occur during psychotic disorder or schizophrenia and could not be explained by another mental disorder such as anxiety disorder, personality disorder, mood disorder…

ADHD and Comorbidity

Comorbid disorders have symptoms that are common to the individual with ADHD. In other words, ADHD is frequently comorbid and associated with other psychiatric disorders in every lifespan. In adulthood between 65-89% of the patients who have ADHD suffer from one or more additional psychiatric disorders (Sobanski, 2006). These results are parallel to the findings of children who have ADHD associated with other psychiatric disorders. The disorders that have common symptoms with ADHD are oppositional defiant disorder, intermittent explosive disorder, neurodevelopmental disorders, specific learning disorder, intellectual disability (intellectual developmental disorder), autism spectrum disorder, reactive attachment disorder, anxiety disorders, depressive disorders, bipolar disorder, disruptive mood dysregulation disorder, substance use disorders, personality disorders, psychotic disorders, medication-induced symptoms of ADHD, and neurocognitive disorders (Appendix B) (American Psychiatric Association [APA], 2013), (Brock, Jimerson, & Hansen, 2009).

Causes of ADHD

ADHD has different causes and to date there is no single factor that has been identified as the cause of ADHD. Therefore, ADHD can be a result of complex interactions between genetic, neurobiological and environmental factors (Brock, et al., 2009). Both genetic and environmental causes lead to neurobiological differences. However, both genetic

and neurobiological variables play more significant role in the development of ADHD symptoms than the environmental variables (Brock, et al., 2009).

Role of Genetics

Like other developmental and psychiatric disorders, ADHD runs in families so it can be passed from parents to their children (Thapar, Cooper, Eyre & Langley, 2013). According to family studies, it showed that family history of ADHD is important variable to be considered when diagnosing this disorder (Brock, et al., 2009). Having first-degree relatives (parents, siblings, and children) with ADHD will lead to a high risk to be diagnosed with ADHD (Millichap, 2010). If one of the parents has ADHD, it is approximately 60% to have a child with ADHD (Mash & Wolfe, 2016). According to twin studies, researchers compare identical twins (monozygotic) to fraternal twins (dizygotic). Identical twins share 100% of their genes while fraternal twins share only 50% of their genes. Thus, identical twins are more likely to have ADHD than fraternal twins (Brock, et al., 2009). According to genome research studies, any change in a particular gene will affect the child's development (Brock, et al., 2009). Candidate gene researches show that there are specific genes that are likely to be associated with ADHD. These genes are responsible of regulating the brain chemicals (e.g. dopamine) and regions (e.g. frontal-subcortical networks) (Brock, et al., 2009; Mash & Wolfe, 2016; Thapar et. al, 2013). Therefore, dopamine neurotransmission and serotonin pathway in the brain are associated with ADHD (Howe, 2010).

Role of the Environment

In addition, many environmental factors are associated with ADHD. Environmental factors include biological factors and psychosocial factors. According to biological factors, it includes prenatal, perinatal, and postnatal complications. Prenatal causes include maternal anemia, toxemia of pregnancy, cocaine abuse, alcohol abuse, tobacco smoke, and

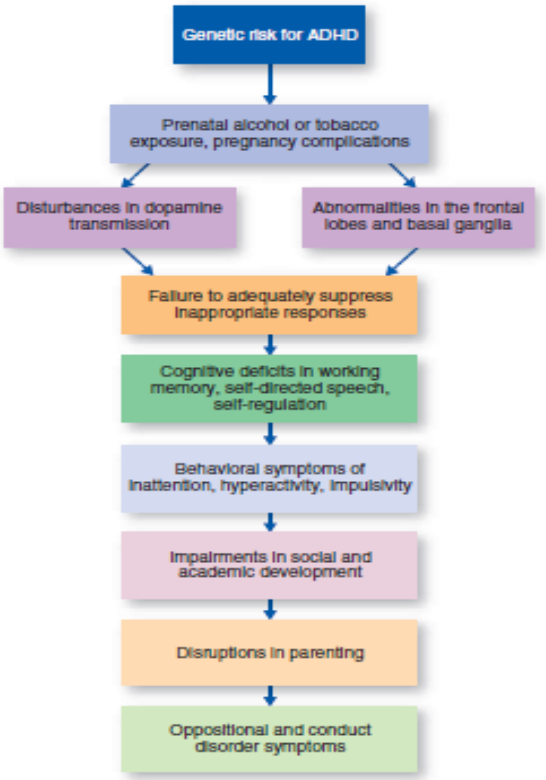
developmental cerebral abnormality (Howe, 2010; Mash & Wolfe, 2016; Millichap, 2010; Thapar et. al, 2013). The perinatal factors include premature birth, low birth weight, anoxic-ischemic-encephalopathy, cerebral hemorrhage, breech delivery, encephalitis, and meningitis (Brock, et al., 2009; Howe, 2010; Millichap, 2010). The postnatal factors can be when an infant suffers a head injury, low blood sugar, meningitis, frequent attacks of otitis media, and encephalitis (Millichap, 2010). Besides, exposure of a pregnant mother and an infant to different toxins and pesticides has been associated with an increased risk for ADHD (Brock, et al., 2009; Thapar et. al, 2013). Toxins include lead, manganese, mercury, and polychlorinated biphenyls (PCBs) while pesticides include organophosphate. On other hand, psychosocial factors such as family stressors and other psychosocial variables (i.e., sever marital discord, large family size, low social class, maternal mental disorder, and paternal criminality) do not typically cause ADHD, but it can be associated with severity of ADHD symptoms and related to the emergence of co-occurring conduct problems (Brock, et al., 2009; Mash & Wolfe, 2016). As an example, poor parental discipline can also be one of the factors that could lead to greater severity in ADHD symptoms (Howe, 2010).

Role of Neurobiological Factors

Researchers agree that ADHD is linked to dysfunction of the frontal- striatal-cerebellar circuits and deficit in specific neurotransmitters (e.g., norepinephrine and dopamine) (Brock, et al., 2009; Mash & Wolfe, 2016). Neurobiology of ADHD can be understood by focusing on neuropsychology, neurophysiology, and neurochemistry. According to neuropsychology, deficit in behavioral inhibition, executive functioning, and resistance to distraction lead to ADHD characteristics inattention, hyperactivity, and impulsivity (Brock, et al., 2009). Recently, advances in functional imaging technology such as positron emission tomography (PET), functional magnetic resonance imaging (fMRI), and

single photon emission computer tomography (SPECT) are used to understand more about neurophysiology of ADHD. Studies show that there is evidence that ADHD is associated with significant differences in the brain development (Brock, et al., 2009). It may be a decrease in the overall brain size thus an individual with ADHD would have 3-8% smaller brain volume than an individual without ADHD. Furthermore, severity of ADHD symptoms is associated with smaller brain volume. Prefrontal cortex is responsible for executive functioning. It is found that prefrontal cortex is also smaller among individual with ADHD compared to individual without ADHD (Brock, et al., 2009). Moreover, basal ganglion is found to produce hyperactivity if it is damaged (Brock, et al., 2009). Cerebellum is involved in motor movement, attention shifting and timing because it is connected to the frontal regions. The decrease in the volume of cerebellum will affect its required tasks (Brock, et al., 2009). According to neurochemistry, deficit of specific neurotransmitters (e.g., dopamine, serotonin and norepinephrine) are also associated with ADHD symptoms such as hyperactivity and inattentiveness (Brock, et al., 2009; Mash & Wolfe, 2016; Millichap, 2010).

Figure 1 A possible developmental pathway for ADHD



● FIGURE 8.2 | A possible developmental pathway for ADHD.

Prevalence of ADHD

Prevalence of ADHD is highly heterogeneous. This heterogeneity is due to many factors such as age (higher in younger children), diagnostic criteria (higher in the DSM-IV), informants (teachers, parents, subjects, or combination), instrument used, and whether criteria for impairment are applied (Farah et al., 2009). According to American Psychiatric Association (2013), DSM-V, ADHD occurs in most cultures in a prevalence of about 5% of children and about 2.5% of adults. Farah and her colleagues (2009) reviewed all epidemiological studies about ADHD in the Arab World. Using rating scales in the school settings among Arab students, the rate of ADHD symptoms ranges from 5.1% to 14.9% (Farah et. al, 2009). On the other hand, the rate of ADHD diagnosis using structured

interviews among children and adolescence ranges from 0.5% in the school setting to 0.9% in the community (Farah et. al, 2009). This range is still comparable by what has been reported in other international studies. Since this study will tackle the Lebanese society, it is important to mention the prevalence in the Lebanese society. Lebanon is similar to the Arab world so published studies on ADHD are scarce. Richa and his colleagues (2014) conducted the first epidemiological study to estimate the prevalence of ADHD among children. They found the prevalence of ADHD is equal to 3.2% (30 out of 934). This prevalence can be subdivided into different types: prevalence of ADHD Inattentive subtype, prevalence of the Hyperactive-Impulsive subtype, and ADHD combined subtype. The prevalence of ADHD Inattentive subtype was approximately 0.3% (3 out of 934), the prevalence of the Hyperactive-Impulsive subtype was 1.2% (11 out of 934), and that of ADHD Combined subtype was 1.7% (16 out 934) (Richa et. al, 2014).

Prevalence of ADHD by Gender

According to American Psychiatric Association (2013), DSM-V, ADHD is more frequent in males than females in general population. The ratio of males with respect to females is approximately 2:1 in children and 1.6:1 in adults (American Psychiatric Association [APA], 2013). Actually, females are more likely than males to have inattentive features. This is reflected clearly in the classrooms as one can see boys are always leaving their places and out of task (hyperactive), while girls are inattentive. According to the Lebanese context, Richa and his colleagues (2014) confirmed that ADHD is significantly more prevalent in boys 4.5% than in girls 1.8%. However, the prevalence of boys 1.2% and girls 1.1% showed no significant difference in the Hyperactive-Impulsive subtype. Besides, for the ADHD combined subtype showed that it is more prevalent in boys 2.7% than in girls 0.7% (Richa et. al, 2014).

Prevalence of ADHD by Age

According to American Psychiatric Association (2013), DSM-V, ADHD occurs in most cultures in a prevalence of about 5% of children and about 2.5% of adults. According to Barkley and Gordon (2002), ADHD persists into adulthood in about 58%. Symptoms of ADHD continue in adolescence, but the expression and nature change as age increase (Thorell & Rydell, 2008). In adolescence, disruptive behaviors decrease while attention and learning problems continues which will have a negative impact on the adolescent's daily life (Thorell & Rydell, 2008). In addition, ADHD in adulthood is associated with high rates of substance use disorder, academic underachievement, and poor occupational functioning (Barkley & Murphy, 2014).

Assessment of ADHD

Assessing ADHD is the most important step to ensure a suitable treatment. According to Barkley (1998), there are three main objectives behind assessing ADHD (as cited in Demaray, Eliting and Schaefer, 2003). The first objective is to identify the presence of symptoms of ADHD and other possible disorders (Demaray, Eliting and Schaefer, 2003). The second objective is to develop future intervention plan while the third objective is to determine if any comorbid disorder is present (Demaray et al., 2003). Brock, Jimerson, and Hansen (2009) demonstrated that there are two types of recommended diagnostic procedures for ADHD: indirect assessment techniques and direct assessment techniques (as cited in Brock and Clinton, 2007). The direct assessment techniques include psychological and educational testing, behavioral observation, and interviews medical examinations. On the other hand, the indirect assessment techniques include behavior-rating scales.

Psychological and Educational Testing

Psychological and educational testing is one of the direct assessment techniques. Child with ADHD should be evaluated in all areas of suspected disability before eligibility to special education. Therefore, the evaluation will include several skills such as cognitive functioning, basic psychological processes, adaptive behavior, academic achievement, emotional functioning, and language functioning (Brock, et al., 2009). In addition, neuropsychologists can assess various aspects of attention, such as vigilance, selective and divided attention, the ability to shift set, and cognitive efficiency (Andrews, et al., 2001). Different neuropsychological assessments can assess these skills such as Wechsler Intelligence Scale for Children (WISC-V), Woodcock Johnson III Tests of Cognitive Abilities, and Wechsler Individual Achievement Test (WIAT-III) (Williams, 2018).

Behavioral Observation

One of the direct assessment techniques is behavioral observation. This technique is useful because the child's behavior is directly seen by the observer especially in the school. Hence, observation should take place in several situations and setting such as classroom, playground… One of the weaknesses of behavioral observation is absence of normative data so a low frequency behavior might be missed. For this reason, the observer should be well trained (Brock, et al., 2009).

Interviews and Medical Examinations

Usually, interviews are done with the parents, teachers, and/or child. It is important because it complements other diagnostic procedures by differentiating diagnosis and intervention planning (Brock, et al., 2009). The problem of this procedure is that interviews have reliability problems. Moreover, they are considered as time consuming because the interview session will not be less than one hour. Medical examination is one of the interview

types. Therefore, a full clinical and psychosocial assessment of the person should be done. It includes discussion about behavior and symptoms in the different domains and settings of the person's everyday life and a full developmental and psychiatric history (National Institute for Health and Care Excellence [NICE], 2018). Besides, visual and hearing screen can be done because visual or hearing deficit can show ADHD-like symptoms (Parekh, 2017). In addition, psychiatrist or pediatrician might ask for blood test to check vitamin deficiency (National Institute for Health and Care Excellence [NICE], 2018).

Behavior rating Scales

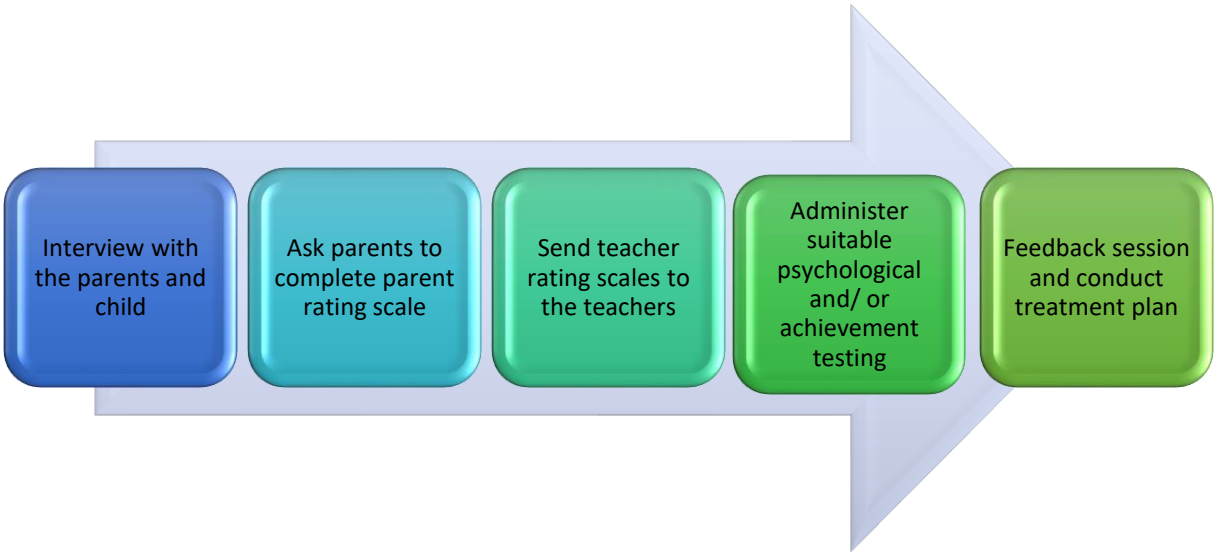
Behavior rating scales are considered one of the most important tools to diagnose ADHD. Usually, these scales are made up of three forms: teacher form, parents form, and self-report form (not all rating scales include self-report form). Rating scales have different advantages. They are easy to administer, and they are efficient in term of costs and time. In addition, rating scales can provide normative data because they can be used to determine how much a child's behavior deviates from her/ his same gender and age peers (Demaray et al., 2003). There are two types of rating scales used to diagnose and assess behavior problems: broadband and narrowband. The broadband is used as an initial step in the assessment of ADHD because it can provide wide ranges of diagnosis such as anxiety, aggression, depression, hyperactive-impulsive behavior, in attention, and withdrawal (Demaray et al., 2003). The second type is narrow-band scales, which is designed to measure specific behavior (Demaray et al., 2003). Usually, these scales represent symptoms of ADHD such hyperactivity, inattention, and impulsivity. Here are some of the mostly used rating scales to diagnose ADHD. Behavior Assessment System for Children (BASC-3) is a comprehensive set of rating scales and forms including the Teacher Rating Scales, Parent Rating Scales, Self-Report of Personality, Student Observation System (SOS), and Structure Developmental

History (SDH) (Andrews, et al., 2001). It was designed to determine the differential diagnosis and educational classification of a variety of emotional and behavioral disorders of children. Moreover, it is used to aid in the design of treatment plans. The second rating scale that can be used is Child Behavior Checklist (CBCL). Child Behavior Checklist is a well-standardized rating scale that is designed for parents, teachers, and students to report about a variety of problem behaviors (Brock, et al., 2009). The third rating scale is Conners rating scale. Conners rating scale is one of the most widely used rating scale to assess ADHD and other behavioral problems in children and adolescents (Shah, Cork, & Chowdhury, 2005; NICE, 2018). Moreover, it is made up of three forms teacher rating scale form, parent rating scale form, and self-report form.

According to Barkley and Murphy (2006), when the child is referred for an assessment several steps will be conducted: administer parent and child interviews, complete parent rating scales, administer psychological testing as to identify the nature of the referral such as intelligence and achievement testing, and send teacher rating scale to the child's teachers.

Traditionally, an interview with the parents and child will be primary conducted. During the first session, rating scales will be given to be completed by parents. In addition, rating scales to the teachers will be sent to be completed. During a second session, the clinician can have an interview with the child so psychological and/ or achievement testing can be administered. During the third session, parents will be provided with feedback and treatment plan will be conducted.

Figure 2 Traditional Assessment Plan



In a summary, the process of assessment of ADHD is not easy so comprehensive evaluation should be based on these four components such as behavioral observation, interview and medical examination, rating scales, and psychological and educational testing.

Conners-3 Rating Scale

Conners-3 rating scale has three different forms for parents, teachers, and self-report by child. Both teachers and parents can rate child aged 6 to 18 years, while self-report ratings can be accomplished from child aged from 8 to 18 years. According to the parents, they are generally able to observe a child's behavior in both home and social settings. On the other hand, teachers can provide us with important information about the child's functioning at school. According to self-reports, they can offer the child's own perceptions about her/his behavior across multiple contexts such as settings where parents and teachers may not be able to observe her/him.

Treatment of ADHD

There are different approaches for ADHD treatment. Making a treatment decision is challenging for different reasons such as cultural background and unacceptance and anecdotal

stories from friends and family. All these reasons make treatment decision hard to take by the parents. Once diagnosis is reached, treatment procedure should start. There are different approaches that can be used for ADHD treatment such as behavioral therapy, school programing and support, and medication.

Behavioral Therapy

According to behavioral therapy, therapists usually accommodate the social and physical environment in order to change or alter behavior. Thus, evidence-based behavior treatment for ADHD has three types of intervention which are behavioral parent training (BPT) or also known as Parent Management Training PMT (Mash & Wolfe, 2016), behavioral classroom management, and behavioral peer interventions (BPI) (Wolraich, et. al, 2011). Hence, parents will be trained on behavior-modification principles in order to implement in home settings and will be provided with a variety of skills to help them manage their child's oppositional and defiant behaviors and handle with the difficulties of raising child with ADHD (Mash & Wolfe, 2016; Wolraich, et. al, 2011). Moreover, behavior modification principles will be provided for teachers' implementation in classroom setting thus behavioral classroom management will be applied (Wolraich, et. al, 2011). Therefore, managing disruptive or off-task classroom behaviors of the student can be done through response -cost procedures that includes the loss of activities, privileges, token, and points following inappropriate behavior or with short periods of time-out (Mash & Wolfe, 2016). The third type of intervention is behavioral peer intervention that is focused on peer interactions and relationship (Wolraich, et. al, 2011).

School Programming and Support

Suitable classroom environment is important for all students, but it is more critical for the children with ADHD. Therefore, school programs should provide classroom

adaptation, such as seating ADHD in the front of the class and away from noise and distracting sounds. Moreover, predictable routines, using visual aids, providing cues for expected behavior, and clear rules (oral or written instructions) can help children to focus their attention (Mash & Wolfe, 2016). Assignments and tests should be modified and accommodated. Hence, to accommodate short attention span, task duration should be assigned and brief with immediate feedback (Brock, et al., 2009; Mash & Wolfe, 2016). Additionally, to avoid frustration task difficulty should be adjusted in order to engage ADHD child (Brock, et al., 2009). Children with hyperactivity symptoms cannot remain seated. For that reason, productive physical movement should be planned by allowing him/her to move from his/her place or by allowing him/her to have round walk in the class (Brock, et al., 2009).

Medication

Medications are often used for ADHD treatment. According to Brock and his colleague (2009), they demonstrated that medication of ADHD has been well established for both the short term and long-term efficacy (as sited in AACAP Practice Parameter, 2007; MTA Cooperative Group, 2004a, 2004b). FDA approved that stimulant medication is found to be effective in up to 85% of children with ADHD (Brock, et al., 2009). These stimulants can decrease in task-irrelevant and disruptive behavior and increase in sustained attention, impulse control, and persistence of work effort (Mash & Wolfe, 2016). Besides, stimulants may improve child's academic productivity and cooperation and social interaction with peers, teachers and parents (Mash & Wolfe, 2016). Usually, if a child does not experience adequate symptoms of improvement with behavioral therapy, medication will be prescribed (Wolraich, et. al, 2011). These medications reduce activity level and improve attention.

Briefly, there are different ways to treat a child with ADHD so behavioral therapy and school programming and support can be done. In case, the child does not experience adequate symptoms of improvement, medications will be prescribed.

ADHD in Lebanon

Studies on ADHD in Lebanon have been limited to date. In Lebanon, ADHD is the most common disorder in a child psychiatric clinic (Farah et. al, 2009). Richa and his colleagues (2014) conducted the first epidemiological study to estimate the prevalence of ADHD among children. They found the prevalence of ADHD is equal to 3.2% (30 out of 934). This prevalence can be subdivided into different types: prevalence of ADHD Inattentive subtype, prevalence of the Hyperactive-Impulsive subtype, and ADHD combined subtype. Moreover, ADHD is significantly more prevalent in boys 4.5% than in girls 1.8% (Richa et.al, 2014). The ratio of male to female is 2:1 is thought to be the case for ADHD (American Psychiatric Association [APA], 2013). Hence, the gender ratio of ADHD in Lebanon is like other countries. This means that there is no difference cross-culturally in the expression of symptoms among gender.

Tools used to Diagnose ADHD Students in Lebanon

Actually, at present in Lebanon, there is no evidence of diagnostic criteria for the assessment of ADHD. Therefore, information available about ADHD assessment will be based on studies done in Lebanon. A study was conducted by Shehab (2017), "Lebanese counselors' perceptions of ADHD, the methods of intervention used, and the DSM-5 as a culturally appropriate assessment tool," at American University of Beirut. The purpose of this study was to explore current counselors' perceptions of ADHD and the techniques they implement with students with ADHD. Based on this study, 55% of the interviewed school counselors do not know any of the tools used to diagnose ADHD (Shehab, 2017). The rest

uses observation with 30%, rating scales with 10% (Shehab, 2017). They usually observe student in different classes and during different time. Moreover, 25% of the interviewed counselors use DSM criteria as a tool for diagnosis (Shehab, 2017). In addition, a study that investigated the prevalence of ADHD was conducted by Fayyad and his colleagues (2017). To examine the prevalence of adult ADHD in the World Health Organization World, WHO Composite International Diagnostic Interview (CIDI) version 3 was used to screen 26,744 respondents (Fayyad et al. 2017). Lebanon was part of this study and the sample was made up of 3,452 Lebanese respondents (sample (1) 2857 and sample (2) 595) (Fayyad et al. 2017). Farah and her colleagues (2009) demonstrated that mainly structured interviewed and rating scales such as Conners Rating Scales are used for diagnosis of ADHD. In some cases, these rating scales are filled by teachers only without obtaining data from parents or the child.

Hence, in Lebanon there is no specific instrument used to asses ADHD so based on these studies structured interviewed, rating scales such as Conners Rating Scales, CICI version 3, and DSM-V criteria are used as tools to assess ADHD.

Treatment of ADHD in Lebanon

Different intervention and strategies are used by counselors and therapists in Lebanon. The support strategies that are used by 85% of Lebanese counselors are classroom functional assessment procedures, peer and parent tutoring, and task instructional modification (Shehab, 2017). Additionally, counselors usually provide guidelines for teachers, parents, and students such as giving ADHD students chores to complete (Shehab, 2017). Teachers will be asked to avoid distractions and to shorten the assignment or the test. Reward system and reinforcement techniques are used solely by some of the counselors. Moreover, some students will be referred to the doctor for medication. According to Berri and Al-Hroub (2016) in their book “ADHD in Lebanese Schools Diagnosis, Assessment and

Treatment", 46% of the Lebanese teachers believe that the usage of stimulant medication leads to increased addition on adulthood and 47% of teachers lack knowledge of the effect of antidepressant drugs in reducing ADHD symptoms. Other students might be referred to psychiatrists for psychotherapy. In addition, students with ADHD might be asked to change their diets by reducing sugar. Hence, 58% of the Lebanese teachers believed that an appropriate diet and especially reducing sugar intake would reduce hyperactivity in students (Berri & Al-Hroub, 2016).

Development of Conners-3

Conners-3 is the product of 40 years research. This version provides streamlined content focusing on ADHD and other comorbid disorders such as Disruptive Behavior Disorder and Conduct Disorder. It was developed through three different phases: initial planning, pilot study, and the normative study. The initial plan was to put the rationale and goal for the revision of the CRS-R by team containing the author and other peoples with clinical experience, test development experience, and researcher experience. The main rationale is to revise CRS-R as an in-depth ADHD tool, integrate current researches and clinical opinions, expand the most relevant diagnostic content, and include more links to intervention (Conners, 2008). The first goal of this revision is to provide update in the normative data and psychometric properties of CRS-R (Conners, 2008). The second goal is to create several new measurement tools such as Conners Comprehensive Behavior Rating Scale and Conners Early Childhood (Conners, 2008). The third goal is to expand the parent, teacher, self-report age to 18 years old instead of 17 years old in CRS-R and to determine if it is appropriate to use self-report for youth of 8 years old instead of 12 years old (Conners, 2008). The fourth goal is to enhance content alignment across the three forms parent, teacher, and self (Conners, 2008). The fifth goal is to strengthen the content linkage to the DSM-IV-R and

to add new clinical features (Conners, 2008). The second phase was pilot study, so data were collected from the general population and from a number of clinical groups (Conners, 2008). Then, exploratory factor analysis (EFA) was piloted to inform structural and item selection decisions. The third phase is normative study. Normative versions of Conners 3 forms were collected from both general population and selected clinical group. This normative sample was divided into two groups: the derivation sample and a confirmatory sample (Conners, 2008). In order to determine if the initial structure proposed by the pilot data was confirmed, the EFAs and CFAs were shown (Conners, 2008).

Key changes from the Conners Rating Scale-Revised to Conners-3

Conners-3 is the revision of Conners Rating Scale -Revised (CRS-R). It was reviewed and published during 2008.The key changes include the content and structure. The normative data and psychometric properties were updated. Conners-3 continues to be used to assess ADHD with added emphasis on associated features and the disruptive behavior disorder such as ODD and OCD (Conners, 2008). In addition, age range of Conners-3 is modified so Conners-3 parent and teacher forms are used with school age 6 to 18 years instead of 3 to 17 years in CRS-R. Moreover, Conners-3 enhances content alignment across teacher, parent, and self-report forms to facilitate comparison of results among different informants (Conners, 2008). One of the key changes in Conners-3 is adding new scales and item level content. There is a direct item linkage to DSM-IV-TR symptomatic criteria including two new scales CD and ODD, assessment of executive functioning, new validity scale (positive impression, negative impression, and inconsistency index), screener items for depression and anxiety (Conners, 2008) … Moreover, in Conners-3 inattention is assessed independently learning problems. In order to focus on ADHD assessment in Conners-3, the CRS-R scales related to emotional issues are removed and represented in Conners

Comprehensive Behavior Rating Scales (Conners, 2008). Besides, the Conners-3 short forms are constructed differently than were CRS-R short form.

A new edition of the Diagnostic and Statistical Manual of Mental Disorders DSM-5 was released during May 2013. For this reason, a review of the Conners-3 manual and material (full length quick score forms, the Conners-3 Software program, and online components) were done in order to determine the changes required to scoring and interpretation. The updates of ADHD, CD, and ODD symptom criteria that were made in DSM-5 lead to changes in the forms, scoring, and interpretive considerations in the Conners-3. Conners-3 has two ways of scoring hand-scoring and computerized scoring. Therefore, for hand scoring the Conners-3 Quick score forms are updated with DSM-5 criteria (Conners, 2014). Moreover, according to computerized scoring, a DSM-5 scoring option is now incorporated so assessors can choose either DSM-IV-R scoring or DSM-5 scoring (Conners, 2014). Reports that are produced by DSM-IV-R scoring are identical to the original Conners-3 reports (Conners, 2014). On the other hand, reports produced using DSM-5 scoring will includes DSM-5 symptoms and interpretation (Conners, 2014). Table 1 and 2 stated the comparison between CRD-R and Conners-3 parent and teacher forms content.

Table 1

CRS-R and Conners-3 Parent Form Content Comparison (Conners, 2008)

	Form	CTRS-L	Conners-3-P
Full-length forms	Age Range	3-17 years	6-18 years
	Conners-3-P content Scales	Oppositional	Aggression
		Cognitive Problems/ Inattention	Learning Problems Inattention
		Hyperactivity	Hyperactivity/ Impulsivity
		-	Executive Functioning
		Anxious/ Shy	-
		Social Problems	Peer Relations
		Perfectionism	-
		Psychosomatic	-
		ADHD Inattentive	ADHD Inattentive
		ADHD Hyperactive-Impulsive	ADHD Hyperactive-Impulsive
	DSM-IV-TR Symptom Scales	ADHD Combined	ADHD Combined
		-	Conduct Disorder
		-	Oppositional Defiant Disorder
	Indices	Conners ADHD Index	Conners-3 ADHD Index
		Conners Global Index	Conners-3 Global Index
	Screener Items	-	Anxiety
		-	Depression
	Validity Scales	-	Positive Impression
		-	Negative Impression
		-	Inconsistency Index
	Impairment Items	-	School Work/ Grades
		-	Friendships/ Relationships
		-	Home-life
	Critical Items	-	Sever Conduct
	Additional Questions	-	Other Concerns
		-	Strengths/ Skills
	Number of Items	80	110

Table 2

CRS-R and Conners-3 Teacher Form Content Comparison (Conners, 2008)

	Form	CPRS-L	Conners-3-T
Full-length forms	Age Range	3-17 years	6-18 years
	Conners-3-T Content Scales	Oppositional	Aggression
		Cognitive Problems/ Inattention	Learning Problems / Executive Functioning
			Inattention
		Hyperactivity	Hyperactivity/ Impulsivity
		Anxious/ Shy	-
		Social Problems	Peer Relations
		Perfectionism	-
	DSM-IV-TR Symptom Scales	ADHD Inattentive	ADHD Inattentive
		ADHD Hyperactive-Impulsive	ADHD Hyperactive-Impulsive
		ADHD Combined	ADHD Combined
		-	Conduct Disorder
		-	Oppositional Defiant Disorder
	Indices	Conners ADHD Index	Conners-3 ADHD Index
		Conners Global Index	Conners-3 Global Index
	Screener Items	-	Anxiety
		-	Depression
	Validity Scales	-	Positive Impression
		-	Negative Impression
		-	Inconsistency Index
	Impairment Items	-	School Work/ Grades
		-	Friendships/ Relationships
		-	Home-life
	Critical Items	-	Sever Conduct
	Additional Questions	-	Other Concerns
		-	Strengths/ Skills
	Number of Items	59	115

Normative Sample

In order to have a representative sample of U.S. population, each normative sample had similar proportion of youth from various demographic groups such as age, gender, and ethnicity/ race. The normative sample includes 50 males and 50 females from each age group (6 to 18 years for teacher and parent reports and 8 to 18 years for self-report) from each rating group.

Administration and Scoring

Conners-3 has different forms and it can be completed by different raters as it can give the assessor the most useful data for diagnosis and intervention plan (Conners, 2008). Parents' data collection is obtained from primary caregivers while teachers' data collection is preferable to be obtained from more than one of the child's teachers. There are two administration options either paper-and-pencil or online. The reading level of Conners-3 forms (parents, teachers, and self-report) is the lowest literacy and comprehension reading levels. Therefore, the reading level (grade equivalents) of parents' form is 4.9 while the reading level of teachers' form is 5.3 (Conners, 2008).

Conners-3 full length can be completed in approximately 20 minutes. The rater must have known the child for at least a month, and it is recommended to wait for 1 to 2 months into the year before asking a teacher to rate a student. The form should be completed in one sitting and independently without the aid of others and should be returned by deadline. Conners-3 forms can be scored by three different ways hand, software, or online. Hence, raw scores and T-scores can be calculated.

For hand scoring, four different steps should be followed. The first step is to complete the scoring grid by circling responses. The second step is to complete the scoring tables (front). The front page of scoring tables includes score calculations for the following scales: validity scales, DSM-IV-TR Symptom Counts, Impairment items, and the Conners-3 AI (Conners, 2008). The third step is to complete the scoring tables (back). These scoring tables provide scoring of the Anxiety and Depression Screener items, the Severe Conduct Critical items, and the relation of the Conners-3 results to IDEA 2004 (Conners, 2008). The last step is to complete the profile. Therefore, the raw scores will be converted to the T-scores

for the Conners-3 Content scales, Conners-3 Global Index, and DSM-IV-TR Symptom scales (Conners, 2008).

On the other hand, computerized scoring of Conners-3 form can be done either by using online via internet or by using the Conners-3 Software program. The Conners-3 Online program is accessible from any computer with Internet. Hence, raters (parents, teachers, and youth) can have the Conners-3 assessment directly online or responses from paper-and-pencil forms entered into online program for report generation (Conners, 2008). On the contrary, the Conners-3 Scoring Software program is a portable program (USB derive) that can be transferred from one computer to another (Conners, 2008). In addition, both computerized scoring options offer many benefits compared to hand scoring methods. The scoring time is reduced, and calculation errors are eliminated. Once responses are entered, reports will be generated. Besides, administrations can be rescored, reports can be regenerated an unlimited number of times, and records can be accessed at any time (Conners, 2008).

There are three different types of reports that can be generated from the computerized Conners-3. The Assessment report provides information about single administration of any Conners-3 form. The Progress report combines the results of up to four administrations to summarize important changes in reported behavior that have occurred overtime. According to the Comparative report, it combines the results of up to five raters to provide an overview of child's behavior from multi-raters prospective and highlights potentially important inter-rater differences in scores.

Reliability of Conners-3

The reliability of Conners-3 has been assessed by Gallant et al. (2007) and Gallant (2008) (Conners, 2008). Internal consistency (Cronbach alpha), test-retest reliability (stability), standard error of measurement (SEM), and inter-rater reliability were estimated in

these studies. This section presents information about internal consistency, test-retest reliability, and inter-rater reliability.

Internal Consistency of Conners-3

Internal consistency (reliability) is the extent to which a measure or a test is consistent within itself (Nitko & Brookhart, 2011). Cronbach's alpha is used to examine the internal consistency. The reliability coefficients were presented by gender and age. Hence, the internal consistency of both rating scales the Conners-3 parent rating scale and the Conners-3 teacher rating scales were high. Thus, the mean Cronbach's alpha for the Conners-3 parents rating content scale was 0.91 (ranging from 0.85 to 0.94) while the mean Cronbach's alpha for the Conners-3 teachers rating content scale was 0.94 (ranging from 0.92 to 0.97) (Conners, 2008).

Test-Retest Reliability of Conners-3

Test-retest reliability is the stability of scores on a fixed sample of assessment tasks over a specified period (Nitko & Brookhart, 2011). The test-retest reliability was computed for the various Conners-3 parents and teachers forms over 2 to 4 weeks interval with a sample of 84 parents and 136 teachers. Therefore, the mean adjusted test-retest correlation for the Conners-3 parent Content scales was 0.85 (ranging from 0.72 to 0.98) while the mean adjusted test-retest correlation for the Conners-3 teacher Content scales was 0.85 (ranging from 0.78 to 0.90) (Conners, 2008). Consequently, the test-retest values for the Conners-3 rating scales were acceptable.

Inter-rater Reliability of Conners-3

Inter-rater reliability is a way to determine the degree of concordance between independent raters. In the Conners-3, it refers to the degree of agreement between two teachers' or two parents' rating of the same child. Overall, moderate to very strong levels of

rater agreement were found across Conners-3 parent rating scale and Conners-3 teacher rating scale (Conners, 2008). Therefore, the mean adjusted inter-rater correlation for Conners-3 parent content scales of two parent raters was 0.81 (ranging from 0.74 to 0.84) while the mean adjusted inter-rater correlation for Conners-3 teacher content scales of two teacher raters was 0.73 (ranging from 0.52 to 0.82) (Conners, 2008).

Validity of Conners-3

The purpose of assessing validity of a tool is to evaluate how successful it is in assessing what is designed to assess. Validity of Conners-3 was examined through factorial validity, across-informant correlation, convergent and divergent validity (construct validity), and discriminative validity (Conners, 2008). This section presents information about factorial validity, construct validity (convergent and divergent validity), and discriminative validity.

Factorial Validity of Conners-3

The factor structure of the Conners-3 was examined to evaluate whether the factor structure makes sense conceptually (empirically and theoretically). For factorial validity, both derivation sample and confirmatory sample were used. Thus, the derivation sample was used to establish a factor structure while the confirmatory sample was used to confirm the fit of the factor structure (Conners, 2008). For the Exploratory Factor Analysis (EFA) procedure, all the items from the Conners-3 form were included. Therefore, separate EFAs was administered to determine if the factor structure of the Conners-3 forms would change based on population (general population, clinical cases), gender (male, female), and/ or age group (6-11 years and 12-18 years). Overall, the factor structure of both forms Conners-3 parent rating scale and Conners-3 teacher rating scale remained consistent across the demographic groups (Conners, 2008). In addition, Confirmatory Factor Analysis (CFA) procedures were collected from confirmatory sample. At the end, Scale Intercorrelations Procedures were done by correlating

all scales. The purpose of these procedures is to provide additional evidence of the factorial validity of the assessment (theoretical expectations would be met).

Factorial Validity of the Conners-3-P

The factorial validity of the Conners-3 parent rating scale was described by EFA, CFA, and scale intercorrelations. According to Exploratory Factor Analysis, five-factor solutions were appropriate for the Conners-3 parent rating scale (Conners, 2008). The total variance of these five factors was 53.8% (Conners, 2008). The first factor had nine items that assessed learning problems aspect. The second factor had fourteen items that assessed features of aggression while the third factor had fourteen items that assessed features of hyperactivity and impulsivity. The fourth factor had six items that assessed peer relations dimension. Lastly, the fifth factor had nine items that assessed executive functioning. The EFAs were repeated and scales emerged. Besides, these five factor models were examined with CFAs using confirmatory sample. Thus, all of the parameter estimates were above 0.30 ($p<0.001$) and all correlations were significant ranging from 0.37 to 0.72 ($p<0.001$) (Conners, 2008). Finally, the scale intercorrelations met theoretical expectations (Conners, 2008).

Factorial Validity of the Conners-3-T

The factorial validity of the Conners-3 teacher rating scale was described by EFA, CFA, and scale intercorrelations. According to Exploratory Factor Analysis, four factor solutions were applicable for the Conners-3 teacher rating scale (Conners, 2008). The four rotated factors recorded 63.8% of the total variance (Conners, 2008). The first factor had sixteen items that assessed features of learning problems and executive functioning. The second factor had eighteen items that assessed features of aggression. The third factor had eighteen items that assessed features of hyperactivity and impulsivity. Finally, the fourth factor had five items that assessed how youth relates to peers. The EFAs were repeated and

two scales emerged from learning problems/ executive functioning factor accounting for 68.5% of the total variance (Conners, 2008). For the remaining factors, no subscales emerged. In addition, these four factor models were examined with CFAs using confirmatory sample. Thus, all of the parameter estimates were above 0.30 ($p<0.001$) and all correlations were significant ranging from 0.46 to 0.67 ($p<0.001$) (Conners, 2008). Finally, the scale intercorrelations met theoretical expectations (Conners, 2008).

Construct Validity: Convergent and Divergent Validity

Construct validity is the extent to which an assessment results can be interpreted as a meaningful measure of some characteristic (Nitko & Brookhart, 2011). In support to construct validity, convergent validity was conducted to assess whether the Conners-3 correlates with measures believed to measure the same construct. Moreover, divergent validity was conducted to assess whether the Conners-3 scales do not correlate with measures believed to measure different construct. In order to provide evidence, sample of parents, teachers, and youth completed Conners-3 forms along with at least one of other measures (Conners' Rating Scales-Revised (CRS-R), Behavior Assessment System for Children, 2nd edition (BASC-2), the Achenbach System of Empirically Based Assessment (ASEBA), and the Behavior Rating Inventory of Executive Function (BREIF)) (Conners, 2008).

Conners-3 and the CRS-R

The CRS-R is the previous edition of Conners-3. Constructs of both versions were highly correlated with each other and CRS-R constructs that are no longer part of the Conners-3 were less highly correlated with the Conners-3 scale such as Psychosomatics and Perfectionism (Conners, 2008).

Conners-3 and the BASC-2

The BASC-2 is used to assess wide range of problem areas and adaptive functioning areas in children. The correlation between the Conners-3 and BASC-2 scales that assess similar constructs tend to be moderately to strongly correlated (Conners, 2008). On the other hand, scales that did not assess similar construct tend to have smaller correlation (Conners, 2008). The BASC-2 has five scales: Inattention, Hyperactivity/Impulsivity, Aggression, Conduct, and Anger, Learning Problems and Executive Functioning, and Peer and Family Relations. The correlations between the Conners-3 scales assessing inattention and the BASC-2 Attention Problems Scale were moderate to strong ranged from 0.52 to 0.89 ($p<0.1$) (Conners, 2008). According to Hyperactivity/Impulsivity, the correlations between the Conners-3 scales assessing hyperactivity/impulsivity and the BASC-2 Hyperactivity Scale were moderate to strong ranged from 0.46 to 0.90 ($p<0.5$) (Conners, 2008). In addition, the correlations between the Conners-3 scale assessing Aggression and the BASC-2 Aggression Scale was ranging high from 0.77 to 0.95 ($p<0.01$) (Conners, 2008). With respect to Conduct Disorder scale, Conners-3 scale was moderately to strongly correlated with the BASC-2 Conduct Problems scale ranging from 0.53 to 0.87 ($p<0.01$) (Conners, 2008). The Conners-3 DSM-IV-TR Oppositional Defiant Disorder Scale was strongly correlated to BASC-2 Anger Control Scale ranging from 0.63 to 0.78 ($p<0.01$) (Conners, 2008). According to Learning Problems, the Conners-3-teacher rating scale was moderately to highly correlated with BASC-2 Learning Problems scale ranging from 0.66 to 0.92 ($p<0.01$) (Conners, 2008). Along with Executive Functioning, the Conners-3 parents Executive Functioning scale and the Conners-3 teacher Executive Functioning scale were moderately correlated with BASC-2 Executive Functioning ranging from 0.50 to 0.68 and 0.43 to 0.62 ($p<0.01$) (Conners, 2008). Furthermore, the Conners-3 Peer Relations scale was moderately correlate with the BASC-2

Social Skills scale ranging from -0.35 to -0.57, ($p<0.05$) while the Conners-3 Family Relations scale was moderately correlated with the BASC-2 Relation with Parents scale -0.56 ($p<0.01$) (Conners, 20080.

Conners-3 and the ASEBA

ASEBA assesses a variety of competencies and problems in children. Conners-3 scale assessing inattention was very highly correlated the ASEBA Attention Problems scale ranging from 0.73 to 0.96 ($p<0.01$) (Conners, 2008). Conners-3 Aggression scale was highly correlated with the ASEBA Aggressive Behavior scale ranging from 0.69 to 0.93 ($p<0.01$) (Conners, 2008). In addition, the Conners-3 Peer Relations scale was highly correlated with the ASEBA Social Problems scale ranging 0.72 to 0.84 ($p<0.01$) (Conners, 2008).

Conners-3 and the BRIEF

BRIEF is an assessment tool that assesses various features of Executive Functioning. According to the Conners-3 Inattention scale, it was moderately to highly correlated with the BRIEF scales related to the Inattention and Executive Functioning scales (Conners, 2008). Besides, the Conners-3 Hyperactivity/ Impulsivity and ADHD Hyperactive- Impulsive scales were strongly correlated with the BRIEF scales related to Impulsivity and Behavior regulation scales (Conners, 2008).

Discriminative Validity of the Conners-3

The discriminant validity refers to the ability of the Conners-3 to differentiate between general population group (a control group without diagnosed attentional problem) and clinical group (e.g. ADHD group) and the ability to differentiate between various clinical groups (Conners, 2008). The clinical groups that were compared to each-others and general population groups are Disruptive Behavior Disorder, Learning Disorders, ADHD Inattentive,

ADHD Hyperactive-Impulsive, and ADHD combined (Conners, 2008). In order to assess the discriminant validity of the Conners-3, analysis covariance (ANCOVAs) (significant differences in scores between relevant groups) and discriminant function analysis (DFAs) (provide information about the ability of scores to predict membership) were conducted.

Discriminant Validity of the Conners-3 Parents Rating scale

According to ANCOVA results, the control variables (i.e. gender and age) had significant effects for most of the analyses (Conners, 2008). In addition, the group membership had significant effect on every scale, so the effect sizes were medium to large (15.8% to 29.9% explained variance) except for the Peer Relations where the effect size was small (5.4% explained variance) (Conners, 2008). According to DFAs results, the control variables (i.e., gender, age, and race/ethnicity) were not significant predictors for most of the analyses (Conners, 2008). All the content scales of the Conners-3 parent rating scales and the DSM-IV-TR Symptom scales were significant predictors for all analyses except for Executive functioning with Learning Disorder as the target group (Conners, 2008).

Discriminant Validity of the Conners-3 Teacher Rating scale

According to ANCOVA results, gender showed to be significant control variable for most of the analyses while age as control variable did not show significant effect for the majority of the analyses (Conners, 2008). In addition, the group membership had significant effect on every scale, so the effect sizes were medium to large (11.6% to 25.3% explained variance) (Conners, 2008). According to DFAs results, the control variables (i.e., gender, age, and race/ethnicity) were not significant predictors for most of the analyses the Conners-3 parent rating scales while the DSM-IV-TR Symptom scales were significant predictors for all analyses (Conners, 2008).

Conclusion

In conclusion, Attention Deficit Hyperactivity Disorder (ADHD) ADHD is used to describe children, adolescents, and adults who are easily distracted, inattentive, over reactive and impulsive in their behavior (Millichap, 2010). It is becoming one of the most commonly diagnosed mental disorder among children and adolescents. ADHD has different causes and up till today there is no single factor that has been identified as the main cause of ADHD. Therefore, ADHD can be result of complex interactions between genetic, neurobiological, and environmental factors (Brock, et al., 2009).

Assessing ADHD is the most important step to ensure a suitable treatment. Using appropriate assessment can aid therapist to identify the presence of symptoms of ADHD and other possible disorders, to develop future intervention plan, and to determine if any comorbid disorder is present (Demaray et al., 2003). There are two types of recommended diagnostic procedures for ADHD: direct assessment techniques and indirect assessment techniques. The direct assessment techniques include psychological and educational testing, behavioral observation, and interviews medical examinations. On the other hand, the indirect assessment techniques include behavior-rating scales. Behavior rating scales are considered one of the most important tools to diagnose ADHD. That is because they are easy to administer and efficient in term of costs and time. Conners-3 rating scale is one of the behavior rating scale that is used to assess ADHD and other behavioral problems in children and adolescents. Conners-3 was developed in the Western countries and is standardized according to their societies. Therefore, it is not standardized for the assessment of children in non-western countries and specifically Lebanon (Sue & Chang, 2003). Absence of availability of the standardized measures with the Lebanese norms will have an impact on choosing a suitable assessment tool, making appropriate diagnosis, offering the proper recommendations for the

intervention, and finally evaluating the impact of the intervention. Hence, based on the above-mentioned information it is important to consider implications to develop an assessment tool that used to diagnose ADHD. Accordingly, it is important to adapt and validate an assessment tool, Conners-3 rating scale (specifically Conners-3 teacher rating scale and Conners-3 parent rating scale), to assess ADHD in Lebanon. Consequently, after diagnosis different approaches for ADHD treatment will be practiced such as behavioral therapy, school programing and support, and medication.

Briefly, Conners-3 rating scale is the product of 40 years research. This version provides streamlined content focusing on ADHD and other comorbid disorders such as Disruptive Behavior Disorder and Conduct Disorder. The most recent scale is Conners-3 rating scale. It is a multi-informant assessment of children and adolescents of age 6 to 18 years (Conners, 2008). It is the revision of Conners Rating Scale-Revised. Moreover, Conners-3 rating scale has been updated to provide a new scoring option for the Diagnostic and Statistical Manual of Mental Disorders- fifth edition (DSM-V). The psychometric properties (i.e., reliability and validity) of Conners-3 were thoroughly assessed in a series of reliability and validity studies. The reliability measures of Conners-3 are quite satisfactory. According to validity, it can distinguish between clinical groups of ADHD subtypes and other learning disorders and disruptive behavior (Conners, 2008).

CHAPTER III

METHODOLOGY

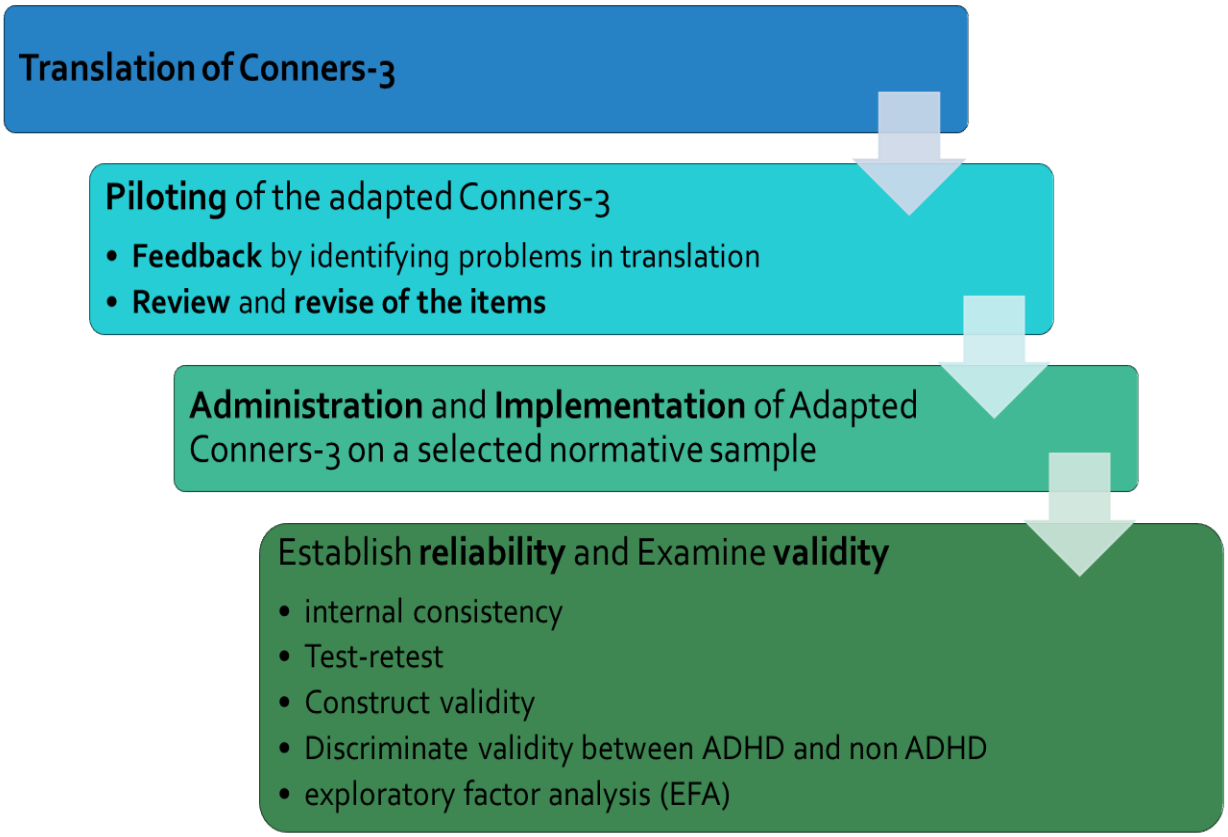
This chapter will represent the methodology and its different phases that were used in this study. In the first section, the research design will be discussed. In the second section, a brief summary of the instrument Conners-3 will be provided. In the third section, a process of test translation and adaptation will be presented. In the fourth section, I will bring forward the normative sample, administration, and scoring procedures will be described in detail. In the last section, a statistical analysis, reliability, and validity estimations will be conducted.

Research Design

The purpose of this study was to adapt and validate the Conners-3 –Teacher Rating Scale and Conners-3 –Parents Rating Scale to the Lebanese context so that it can be used to assess ADHD and other behavior, emotions, academic, and social problems of children aged six to 18 years. In order to make a valid interpretation, reliability and validity were conducted.

This study was done upon multiple stages. The first stage was adaptation and translation of the Conners-3. The next stage involved piloting of the adapted Conners-3 teacher rating scale and parent rating scale and getting feedback from the piloted sample to identify problems in adaptation and translation. The third stage was the administration of the adapted Conners-3 teacher rating scale and parent rating scale on the selected normative sample. The final stage was establishing reliability (internal consistency and test retest) and as well as examining construct and discriminate validity of the Adapted Conners-3 teacher rating scale and parent rating scale, in addition to the reporting of the norms.

Figure 3 Stages of the study



Instrument

Conners' 3rd Edition Rating Scale

Conners-3 is the most recent scale of Conners. It is a multi-informant assessment of children and adolescents of age 6 to 18 years (Conners, 2008). It is also the revision of Conners Rating Scale-revised. Furthermore, Conners-3 has been updated to provide a new scoring option for the Diagnostic and Statistical Manual of Mental Disorders- fifth edition (DSM-V). Hence, Conners-3 has two scoring options DSM-IV-TR and DSM-V (MHS, 2014). Complete details regarding the Conners 3 DSM-5 scoring option are available in Conners-3 DSM-5 supplement (MHS, 2014). Conners-3 is used to serve as a thorough and focused assessment of ADHD and other comorbid disorders (Conners, 2008). In addition, it has different purposes such as making decisions about eligibility for special education, screening

purposes, planning and monitoring treatment intervention, and researching purposes (Conners, 2008). It consists of three different forms such as the parent form, teacher form and child-self report rating form. Both teachers and parents can rate child aged 6 to 18 years while self-report ratings can be accomplished from child aged from 8 to 18 years. Each of the three forms differ in wording of questions and length (parent: 110 items, teacher: 115 items, and self-report: 99 items). Symptoms (items) are rated on 4-point Likert scale severity starting from zero as never not at all, 1 as little, 2 as often and 3 as always/ very frequently. It has two different forms of scoring, so it can be either scored on paper or scored on a computer software. Conners-3 has been updated to provide a new scoring option for the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5) Symptom Scales (MHS, 2014). Its normative sample is representative based on the 2000 U.S. census data (MHS, 2014). The psychometric properties (i.e., reliability and validity) of Conners-3 were thoroughly assessed in a series of reliability and validity studies. The reliability measures of it are quite satisfactory. For parent and teacher rating scales, the internal consistency alpha coefficients are 0.90 and above and 0.85 and above for self-report scale (Conners, 2008). In addition, test-retest reliability over a 2-4 weeks interval is acceptable ranges from 0.82 to 0.98 for parent rating scale, from 0.83 to 0.90 for teacher rating scales and from 0.71 to 0.83 for the self-report rating scale (Conners, 2008). Connrers-3 showed good interrater reliability across informants (parents, teachers, and child) (Conners-3, 2008). According to validity, it can distinguish between clinical gropes of ADHD subtypes and other learning disorders and disruptive behavior (Conners, 2008). Construct validity of Conners-3 is moderate by comparing across informants. Three different instruments were used for convergent validity: The Behavior Assessment System for Children, 2nd edition BASC II, the Achenbach System of Empirically Based Assessment (ASEBA), and the Behavior Rating Inventory of Executive

Functions (BRIEF) (Conners, 2008). Conners-3 showed a reasonable evidence of Convergent validity (Conners, 2008).

Adaptation and Translation of the Conners-3

Adaptation of the Conners-3- Teacher Rating Scale and Conners-3- Parent Rating Scale was based on latest edition of International Test Commission Guidelines for Translating and Adapting Tests (2016). According to ITC guidelines and specifically test development guidelines (2016), the translation and adaptation process takes into consideration the linguistic, cultural, and psychological differences among the populations for whom adapted versions of the test or instrument are intended through the choice of translators with relevant expertise. Therefore, the translators should have qualifications beyond knowledge of the two languages (International Test Commission [ITC], 2016). They should have the knowledge of cultures, subject matter, general principles of testing, and test construction (International Test Commission [ITC], 2016). The second guideline is to "use appropriate judgmental designs and procedures to maximize the suitability of the test adaptation in the intended population" (International Test Commission [ITC], 2016, p.12). There are two forms of judgmental design forward translations and backward translations. Backward translation is the most popular. A test will be translated from source language to the target language and then it is translated back to the source language by another translator (Hambelton, 2001). This design has been used by many researchers who adapted the teacher, parent, and self-report forms of Conners Rating scale to other language (Pal et al., 1999; Gau, Soong, Chiu, & Tsai, 2006; Dereboy et al., 2007; Kaner, Büyüköztürk & Iseri, 2013; Christiansen et al., 2016; Thorell et al., 2018). Forward translation is to translate from source language to target language, and then equivalence judged (Hambelton, 2001). There are three approaches to establish test and item linguistic equivalence: bilingual examinees take source and target versions of the test, source

language monolinguals take source language, and target-language monolinguals take target language, and source language monolinguals take original and back translated test (Hambelton, 2001). The fourth guideline is that the test construction and item content have similar meaning for the intended population, which means the test translators should have knowledge of test construction and the culture of the target population (International Test Commission [ITC], 2016). Another guideline for test construction is to "provide evidence that the item formats, rating scales, scoring categories, test conventions, modes of administration, and other procedures are suitable for all intended populations" (International Test Commission [ITC], 2016, p. 15). The last guideline is to "collect pilot data on the adapted test to enable item analysis, reliability assessment and small-scale validity studies so that any necessary revisions to the adapted test can be made" (International Test Commission [ITC], 2016, p.16). Hence, before initiating large-scale test scores reliability, validity, and norming studies, it is important to confirm its psychometric quality.

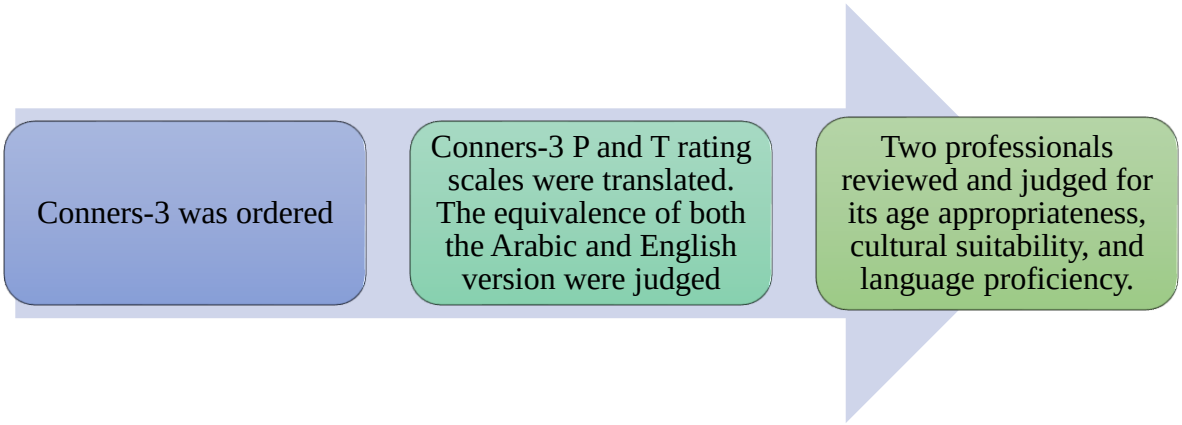
As a first step, the original Conners-3-teacher rating scale and Conners-3 parents rating scale were ordered (Appendix C). In addition, adapting permission was taken from the publisher Multi-Health Systems (MHS) (Appendix D). The second step was adapting the Conners-3-teacher rating scale and Conners-3 parent rating scale by two educational psychologists. Adapting the Conners-3-teacher rating scale and parent rating scale is important in order to have a rating scale that suits the culture and the linguistic characteristics of the assessed child/student. Moreover, adaptation of Conners-3 teacher rating scale and parent rating scale will produce a test or instrument with comparable psychometric qualities as the original.

The second step involved translating Conners-3-teacher rating scale and Conners-3 parent rating scale. The forward/backward translation procedure was used. The translators

were native speakers of the target language (Arabic) and knowledgeable of the source language (English) and the Lebanese culture. First, two professional translators forward translated the Conners-3 parent rating scale and teacher rating scale according to the guidelines of the International Test Commission from the original to the target language (Arabic). Then, the third professional translator back translated the forms to the original language (English). These forms were reviewed by two educational psychologists in order to ensure age appropriateness, cultural suitability, and language adequacy. The first educational psychologist is an AUB professor who is holder of a PhD in Educational Psychology tests and measurement. The second educational psychologist is a PhD candidate in Educational Science and MA in Educational Psychology tests and measurement. She has been practicing psychoeducational assessment and therapy in her private clinic for almost fourteen years. Hence, both versions (Original Conners-3 and the back-translated version) were compared and the back-translation process was repeated until the back-translated Conners-3 was satisfactorily similar to the original version. Finally, this version was ready to be used in pilot testing.

Before the study was conducted, the Institutional Review Board (IRB) of the AUB approved this study prior to multistage of the sampling (pilot sample and study sample) in April 2018.

Figure 4 Adaptation and translation of Conners-3



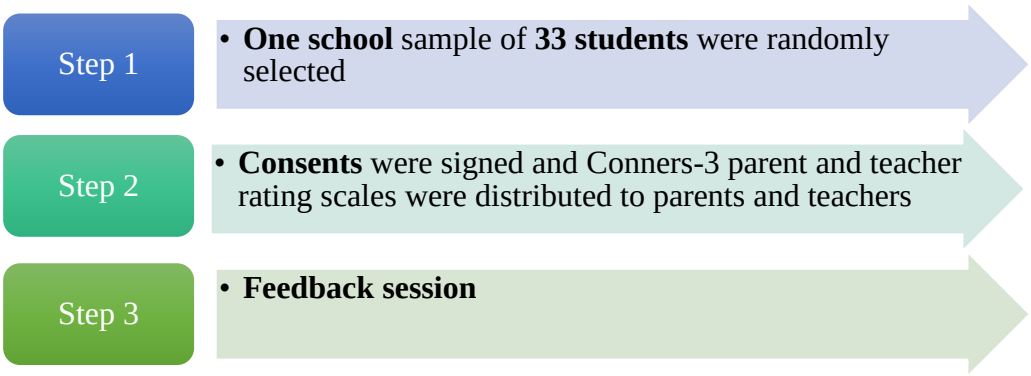
Pilot Study

The third step involved pilot testing the adapted Conners-3-teacher rating scale and parent rating scale to insure its adequacy of the adaptation in terms of reliability, accuracy, and practicality before going on the validation process (Hambleton, 2001). According to ITC guidelines, it is recommended that adapted tests should be pilot-tested before being field-tested on a larger sample (International Test Commission [ITC], 2016). The purpose of pilot study was to identify probable problems in translation such as words that are difficult to understand or are confusing. Therefore, these words can be changed without changing their meaning. In other words, any issues that were not resolved by translators can be then identified and clarified through pilot testing. All studies that adapted Conners rating scale and other tools to other languages followed the step of pilot testing (Pal et al., 1990; Dereboy et al., 2007). Usually, pilot samples are made up of at least 14 participants who will represent the field-tested sample in terms of socioeconomic characteristics (gender, age, language, education…) (Van de Vijver & Poortinga, 2002).

The pilot study was done in one of the nine schools that were randomly selected. The sample was made up of n=33 students from grade levels 1 to 12. They were categorized according to four age level groups: 6-8 years, 9-11 years, 12-14 years, and 15-17/18 years.

Thus, 33 parents participated. From grade 1 to grade 3, n=2 students were randomly selected from each grade level, so the total number was six students. For each grade level from grade 1 to grade 3, one teacher filled the rating scale. From grade 4 to grade12, n=3 students were randomly selected from each grade level, so the total number was 27 students. For each grade level from grade 4 to 12, three teachers filled the rating scale (Arabic, English, and Math). Hence, the total number of teachers was n=30. There were several steps in gathering the participants in the pilot study. The school was first contacted to set up a meeting. First visit was to meet the school principal and provide him/her with an overview of the study (purpose, focus, duration, and procedures). School principal was informed that his/her school might be used for the study. S/he was asked to sign the consent form once s/he agreed to participate. Consent and a document that represents explicit directions as described in Conners-3 manual were sent to the parents. Then, teachers were asked to sign the consent form. The volunteered sample of primary and secondary teachers and parents were asked to complete the adapted Conners-3 teacher rating scale and Conners-3 parent rating scale and to think aloud to the researcher about the meaning of each item. Later, parents and teachers were requested to provide any remarks or feedback about the test (language, age appropriateness…) through structured interviews (Questions see Appendix E). Unfortunately, we were not able to meet all parents, so these questions were sent to some to give us their feedback. This process leads to the formation of adapted version of Conners-3 teacher and parent rating scales. (see Appendix F)

Figure 5 Pilot Study



Sampling Procedure and Sample

According to the International Test Commission [ITC] guidelines (2016), the sample used for test validation and norming is recommended to be of adequate size and to be representative. Thus, the sample should be representative of the group for which the test is proposed in terms of gender, age, background, and experience (Hambleton, Merenda, & Spielberger, 2005; 2004). The list of schools that are located in Greater Beirut area was obtained from the Center of Educational research and Development (CERD). This list was used as sampling reference to identify the public and private schools in Greater Beirut. According to the Center of Educational Research and Development (CERD) (2018), the percentage of public schools in Beirut is 32% and the percentage of the private schools in Beirut is 57%. Therefore, the ratio of school selection was 2/3 private schools and 1/3 public schools. The sampling method that was used for this study is cluster sampling. Thus, we identified and prepared a list of all schools that enroll all grade levels from grade one to grade 12. Cluster sampling is the most convenient and practical method to be used for this study because it is a selection of naturally occurring groups with similar characteristics. In other words, cluster sampling is a technique where the entire population is divided into clusters (groups) after that a random sample of these clusters (groups) is selected. Initially, four private schools and two public schools were randomly selected from the three educational

districts in Greater Beirut. After noticing that some parents and teachers were not cooperative, additional schools had to be factored in. One public school and two private schools were randomly selected in order to increase the sample size. Therefore, six private schools and three public schools were randomly selected from the three educational districts in Greater Beirut. The sampling procedure was applied equally across the nine schools, resulting in 96 in total. A list of students of each grade level (12 different grade levels- from grade 1 to grade 12) was acquired from each school. Eight students of both gender (4 males and 4 females) were randomly selected from each grade. These groups were categorized according to four age level groups: 6-8 years, 9-11 years, 12-14 years, and 15-17/18 years. The sample was made up of 576 students (576 parents and 108 teachers[1] participated in this study by responding to the adapted Conners-3 parent and teacher rating scales) registered in private and public schools. Unfortunately, the sample size declined into only 455 students rated by their parents (majority of parents' responses were provided by mothers) by responding on the adapted Conners-3 parent rating scale and 509 students rated by their teachers (majority of teachers were females) by responding on the adapted Conners-3 teacher rating scale. The students who were rated by their parents are the same students who were rated by their teachers. The difference in number was because not all parents accepted to rate their children. Two things were taken into consideration: one that teachers and parents who filled adapted Conners-3 teacher rating scale and adapted Conners-3 parent rating scale should know Arabic language (reading, writing, and understanding) and two that teachers knew the students well and are very familiar with them. Tables 3 and 4 present the students' sample by parents and teachers were responses broken down by age and gender. Also, table 5 presents frequencies

[1] One teacher for each grade level participated in this study. Consequently, the total number of teachers was n=12 from each school and the total number of teachers of all schools was n=108.

(f) and percentages (%) of student by parent and teachers' responses on the adapted Conners-3 parent and teacher rating scales broken down by gender in public and private schools.

Table 3

Frequencies (f) and percentages (%) of student by parents' responses on the adapted Conners-3 parent rating scale broken down by age and gender.

Age	Gender				Total	
	Females		Males			
	F	%	F	%	F	%
6-8 years	57	25	62	27.3	119	26.2
9-11 years	81	35.5	70	30.8	151	33.2
12-14 years	46	20.2	58	25.6	104	22.9
15-17/18 years	44	19.3	37	16.3	81	17.8
Total	228	100	227	100	455	100

Table 4

Frequencies (f) and percentages (%) of student by teachers' responses on the adapted Conners-3 teacher rating scale broken down by age and gender

Age	Gender				Total	
	Females		Males			
	F	%	F	%	F	%
6-8 years	74	30	90	34.4	164	30.6
9-11 years	80	32.4	89	34.0	169	32.8
12-14 years	60	24.3	54	20.6	114	23.7
15-17/18 years	33	13.4	29	11.1	62	12.9
Total	247	100	262	100	509	100

Table 5

Frequencies (f) and percentages (%) of student by parents and teachers' responses on the adapted Conners-3 parent and teacher rating scales broken down by gender in public and private schools

	Parents		Teachers	
	Females	Males	Females	Males
	F (%)	F (%)	F (%)	F (%)
School A*	35 (19.6%)	45 (25.1%)	36 (16.9%)	49 (23%)
School B*	35 (19.6%)	34 (19%)	38 (17.8%)	36 (16.9%)
School C*	15 (8.4%)	15 (8.4%)	30 (14 %)	24 (11.3%)
Total (public schools)	85 (47.5%)	94 (52.5%)	104 (48.8%)	109 (51.2%)
Overall total (public schools)	179 (39.3%)		213 (41.8%)	
School D**	17 (6.2%)	22(8%)	27 (9.1%)	32 (10.8%)
School E**	35 (12.7%)	29 (10.5%)	20 (6.8%)	32 (10.8%)
School F**	25 (9%)	20 (7.2%)	15 (5.1%)	15 (5.1%)
School G**	24 (8.7%)	21 (7.6%)	38 (12.8%)	33 (11.1%)
School H**	6 (2.2%)	4 (1.4%)	13 (4.4%)	15 (5.1%)
School I**	37 (13.4%)	36 (13%)	30 (10.1%)	26 (8.8%)
Total (private schools)	144 (52.2%)	132 (47.8%)	143 (48.3%)	153 (51.7%)
Overall total (private schools)	276 (60.7%)		296 (58.2%)	
Overall public and private	455 (100%)		509 (100%)	

*Public school
**Private school

Administration or Implementation

Administering Conners-3 rating scale requires several steps. From handing the forms to the raters, explaining the instructions, answering questions about the instructions to collecting the forms, and verifying their completion.

Before implementing the study, a prior step should be done which is to prepare principal, teacher, and parental consent (agreement) forms. These forms are based on Institutional Research Board (IRB) standards. Implementing this study was done in three phases. First, schools from different areas in greater Beirut that were selected for standardization were contacted in order to participate. Then, letters were sent to the selected schools requesting their cooperation and providing them with a brief description of the purpose of the study (See Appendix G and H).

In phase I, one to two visits to the selected nine schools were planned. The purpose of the first visit was to meet the school principals or directors of the nine schools and to provide them with an overview of the study (purpose, focus, duration, and procedures). School principals were informed that their school might be used for the study. They were asked to sign the consent form once they agreed to participate.

During phase II, two to three visits to the selected nine schools were planned:

- After the consent was signed by the principal, a list of students from each grade level (12 different grade levels- from grade 1 to grade 12) was acquired from each school so eight students of both gender (4 males and 4 females) were randomly selected from each grade. Then, consents were sent to the parents of the randomly selected sample based on each school's procedure. They were asked to sign the consent. Students were asked to return the signed consent back in order to know who accepted to participate in this study.
- During the first visit to each of the nine schools, the researcher collected the parental consents and the teacher consents. In public schools, a meeting with teachers and parents was scheduled in order to explain the purpose of the study, to ask for their cooperation, and to explain and instruct them in how to fill in Adapted Conners-3-teacher and parent rating scales. Besides, confidentially issues were discussed. On the other hand, in the private school, a meeting was held either with one of the coordinators or with the supervisor. According to International Test Commission (ITC), test developers/publishers should "provide evidence that the item formats, rating scales, scoring categories, test conventions, modes of administration, and other procedures are suitable for all intended populations" (International Test Commission [ITC], 2016, p. 15).Therefore,

explicit direction as described in Conners-3 manual should be provided to the teachers. In addition, teachers and parents were asked to complete the adapted Conners-3 teacher and parent rating scales in one setting based on their observations and data collection of the student's behavior and actions over the past months. After one week, the completed rating scales were collected and put in separate files relative to each school and grade level.

Phase III was validation phase. During this phase, two visits were done to one of the nine schools were randomly selected for the validation of Conners-3 parent and teacher rating scales.

- After two to three weeks from administration of the adapted Conners-3 parents rating scale and teachers rating scale, a visit to one of the nine schools was done. The purpose of this visit was to re-administer the adapted Conners-3 teacher and parent rating scales for test-retest reliability. The sample was made up of 36 students who were randomly selected to target three students from each grade level (grade 1 through grade 12). These students were already participated in the study before. Thus, 36 parents and one teacher for each grade level participated in this phase of the study. Thus, the total number of parents was n=36 while the total number of teachers was n=12. Hence, parents and teachers of this sample were given the Conners-3 teacher and parent rating scales to refill them.
- The second visit was to collect the adapted Conners-3 teacher and parents rating scales from teachers and parents and put them in separate files relative to the school and grade level.

Scoring Procedures

Scoring of the adapted Conners-3 parent and teacher rating scales was according to the guidelines in the manual. The scoring scale of the Conners-3- teacher rating scale is made up of 4-point Likert scale ranging from zero to three. Zero represents as never, 1 as little, 2 as often and 3 as always. If one of the items was not answered (omitted), the score was adjusted by using formula in the manual[2] (Conners, 2008). Raw score can be prorated by using this formula, so the obtained raw score was multiplied by the total number of items on scale, and then divided by the total number of items on scale with responses. As an example, suppose a rater obtained a raw score of 10, but s/he answered only 5 out of 6 items on a specific subscale. Thus, the score can be computed by multiplying the obtained raw score (10) by the number of items (6) (10×6=60), and then divided by the total number of items on scale with responses (5) (60÷5=12) (Conners, 2008). Hence, the prorated score is 12 by taking into account the missing items.

Data Analysis Procedure and Assumptions

In order to investigate validity and reliability of Conners-3, the following data analysis procedures were followed. Besides, definitions of psychometric terminologies test reliability and validity will be introduced. With respect to reliability:

Reliability of the of the Adapted Conners-3-teacher and parent rating scales was obtained in terms of test-retest and internal consistency, reliability coefficients. Reliability coefficients were calculated in order to determine the stability and consistency of the adapted scales.

- Test-retest reliability is consistency of test scores across different administrations, same individuals, and same test (Gall, Gall, & Borge, 2014).

[2] $Prorated\ score = \frac{(obtained\ raw\ score\ for\ scale)\times(Total\#\ of\ items\ on\ scale)}{Total\ \#\ of\ items\ on\ scale\ with\ tresponses}$

Therefore, Adapted Conners-3 teacher and parent rating scales were re-administered over two to three weeks interval by correlating teachers and parents' responses of 36 students (3 students from each grade level). It was accomplished by computing the test-retest reliability coefficient, which is Pearson product moment correlation. We received 29 responses of Conners-3 parent rating scale and 26 responses of teacher rating scale. The number of respondents was less than the expected number because not all parents and teachers returned them back for the retesting.

- Internal Consistency is used to assess the consistency of results across items within a test and it is measured by Cronbach α (Gall, Gall, & Borge, 2014). Thus, it represents the interval quality of test items and the reliability of the responses. Cronbach alpha was calculated for the each of the thirteen subscales and for the total scale of the Adapted Conners-3-teacher rating scale and for the each of the fourteen subscales and for the total scale of the Adapted Conners-3-parent rating scale. Additionally, an index of scale internal consistency and coherence of the whole scale were reported.

- Content validity includes both item validity and test validity. Item validity is recognized if each item measures the intended content. Moreover, test validity is established if the test, as a whole, samples adequately the intended content area. Through the process of translation of Conners-3 teacher and parent rating scales, no substitutional changes were made and only one item in the Conners-3 parent rating scale (item 11) and one item in the Conners-3 teacher rating scale (item 33) were eliminated. Accordingly, content validity can be presumed to be established since content validity was already established in the original Conners-3 and very minor

changes were done (Conners, 2008). Hence, eliminating one item out of 115 items of Conners-3 teacher rating scale and one item out of 110 items of Conners-3 parent rating scale will not affect its content validity.

Construct validity of the Adapted Conners-3-teacher and parent-rating scales was examined through the following steps:

- The construct that was measured in this study is ADHD. In order to establish construct validity, ADHD across age and ADHD across gender were investigated based on parents and teachers' rating scales of the adapted Conners-3. It is hypothesized that ADHD is more frequent in males than females and ADHD decreases with age (American Psychiatric Association [APA], 2013). Therefore, two-way ANOVAS were performed to show the interaction between these two factors ADHD and gender and ADHD and age.
- Another evidence for construct validity is to determine validity of the adapted Conners-3 teacher and parent rating scales. This was done by studying its ability to distinguish between a clinic-referred ADHD group and another non-ADHD group. According to Barkley (2014), before considering any rating scale for the use with ADHD cases, it is important to show that it is be able to distinguish between ADHD groups from non-ADHD group. Consequently, in order to investigate the discriminant validity of adapted Conners-3 teacher and parent rating scales two groups were selected. The first group was the clinical group that was made up of 17 children referred because they showed symptoms of hyperactivity, inattention, and/or impulsivity. This clinical sample was randomly selected from clinic of a child psychiatrist at one of the medical institutions (clinic). they were diagnosed by a multidisciplinary team (psychiatrist,

psychologist, …) based on a clinical interview (interviews, blood test, rating scales, and behavioral observation). It is to be noted that these children have not started their therapy. The second group was the control group-non-ADHD and was made up of 17 children who were randomly selected from one of the selected schools. The control sample (non-ADHD group) matched ADHD sample on the bases of gender and age. Then, t-test was calculated to compare the means of the two groups, clinical and control.

- Factorial structure and specifically exploratory factor analysis (EFA) was done to the Adapted Conners-3-teacher and parent rating scales. This would examine if the factor structure of the original Conners-3 -teacher and parent rating scales were replicated on the Lebanese sample.

Norms were reported for the sample in the form of percentile rank and T-scores for each age group and by gender. First, raw score was obtained for the Adapted Conners-3 teacher rating scale subscales: (1) inattention (10 items), (2) hyperactivity and impulsivity (18 items), (3) learning problems and executive functioning (16 items), (4) learning problems (subscale) (6 items), (5) executive functioning (subscale) (7 items), (6) aggression (18 items), and (7) peer/family relation (7 items). Furthermore, raw score was also obtained for the Adapted Conners-3 parent rating scale subscales: (1) inattention (10 items), (2) hyperactivity and impulsivity (14 items), (3) learning problems (9 items), (4) executive functioning (9 items), (5) aggression (14 items), and (6) peer/family relation (6 items). Then, to provide norms, these raw scores were converted to percentile ranks by gender (male and female) and age (four age groups) for the thirteen subscales of the adapted Coners-3 teacher rating scale and fourteen subscales of the adapted Conners-3 parents rating scale. In addition, T-scores (standard scores) were calculated. Therefore, t-scores were calculated from the raw scores so

that each scale will have the same X-50 and SD=10. T-scores enhance the comparison of each obtained score to the same reference value and allow comparison of subscale score.

Conclusion

The procedure of this study is adaptation and validation of Conners-3 teacher and parent rating scales. First, two professional translators forward translated the Conners-3 parent rating scale and teacher rating scale according to the guidelines of the International Test Commission from the original to the target language (Arabic). Then, the third professional translator back translated the forms to the original language (English). These forms were reviewed by two educational psychologists in order to have age appropriateness, cultural suitability, and language adequacy. After that, both Conners-3 teachers and parents rating scale were pilot tested on 33 students (from grade 1 to grade 12) in one of a randomly selected school to insure its adequacy before going on the validation process. Later, the adapted Conners-3 parent and teacher rating scales were given to the parents and teachers of students from grade 1 to grade 12 that were selected randomly from six private schools and three public schools in Greater Beirut, Lebanon. Hence, 455 parents and 509 teachers participated in this study by responding to the adapted Conners-3 parent and teacher rating scales. After two to three weeks, re-administration of the adapted Conners-3 teacher rating scale and adapted Conners-3 parent rating scale was done for test-retest reliability purposes. The sample was supposed to be made up of 36 students that were randomly selected to target three students from each grade level (grade 1 through grade 12). These students already participated in the study before. We received only 29 responses of the adapted Conners-3 parent rating scale and 26 responses of the adapted Conners-3 teacher rating scale.

Moreover, statistical analysis was done in order to investigate the construct validity. Reliability of the of the Adapted Conners-3-teacher rating scale and parent rating scale was

examined in terms of test-retest reliability and internal consistency across forms, testing situations, and samples of items to the degree. Thus, reliability coefficient was calculated in order to determine if the stability and consistency of the adapted scale remained. Factorial structure and specifically exploratory factor analysis (EFA) was done to the Adapted Conners-3-teacher rating scale and parent rating scale. This would examine if the factor structure of the original Conners-3 teacher rating scale and parent rating scale were replicated on the Lebanese sample. Moreover, the collection of norms was reported for the sample in the form of percentile rank and T-scores for each age group and by gender.

CHAPTER IV

RESULTS

This chapter tackles the results of this study, so it is going to present the data obtained on the normative sample and the psychometric properties of the adapted Arabic Conners-3 parent rating scale and Conners-3 teacher rating scale. The results conducted on the final sample of parent rating scale sample consisted of 455 students rated by their parents, while the teacher rating scale sample consisted of 509 students rated by their teachers. The investigated reliability of the adapted Arabic Conners-3 teacher rating scale and adapted Arabic Conners-3 parent rating scale (internal consistency and test retest reliability) is presented. In addition, the construct (ADHD across age and ADHD across gender), discriminant validity and the explored Exploratory Factor Analysis is reported. A brief description of the developed norms is provided.

Adaptation of Conners-3 parent and teacher rating scales

The Conners-3 teacher and parent rating scales were professionally forward translated by two specialized and trusted translators according to the guidelines of the International Test Commission, then a third professional translator back translated the forms. Later, the Conners-3 teacher and parent rating scales were reviewed, and adaptations were done by two educational psychologists in order to have cultural suitability, age appropriacy, and language adequacy. Hence, they evaluated how accurately each item measured the proposed specification and suggested modifications. As an example, item 11 in the parent's form and item 33 in the teacher's form, "has forced someone into sexual activity", were removed as the aforementioned issue is not commonly found in among the Lebanese culture.

Since most of the concepts assessed in the adapted Conners-3 teacher and parent rating scales were cross-culturally relevant, none of the items were changed completely.

Pilot Study

After adaption and translation were done, the A-Conners-3 teacher and parent rating scales were piloted to check for stability. The pilot study was done in one of the nine schools on a randomly selected volunteered small sample of n=33 students from grade 1 to grade 12. Thus, the total number of parents were n=33 while the total number of teachers were n=30. After completing the A-Conners-3 teacher and parent rating scales, parents and teachers were requested to provide any remarks or feedback about the test (language, age appropriateness…) through structured interviews (Appendix E). This step held a lot of importance as it reviewed any error in wording. The importance of this step is that in case of problematic wording, so parents and teachers were asked to comment and suggest alternative formulations to the wording (Verne, Bailly & Rouillat, 2015).

Based on parents' interviews, most of the parents mentioned that the A-Conners-3 parent rating scale is clear and beneficial. One of the parents demonstrated that some items such as item 26 ("يستخدم سلاح (مثلاً: عصى – حجر– قنينة مكسورة – سكين – سلاح ناري") might not be observed for child (6- 8 years old). On the other hand, a parent of a girl in the upper grade level (grade 12) mentioned that some of the items such as item 41 (" يصعب تحفيزه (حتى من خلال حوافز محببة") and item 44 (" يتحرك دائماً") may not applicable for a 17 years old teenager. Other parents mentioned that there is replication of similar items such as item 97 ("يتحرك دائماً") and item 98 ("كثيرالحركة لا يهدأ (يتململ أو يضجر)").

Furthermore, teachers were also interviewed, and different comments were presented from their behalf. Same as for the A-Conners-3 parent rating scale most of the teachers mentioned that the A-Conners-3 teacher rating scale provided a vivid and valuable

explanation of different student behavior. Six of the teachers demonstrated that item 14 (“يستخدم سلاح (مثلاً: عصى – حجر–قنينة مكسورة – سكين –سلاح ناري)”) and specifically the gun part “ سلاح ناري” might not be observed in our culture for young children. One of the grade one teachers revealed that item 60 (“يتعمد إشعال حريق (نار) لكي يسبب الأذى”) and item 67 (“يقع في مشاكل مع الشرطة”) is also a culturally not visible among our culture. In addition, they stated that item 21 (“ يتصرف بقسوة مع الحيوانات”), item 27 (“يسرق أثناء" مواجهة شخص (مثلاً: خداع، سرقة محفظة، سرقة مسلحة)), and item 89 (“سبق أن حطّم أو إقتحم منزل شخص ما أو سيارة أحدهم”) might not be observed at school or up to the knowledge of the teachers. One of the teachers mentioned that some items are replicated such as items 4 and 7 (“يتحرك ويتململ في مكانه أو في مقعده” and “كثيرالحركة لا يهدأ (يتململ أو يضجر)”), items 25 and 36 (“يقترف أخطاء”, and “لا يلتفت للتفاصيل، يقترف أخطاء بدون إنتباه”), and items 96 and 99 (“ يعاني من صعوبة في التركيز” and “لا ينتبه أو يركز، ويُسهل تشتت انتباهه”). Therefore, it was clarified to them that in case they did not observe the behavior they should score it with zero. Moreover, it was explained to them that each subscale is represented by several items and for this reason some items have the same meaning.

In a conclusion, based on parents and teachers’ interviews, the adapted Conners-3 teacher and parent rating scales are vivid and there is no need to change or modify any of the scales’ items.

Reliability

Reliability of test is based on the extent to which this test is free of measurement error. In order to validate the Adapted Conners-3 parent rating scale and Conners-3 teacher rating scale, two types of reliability checks were used: internal consistency reliability and test-retest correlation.

Internal Consistency Reliability

Internal consistency reliability refers to degree to which all items of a particular scale consistently measures the same construct. Therefore, quantitative data was collected through computing the internal reliability coefficient Cronbach's alpha coefficient for each of the subscales and for the total scale of the adapted Conners-3 teacher and parent rating scales. The internal reliability of the total scale of the adapted Conners-3 parent rating was r=0.95, on the other hand, the adapted Conners-3 teacher rating was r=0.96. The reliability coefficients of different subscales of the adapted Conners-3 parent rating scale (Conner-3 content scales and DSM-IV-TR symptom scales) were high ranging between r=0.72 and r=0.93 except for the aggression r=0.60, peer relationship r=0.61, Conners-3 AI ADHD Index r=0.35, DSM-IV-TR-Conduct Disorder r=0.51 and emotional liability subscale r=0.52. Moreover, the reliability coefficients of different subscales of the adapted Conners-3 teacher rating scale (Conner-3 content scales and DSM-IV-TR symptom scales) were adequately moderate to high ranging between r=0.70 and r=0.97. Descriptive statistics and internal reliability coefficients for the adapted Conners-3 parent rating scale and Conners-3 teacher rating scale and subscales are stated in tables 6 and 7.

Table 6

Mean (M), Standard Deviation (SD) and Coefficient Alpha for the Adapted Arabic Conners-3 parent rating scale and its subscales

Subscale	M	SD	Cronbach Alfa (α)
Conners-3 P	10.06	0.92	0.95
Inattention	7.83	0.85	0.88
Hyperactivity/impulsivity	13.70	0.97	0.93
Learning Problems	5.71	0.88	0.79
Executive Functioning	6.09	0.83	0.83
Aggression	5.08	0.78	0.60
Peer Relation	3.54	0.88	0.61
Conners-3 AI ADHD Index	48.51	1.04	0.35
DSM-IV-TR-ADHD- Inattentive	7.34	0.84	0.86
DSM-IV-TR- ADHD-Hyperactive- Impulsive	10.89	0.99	0.86
DSM-IV-TR-Conduct Disorder	2.69	0.75	0.51
DSM-IV-TR-Oppositional Defiant Disorder	5.58	0.80	0.75
Conners-3 GI Total	8.51	0.90	0.84
Restless- Impulsive	5.28	1.33	0.72
Emotional Liability	3.21	1.02	0.52

Table 7

Mean (M), Standard Deviation (SD) and Coefficient Alpha for the Adapted Arabic Conners-3 teacher rating scale and its subscales

Subscale	M	SD	Cronbach Alfa (α)
Conners-3 T	14.56	1.12	0.96
Inattention	12.28	1.13	0.92
Hyperactivity/Impulsivity	21.32	1.16	0.97
Learning problems/ Executive Functioning	19.22	1.03	0.74
Aggression	13.36	1.02	0.89
Peer Relation	5.98	1.02	0.70
Conners-3 AI (ADHD Index)	56.90	1.04	0.92
DSM-IV-TR-ADHD- Inattentive	11.75	1.10	0.91
DSM-IV-TR- ADHD- Hyperactive- Impulsive	13.03	1.07	0.89
DSM-IV-TR-Conduct Disorder	5.97	0.97	0.71
DSM-IV-TR-Oppositional Defiant Disorder	7.31	1.10	0.70
Conners-3 GI Total	11.93	1.12	0.74
Restless- Impulsive	6.35	1.31	0.72
Emotional Liability	3.87	1.31	0.71

Test-Retest Reliability

Test-Retest reliability was done to test the stability of the Adapted Arabic Conners-3 parent rating scale and Conners-3 teacher rating scale over time. After collecting quantitative data, the stability of the Adapted Arabic Conners-3 parent and teacher rating scales were investigated over two to three weeks test retest interval on a sample of 36 participants. Unfortunately, we received 29 responses of Conners-3 parent rating scale and 26 responses of teacher rating scale. The number of respondents were less than the expected number because not all parents and teachers returned the rating scales back the second time. The test-retest reliability of the total scale of the adapted Conners-3 parent rating was α=0.89 and of the adapted Conners-3 teacher rating was α=0.94. Both test-retest reliability coefficients of both adapted Conners-3 parent and teacher rating scales were high. The test-retest reliability of the different subscales of the Adapted Conners-3 parent rating scale were moderate to high

ranging between α=0.72 and α=0.97. In addition, the test-retest reliability of the different subscales of Adapted Conners-3 teacher rating scale were moderate to high ranging between α=0.66 and α=0.96. The results showed that all subscales had high test-retest reliability coefficients except for the Conners-3 GI Total and emotional lability subscales were good. Table 8 reveals the test-retest correlation coefficients (Pearson product moment correlation coefficient) of A-Conners-3 parent rating scale and A-Conners-3 teacher rating scale.

Table 8

Test-Retest Reliability Coefficient A-Conners-3 parent rating scale and A-Conners-3 parent rating scale and its subscales (2-3 weeks interval)

Subscale	α	α
	Conners-3 P	Conners-3 T
Scale	0.89	0.94
Inattention	0.77	0.94
Hyperactivity/impulsivity	0.77	0.95
Learning problems/ Executive Functioning (Conners-3 T)	-	0.96
Learning Problems (Conners-3 P)	0.73	-
Executive Functioning (Conners-3 P)	0.83	-
Aggression	0.85	0.85
Peer Relation	0.82	0.92
Conners-3 AI ADHD Index	0.89	0.77
DSM-IV-TR-ADHD- Inattentive	0.91	0.95
DSM-IV-TR- ADHD-Hyperactive- Impulsive	0.97	0.75
DSM-IV-TR-Conduct Disorder	0.85	0.81
DSM-IV-TR-Oppositional Defiant Disorder	0.88	0.86
Conners-3 GI Total	0.72	0.66
Restless- Impulsive	0.77	0.90
Emotional Lability	0.78	0.66

Validity

Construct validity of the Adapted Conners-3-teacher rating scale and Conners-3 parents rating scale were examined through t-test for the clinic-referred ADHD and non-ADHD groups. Besides, two-way ANOVAS (gender by age) were done to investigate whether age and gender differences exist. Exploratory factor analyses on content scale items were conducted to obtain the factor structure for the Lebanese version and to replicate the factor structure of the original American version.

T-test for the Clinic-referred ADHD and Non-ADHD Groups

To confirm the construct validity of the adapted Conners-3 teachers rating scale and Conners-3 parents rating scale, two groups of children were tested a clinic-referred ADHD

group (N=17) and another non-ADHD group (N=17). Thus, t-test analysis was conducted in order to compare the means of the two groups. A series of t-tests revealed that there were significant differences between the two groups, clinical and control. The total scale of adapted Conners-3 parent rating scale was t=15.37 for ADHD group. All the subscales of adapted Conners-3 parent rating scale were significant ranging from zero to .046 except emotional lability subscale (0.152). The total scale of adapted Conners-3 teacher rating scale was t=10.81 for ADHD group. All subscales of adapted Conners-3 teacher rating scale were significant ranging from zero to .05. This indicates that both the adapted Conners-3 teacher and parent rating scales discriminated between both groups. Tables 9 and 10 demonstrate the means, standard deviation and t-test measures of both groups clinical and control on the adapted Conners-3 parent rating scale and Conners-3 teacher rating scale.

Table 9

Mean (M), Standard Deviation (SD) and t-test for the clinical referred ADHD and Non-Clinical Referred Groups of the adapted Conners-3 parent rating scale

	Non-referred group		Referred ADHD group		
Conners-3 P Subscales	M	SD	M	SD	t-test
Inattention	4.44	0.8	17.06	0.9	24.75**
Hyperactivity/impulsivity	24.63	0.9	24.88	0.9	17.15**
Learning Problems	15.81	0.8	14.94	0.7	19.97**
Executive Functioning	2.63	0.6	14.44	0.6	15.51**
Aggression	3.38	0.6	13.65	0.5	7.21**
Peer Relation	2.19	0.7	6.00	0.7	13.51**
Conners-3 AI ADHD Index	37.19	0.6	82.29	0.4	17.32**
DSM-IV-TR-ADHD- Inattentive	4.00	0.6	15.24	0.6	20.40**
DSM-IV-TR- ADHD-Hyperactive- Impulsive	2.75	0.7	18.76	0.6	21.65**
DSM-IV-TR-Conduct Disorder	3.44	0.7	8.69	0.5	5.88**
DSM-IV-TR-Oppositional Defiant Disorder	4.50	0.4	9.65	0.4	14.44**
Conners-3 GI Total	5.56	0.5	17.53	0.5	19.60**
Restless- Impulsive	2.75	0.6	12.33	0.5	13.73*
Emotional Lability	3.44	0.6	2.67	0.6	4.10
Average Score	8.34	0.7	18.44	0.6	15.37

**p<0.01
*p<0.05

Table 10

Mean (M), Standard Deviation (SD) and t-test for the clinical referred ADHD and Non-Clinical Referred Groups of the adapted Conners-3 teacher rating scale

	Non-referred group		Referred ADHD group		
Conners-3 T Subscales	M	SD	M	SD	T
Inattention	17.00	0.9	22.25	0.9	16.98**
Hyperactivity/Impulsivity	24.78	1.2	25.80	1.1	8.50**
Learning problems/ Executive Functioning	27.17	1.0	35.13	0.9	17.20**
Aggression	17.61	1.1	16.20	1.0	6.512**
Peer Relation	8.22	0.9	8.33	0.9	4.85**
Conners-3 AI (ADHD Index)	66.56	0.9	87.13	0.9	37.38**
DSM-IV-TR-ADHD- Inattentive	15.78	1.1	20.67	1.2	15.35**
DSM-IV-TR- ADHD- Hyperactive- Impulsive	15.67	1.1	16.75	1.1	8.55**
DSM-IV-TR-Conduct Disorder	6.93	0.9	4.64	0.9	3.34*
DSM-IV-TR-Oppositional Defiant Disorder	9.28	1.1	9.73	1.1	6.67**
Conners-3 GI Total	12.00	1.0	70.44	1.0	3.77*
Restless- Impulsive	8.25	1.0	2.50	1.0	6.47*
Emotional Lability	5.22	0.9	5.00	0.8	5.00
Average Score	18.04	1.0	25.00	1.0	10.81

**p<0.01
*p<0.05

Age and Gender Effect

Another evidence refers to construct validity, two-way ANOVAS (gender by age) were done in order to investigate whether age and gender differences exist. Details for each of the adapted Conners-3 parent and teacher rating scales subscales are described in this section.

Inattention

For the adapted Conners-3 parent rating scale, there was no significant differences between males and females ($F(1,90)= .873$, $p=.351>.05$) and for the age group ($F(3,41)= 4.087$, $p=.07>.05$) , there was no significant differences between age groups.

As well as, for the adapted Conners-3 teacher rating scale, there was no significant differences between males and females ($F(1, 120)= 2.472$, $p=.117>.05$) and for the age group ($F(3, 31)=1.246$, $p=.292> .05$) there was no significance.

Hyperactivity/impulsivity

For the adapted Conners-3 parent rating scale, there was no significant differences between males and females ($F(1,90)= 3.191$, $p= .075>.05$). No main effect was shown for age groups ($F(3,41)= 4.144$, $p= .07>.05$)) as a result there was no significant difference among age group since all groups scored closely.

In addition, for the adapted Conners-3 teacher rating scale, there was no significant differences between males and females ($F(1, 120)=.609$, $p= .435 >.05$). Also, there was no significant difference among age group ($F (3, 31) =2.032$, $p= .109 > .05$) since all groups scored closely.

Learning problems (A-Conners-3 P)

According to the adapted Conners-3 parent rating scale, there was no significant differences between males and females ($F(1,90)= .214$, $p=.644> .05$). However, age played a role as it was found that it is significant ($F (3,41) = 2.871$, $p=.036 < .05$). It showed that the 12-14 years old scored significantly higher than other age groups.

Executive functioning (A-Conners-3 P)

For the adapted Conners-3 parent rating scale, there was no significant differences between males and females ($F(1, 90)= .301$, $p= .584 >.05$). Also, main effects were found for age group ($F(3, 40)= 5.304$, $p= .001< .05$) therefore multiple comparisons were done and showed that the 15-18 years old scored significantly higher than other age groups.

Learning problems / Executive functioning (A-Conners-3 T)

According to the adapted Conners-3 teacher rating scale, there were no significant differences between males and females (F(1, 120)=1.460, p= .228 > .05). Beside, no main effect was found for age group (F(3,)= 1.510, p= .211 > .05).

Aggression

For the adapted Conners-3 parent rating scale, there was no significant differences between males and females (F(1,90)= 1.399, p= .238 > 0.05). By comparing different age groups, it was demonstrated that there was a significant difference between ages (F(1, 41)= 8.321, p= .000 < 0.05). Multiple comparisons were done and showed that the 6-8 years old scored significantly higher than other age groups.

The adapted Conners-3 teacher rating scale was shown to have significant differences between males and females (F(1, 120)=.322, p=.571>0.05). No main effect was found for age group (F(3, 31)= 2.531, p= .056> .05) so it was not significant.

Peer Relation

For the adapted Conners-3 parent rating scale, there was no significant differences between males and females (F(1, 90)= 2.282 , p=.132> 0,05). It was found that there were no main effects among all age groups (F (3, 41) = 2.330, p=.074> 0,05). Hence, no variation in scores was observed among different age effect.

According to the adapted Conners-3 teacher rating scale, there was no significant differences between males and females (F(1, 120)=3.560, p=.006>.005). Besides, mean scores of age groups on this subscale demonstrated (F(3,)= 2.531, p= .006> .05) that no significant differences among all age groups.

Conners-3 AI (ADHD Index)

For the adapted Conners-3 parent rating scale, there was no significant differences between males and females (F (1, 90) =1.417, p=.235> .05). By comparing means of different age groups, it showed that there was a significant difference (F (3,41) = 4.93, p= .002< .05) so 15-18 years old scored significantly higher than other age groups.

According to the adapted Conners-3 teacher rating scale, there was no significant differences between males and females (F(1, 120)= .095, p=.762>.005). Also, no main effect was found for age group (F(3, 31)= .059, p= > .943).

DSM-IV-TR-ADHD inattentive

For the adapted Conners-3 parent rating scale, there was no significant differences between males and females (F(1, 90)= .270, p= .604 > 0.05) and a main effect was found for the age group (F(3, 41)= 6.880, p= .000< .05) as a result, there was significant differences among age groups. Multiple comparisons were done and showed that the 15-18 years old scored significantly higher than other age groups.

The adapted Conners-3 teacher rating scale, there was no significant differences between males and females (F(1, 120)=.486, p=.486 > .05). For the age group (F(3, 31)= 1.919, p= .125> .05), there was no significant differences.

DSM-IV-TR- ADHD Hyperactive- Impulsive

For the adapted Conners-3 parent rating scale, males were found to score significantly higher than females (F(1, 90)=5.993, p=.015<.05). Also, it showed that there was a significant difference between different age groups (F(3, 41)= 3.565, p=.014<.05). Comparison of means showed that 6-8 and 9-11 were significantly higher than other older age groups.

Regarding to the adapted Conners-3 teacher rating scale, there was no significant differences between males and females ($F(1, 120)= .730$, $p=.393 > .05$) and no main effect was found for the age group ($F(3, 31)= 1.823$, $p= .142> .05$) with no significant differences.

DSM-IV-TR-conduct disorder

For the adapted Conners-3 parent rating scale, there was no significant differences between males and females ($F(1, 90)=.007$, $p= .932 >.05$) and a main effect was found for the age group ($F(3, 41)=3.198$, $p=.023< .05$). Moreover, multiple comparisons were done and showed that the 6-8 years old scored significantly higher than 15-18.

Similarly, for the adapted Conners-3 teacher rating scale, there was no significant differences between males and females ($F(1, 120)= .831$, $p=.363 > .05$) and no main effect was found for the age groups ($F(3, 31)= 3.920$, $p= .009> .05$) with no significant differences.

DSM-IV-TR-oppositional defiant disorder

For the adapted Conners-3 parent rating scale, males were found to score significantly higher than females ($F(1, 90)=7.787$, $p= .006< .05$) and main effect was found for the age group ($F(3,41)=7.472$, $p=.00 <.05$). Hence, there was a significant difference between age groups. Comparison of means showed that 6-8 and 9-11 were significantly higher than other older age groups.

Regarding the adapted Conners-3 teacher rating scale, there was no significant differences between males and females ($F(1, 120)= 1.383$, $p=.240 > .05$). For the age group ($F(3, 31)= 1.576$, $p= .194> .05$), there was no significant differences.

Conners-3 GI Total

For the adapted Conners-3 parent rating scale, for the gender level there was no significant effect ($F(1, 90)= 1.439$, $p=.231> .05$). There was significant differences between

age group (F (3, 41) = 6.990, p= .000<.05). Multiple comparisons were done and showed an increase with older ages (15-18 higher).

The adapted Conners-3 teacher rating scale, there was no significant differences between males and females (F(1, 120)= .952, p=.493 > .05). For the age group (F(3, 31)= 1.63, p= .641> .05), there was no significant differences.

Restless-Impulsive

For the adapted Conners-3 parent rating scale, there was no significant differences between males and females (F(1,)= .593, p=.442>.05) and main effect was significant for the age group (F(3,)=4.355, p=.005<.05) and showed that the 12-14 years old scored significantly higher than others.

According to the adapted Conners-3 teacher rating scale, for the gender level there was no significant effect (F(1, 120)= .139, p=.709> .05). For the age group (F(3, 31)= .754, p= .521> .05), there was no significant differences.

Emotional Liability

For the adapted Conners-3 parent rating scale, there was no significant differences between males and females (F(1, 90)= 1.844, p=.175>.05). For the age groups, there was significance between age groups (F(3, 41)= 7.839, p= .000 < .05). Multiple comparisons were done and showed that the 6-8 years old scored significantly higher than other age groups

According to the adapted Conners-3 teacher rating scale, males were found to score significantly higher than females (F(1, 120)= 9.822, p=.002< .05). For the age groups, no main effect was found (F(3, 31)= .348, p= .791> .05) with no significant differences.

In a summary, in most subscales of the adapted Conners-3 parent rating scale significance gender differences were not observed except for the DSM-IV-TR- ADHD-Hyperactive- Impulsive and DSM-IV-TR- ADHD-ODD subscales. Hence, males were found

to score significantly higher than females in these subscales. On the other hand, significance age differences were observed in most of the adapted Conners-3 parent rating scale subscales. According to the adapted Conners-3 teacher rating scale, in most of the subscale significance gender and age differences were not observed except in emotional liability subscale (gender effect). Percentile tables by gender and for each age group were reported (Appendix I). The tables 11 and 12 summarize the gender and age effects on the adapted Conners-3 parent rating scale and the adapted Conners-3 teacher ratings scale subscales.

Table 11

Summary of the gender and age effects on the adapted Conners-3 parent rating scale subscales

		Gender and age effect					
		Gender effect			Age Effect		
		Higher rating for females	Higher rating for males	Higher ratings for age level 6-8	Higher ratings for age level 9-11	Higher ratings for age level 12-14	Higher ratings for age level 15-18
Adapted Conners-3 parent rating scale	Inattention						
	Hyperactivity/impulsivity						
	Learning Problems					✓	
	Executive Functioning						✓
	Aggression			✓			
	Peer Relation						
	Conners-3 AI ADHD Index						✓
	DSM-IV-TR-ADHD-Inattentive						✓
	DSM-IV-TR- ADHD-Hyperactive- Impulsive		✓	✓	✓		
	DSM-IV-TR-Conduct Disorder			✓			
	DSM-IV-TR-Oppositional Defiant Disorder		✓	✓	✓		
	Conners-3 GI Total						✓
	Restless- Impulsive					✓	
	Emotional Lability			✓	✓		

Table 12

Summary of the gender and age effects on the adapted Conners-3 teacher rating scale subscales

		Gender and age effect					
		Gender effect		Age Effect			
		Higher rating for females	Higher rating for males	Higher ratings for age level 6-8	Higher ratings for age level 9-11	Higher ratings for age level 12-14	Higher ratings for age level 15-18
Adapted Conners-3 teacher rating scale	Inattention						
	Hyperactivity/impulsivity						
	Learning Problems/ Executive Functioning						
	Aggression						
	Peer Relation						
	Conners-3 AI ADHD Index						
	DSM-IV-TR-ADHD-Inattentive						
	DSM-IV-TR- ADHD-Hyperactive- Impulsive						
	DSM-IV-TR-Conduct Disorder						
	DSM-IV-TR-Oppositional Defiant Disorder						
	Conners-3 GI Total						
	Restless- Impulsive						
	Emotional Lability	✓					

Factor Analysis

Factorial structure and specifically exploratory factor analysis (EFA) was done to the Adapted Conners-3-teacher rating scale and Conners-3 parents rating scale. It examined if the factor structure of the original Conners-3 -teacher rating scale and parents rating scale was replicated on the Lebanese sample.

A series of exploratory factor analysis with all content scale items was conducted to determine factor structure and item loadings of the adapted Conners-3 parent and teacher rating scales. Items were excluded from the final solution if they loaded less than 0.35 on any factor or cross-loaded onto more than one factor (Conners, 2008). Then, the remaining items

were again factor analyzed in order to remove items that meet the exclusionary criteria. Later, varimax rotation was done for both Adapted Conners-3 parent rating scale and Adapted Conners-3 teacher rating scale to better define factors.

The Principal Components Factor analysis (extraction method) with varimax rotation was done for the Adapted Conners-3 parent rating scale of the 14 subscales (Inattention, Hyperactivity/impulsivity, Learning Problems, Executive Functioning, Aggression, Peer Relation, Conners-3 AI ADHD Index, DSM-IV-TR-ADHD- Inattentive, DSM-IV-TR-ADHD-Hyperactive- Impulsive, DSM-IV-TR-Conduct Disorder, DSM-IV-TR-Oppositional Defiant Disorder, Conners-3 GI Total, Restless- Impulsive, and Emotional Lability). The factor loadings for Exploratory Factor Analysis of the adapted Conners-3 parent rating scale is shown in table 13. Therefore, it yielded four main factors explaining 81.98% of the variance. The first factor was Hyperactivity/ impulsivity, which loaded with a high correlation coefficient 0.93 and explained 59.42% of variance. The second factor was Inattention, which loaded with high correlation coefficient 0.81 and explained 10.19 % of the variance. The third factor was Emotional liability, which loaded with high correlation coefficient 0.86 and explained 5.05 % of the variance. The last factor was Peer Relation, which loaded with high correlation coefficient 0.97 and explained 6.87 % of the variance.

The first factor comprises of items related to Hyperactivity/ impulsivity that has highly loaded on it. The second factor comprises of items related to Inattention that has highly loaded on it. The third factor comprises of items related to Emotional Liability that has highly loaded on it. The last factor comprises of items related to Peer Relation that also has highly loaded on it. These four factors categorize the subscales of what Conners-3 parent rating scale tend to measure.

Table 13

Factor Loadings for Exploratory Factor Analysis of the adapted Conners-3 parent rating scale

Subscale	Factors			
	1	2	3	4
Hyperactivity/impulsivity	0.83			
Conners-3 AI ADHD Index	0.85			
Restless- Impulsive	0.89			
Conners-3 GI Total	0.94			
Inattention		0.75		
Learning Problems		0.70		
Executive Functioning		0.72		
Aggression		0.76		
DSM-IV-TR-ADHD- Inattentive		0.78		
DSM-IV-TR- ADHD-Hyperactive- Impulsive		0.78		
DSM-IV-TR-Conduct Disorder		0.76		
DSM-IV-TR-Oppositional Defiant Disorder		0.76		
Emotional Lability			0.69	
Peer Relation				0.36

According to the Adapted Conners-3 teacher rating scale, the Principal Components Factor analysis (extraction method) with varimax rotation was done for the 13 subscales (Inattention, Hyperactivity/impulsivity, Learning Problems/Executive Functioning, Aggression, Peer Relation, Conners-3 AI ADHD Index, DSM-IV-TR-ADHD- Inattentive, DSM-IV-TR- ADHD-Hyperactive- Impulsive, DSM-IV-TR-Conduct Disorder, DSM-IV-TR-Oppositional Defiant Disorder, Conners-3 GI Total, Restless- Impulsive, and Emotional Lability). Table 14 shows the factor loadings for Exploratory Factor Analysis of the adapted Conners-3 teacher rating scale. Therefore, it yielded three main factors explaining 86.70% of the variance. The first factor was Hyperactivity/ impulsivity, which loaded with a high correlation coefficient 0.93 and explained 73.08% of variance. The second factor was Inattention, which loaded with high correlation coefficient 0.85 and explained 8.75% of the variance. The third factor was Learning Problems/Executive Functioning, which loaded with high correlation coefficient 0.94 and explained 4.87 % of the variance.

The first factor comprises of items related to Hyperactivity/ impulsivity that has highly loaded on it. The second factor comprises of items related to Inattention that has highly loaded on it. Finally, the third factor comprises of items related to Learning Problems/Executive Functioning that also have highly loaded on it. These three factors categorize the subscales of what Conners-3 teacher rating scale tend to measure.

Table 14

Factor Loadings for Exploratory Factor Analysis of the adapted Connrrs-3 teacher rating scale

Subscale	Factors		
	1	2	3
Hyperactivity/impulsivity	0.90		
DSM-IV-TR- ADHD-Hyperactive- Impulsive	0.90		
Conners-3 GI Total	0.96		
Restless- Impulsive	0.93		
Inattention		0.87	
Conners-3 AI ADHD Index		0.85	
Aggression		0.89	
DSM-IV-TR-ADHD- Inattentive		0.89	
DSM-IV-TR-Conduct Disorder		0.86	
DSM-IV-TR-Oppositional Defiant Disorder		0.85	
Learning Problems/ Executive Functioning			0.77
Peer Relation			0.67
Emotional Lability			0.59

Norms Development

In order to have meaningful interpretation of test results, raw scores are converted to standardized scores such as percentiles and T-scores. The mean (as T-scores) and standard deviations of the thirteen/fourteen subscales (Conner-3 content scales: inattention, hyperactivity/impulsivity, learning problems, executive functioning (parent and teacher), aggression, and peer/family relation and DSM-IV-TR symptom scales: ADHD inattentive, ADHD hyperactive- impulsive, conduct disorder, and oppositional defiant disorder, Conners-3 ADHD index, Conners-3 Global index, restless impulsive, and emotional liability) for the

four different age groups for both genders were calculated and reported in tables 16 and 18. This was done for both Adapted Arabic Conners 3- parent rating scale and Conners-3 teacher rating scale. In addition, the means and standard deviation of T scores for the adapted Conners-3 parent and teacher rating scales for the four different age groups were reported in tables 17 and 19. Percentile ranks for each of the thirteen/fourteen subscales of both Adapted Arabic Conners 3- parent rating scale and Conners-3 teacher rating scale were reported for each age group (6-18 years- in three years' interval) and by gender (Appendix I). Moreover, percentile ranks for each subscale of both adapted Conners-3 parent and teacher rating scales were reported for each age (Appendix J). The development of percentile is very important because it expresses the percentage of individuals in the normative group who scored as low or lower than the respondent (Conners, 2008). It is used to compare an individual to his/her peers. As an example, if a girl scored at the 90^{th} percentile on the inattention subscale, then her score on the inattention subscale would be higher than 90% of other girls her age (Conners, 2008). Hence, the percentile places her with more inattention problems than a large percentage of other girls her age, which indicates elevated score (more concerns than typically reported- (possibly of a clinically significant inattention problem)).

Moreover, T-scores were calculated to provide interpretive guidelines for practitioners. That is because T- score is standardized and can be easily used to compare across different raters or administration dates. In addition, it can be used to compare a child to others of the same gender and age, to identify areas of strength and weaknesses (concern), and to compare results across different raters. T-score has a mean of 50 and a standard deviation of 10 so 50 is perfectly average-score. The average range is within one standard deviation from the mean, therefore, it is between 40 and 59. A T-score that is at least one standard deviation above the mean is considered as clinically significant as an example 60 or above.

Interpretive guidelines for T-scores and percentiles were reported in table 15. For example, a child has a raw score of 12 on the inattention subscale of the Conners-3 parent rating scale. This raw score is converted to T-score of 55, which indicates that the level of concern is typical for rating level (Conners, 2008).

Table 15

Interpretive guidelines for T-scores and percentiles, adapted from (Conners, 2008)

T-score	Percentile	Guideline
≥70	98	Very elevated score (many more concerns than typically reported)-indicate significant problem
60-69	84-97	Elevated score (more concerns than typically reported)
40-59	16-83	Average score (typical levels of concern)
≤39	≤ 15	Low score (fewer concerns than are typically reported)

Table 16

Means (M) and Standard Deviation (SD) of T scores for the Adapted Arabic Conners-3- Parent rating scale by age and Gender

			6-8 years			9-11 years			12-14 years			15-17/18 years	
	Subscale	Gender	N	M	SD	N	M	SD	N	M	SD	N	M	SD
Conners-3 P Content Scales	Inattention	Male	55	57.85	12.253	70	53.83	11.915	67	56.19	10.249	40	51.98	8.508
		Female	53	55.70	12.135	79	55.48	10.339	55	51.80	7.987	30	51.17	7.746
	Hyperactivity/Impulsivity	Male	59	64.90	15.274	70	65.57	12.784	68	67.76	13.445	40	55.75	15.273
		Female	54	62.35	13.568	79	63.03	15.112	55	63.07	13.883	30	58.53	14.722
	Learning Problems	Male	58	53.38	14.121	68	54.44	10.586	64	57.28	12.046	40	50.88	11.175
		Female	54	54.24	14.792	78	54.14	11.708	54	52.33	11.107	30	51.17	8.412
	Executive Functioning	Male	56	51.73	12.112	70	48.30	10.279	67	49.82	10.198	40	44.88	5.506
		Female	53	52.98	13.328	79	49.71	12.195	55	47.38	8.374	30	47.30	7.787
	Aggression	Male	59	74.54	35.908	70	61.43	17.429	68	60.38	14.333	40	55.05	10.739
		Female	54	66.11	16.771	78	61.50	21.537	53	59.60	13.524	30	56.73	13.075
	Peer/ family relations	Male	57	60.53	16.384	69	62.49	16.096	65	63.69	16.222	40	57.93	12.686
		Female	53	61.00	15.237	78	59.81	14.557	53	60.02	14.412	30	56.57	12.492
DSM-IV-TR Symptoms Scales	ADHD Inattentive	Male	57	57.26	12.330	70	53.13	10.618	67	53.93	10.274	40	49.48	9.092
		Female	53	54.85	12.250	78	54.67	10.988	53	51.21	8.314	30	49.57	9.380
	ADHD Hyperactive-Impulsive	Male	59	63.49	13.761	70	66.19	13.212	68	67.66	14.069	40	59.73	13.399
		Female	54	61.59	12.958	79	62.73	14.995	55	62.35	14.735	30	57.77	14.129
	Conduct Disorder	Male	53	62.38	19.374	69	59.43	16.093	67	59.10	13.503	40	51.55	10.069
		Female	53	60.77	14.719	77	60.88	30.024	53	58.00	14.981	29	54.28	16.089
	Oppositional Defiant Disorder	Male	59	63.07	13.370	70	59.69	12.046	68	58.46	10.292	40	54.15	10.819
		Female	54	58.30	9.847	78	57.79	12.829	53	56.30	10.827	30	51.53	9.818
Conners-3AI-SR	ADHD index	Male	57	53.75	31.585	70	51.60	25.408	67	54.85	29.301	40	33.08	26.334
		Female	53	47.28	29.741	78	51.29	26.856	53	41.94	26.441	30	42.07	28.693
Conners-3GI-P	Conners-3 GI Total	Male	57	63.93	15.200	70	59.99	11.345	67	63.34	10.734	40	54.48	9.774
		Female	53	62.13	11.734	78	59.96	11.610	53	57.49	10.570	30	56.03	10.480
	Restless-Impulsive	Male	50	58.38	12.518	66	59.02	11.523	66	60.92	11.711	40	51.93	10.816
		Female	52	58.10	10.836	77	57.99	11.136	53	57.13	10.563	30	55.80	10.975
	Emotional Liability	Male	52	65.12	12.129	66	59.36	11.989	65	64.91	12.947	40	57.55	11.749
		Female	53	63.34	9.723	77	59.66	11.335	53	56.55	11.114	30	55.77	10.530

Table 17

Means (M) and Standard Deviation (SD) of T scores for the Adapted Arabic Conners-3- Parent rating scale by age

		6-8 years			9-11 years			12-14 years			15-17/18 years		
	Subscale	N	M	SD	N	M	SD	N	M	SD	N	M	SD
Conners-3 P Content Scales	Inattention	108	56.80	12.186	155	54.70	11.714	117	54.91	10.140	68	51.46	8.502
	Hyperactivity/Impulsivity	113	63.68	14.476	155	63.89	13.406	118	65.95	14.011	68	59.34	14.630
	Learning Problems	112	53.79	14.389	152	54.11	11.480	114	55.28	12.247	68	49.54	8.294
	Executive Functioning	109	52.34	12.674	155	49.12	12.016	117	49.21	9.437	68	45.81	6.661
	Aggression	113	70.51	28.613	154	60.62	19.416	116	60.01	14.357	68	54.81	11.688
	Peer/ family relations	110	60.75	15.771	153	60.94	15.382	113	63.12	15.470	68	56.81	13.260
DSM-IV-TR Symptoms Scales	ADHD Inattentive	110	56.10	12.295	154	53.91	11.525	115	53.17	9.841	68	48.68	8.032
	ADHD Hyperactive-Impulsive	113	62.58	13.358	155	63.50	14.011	118	65.45	14.983	68	59.78	14.537
	Conduct Disorder	106	61.58	17.141	152	59.47	23.975	115	58.51	14.176	67	51.93	12.536
	Oppositional Defiant Disorder	113	60.79	12.008	154	58.12	12.328	116	57.08	10.717	68	51.88	9.817
Conners-3AI-SR	ADHD index	109	51.64	30.742	152	50.18	26.586	115	50.44	28.027	68	37.26	27.077
Conners-3GI-P	Conners-3 GI Total	110	63.06	13.609	154	59.54	11.195	115	61.17	11.466	68	54.99	10.031
	Restless-Impulsive	102	58.24	11.633	149	57.65	10.802	114	59.67	11.015	68	54.04	10.570
	Emotional Liability	105	64.22	10.964	149	59.68	11.657	113	61.47	13.874	68	55.59	10.658

Table 18

Means (M) and Standard Deviation (SD) of T scores for the Adapted Arabic Conners-3- Teacher rating scale by age and Gender

			6-8 years			9-11 years			12-14 years			15-17/18 years		
	Subscale	Gender	N	M	SD	N	M	SD	N	M	SD	N	M	SD
Conners-3 T Content Scales	Inattention	Male	96	57.22	12.275	93	58.91	11.160	48	59.21	11.267	36	61.47	15.142
		Female	73	61.49	11.740	86	63.15	16.031	34	58.97	12.355	36	53.97	14.190
	Hyperactivity/Impulsivity	Male	95	64.43	15.730	93	68.94	15.782	48	63.71	14.551	36	67.53	18.768
		Female	73	67.12	16.050	86	66.69	19.250	34	62.56	15.537	36	59.56	14.935
	Learning Problems/ Executive Functioning	Male	93	57.34	12.248	89	58.24	10.645	47	58.77	11.202	34	59.65	14.344
		Female	73	60.41	12.543	82	62.22	15.364	34	58.59	13.301	36	53.11	13.298
	Aggression	Male	92	68.29	21.894	91	69.93	20.146	47	66.43	18.297	34	68.00	20.222
		Female	73	69.81	19.478	83	70.64	22.691	33	62.58	17.070	36	59.72	16.628
	Peer Relations	Male	93	68.15	15.163	92	66.54	16.002	48	66.96	14.841	33	64.42	16.875
		Female	70	66.76	15.523	82	64.60	15.601	33	67.15	16.527	35	55.49	13.798
DSM-IV-TR Symptoms Scales	ADHD Inattentive	Male	95	57.92	13.319	92	60.62	12.115	48	59.73	13.062	36	62.39	16.688
		Female	71	61.79	12.461	85	63.73	17.149	34	56.97	12.310	36	54.53	14.433
	ADHD Hyperactive-Impulsive	Male	96	64.67	16.782	93	69.13	16.462	48	64.75	15.635	36	67.61	19.650
		Female	73	68.03	17.411	86	66.74	20.478	34	61.26	16.944	36	59.75	15.230
	Conduct Disorder	Male	96	64.56	19.915	93	69.73	19.813	48	66.33	18.124	36	62.93	18.890
		Female	73	63.30	17.651	86	70.00	31.420	34	62.77	18.358	36	56.09	14.535
	Oppositional Defiant Disorder	Male	93	69.77	19.598	91	72.85	19.380	47	68.74	16.725	35	72.29	18.118
		Female	73	70.99	20.301	83	71.20	24.104	34	65.94	17.953	36	61.83	17.440
Conners-3AI-SR	ADHD index	Male	94	63.07	27.522	91	64.20	25.783	47	57.91	30.671	35	55.66	34.576
		Female	73	59.60	26.927	83	54.66	31.711	34	43.41	27.781	36	34.64	24.259
Conners-3GI-T	Conners-3 GI Total	Male	96	61.18	20.357	93	64.42	17.992	47	61.23	18.161	35	66.80	19.566
		Female	73	65.99	17.567	86	64.01	20.657	34	62.71	15.768	35	57.92	16.111
	Restless-Impulsive	Male	89	58.66	13.950	88	61.93	14.408	46	59.52	13.651	36	63.14	17.491
		Female	71	61.56	13.498	84	61.30	17.763	34	58.15	14.456	36	55.86	14.942
	Emotional Liability	Male	88	71.45	18.979	90	70.53	19.113	43	67.93	17.660	34	70.15	19.959
		Female	72	65.33	21.527	82	64.88	21.301	33	65.73	22.219	35	61.86	16.486

Table 19

Means (M) and Standard Deviation (SD) of T scores for the Adapted Arabic Conners-3 teacher rating scale by age

		6-8 years			9-11 years			12-14 years			15-17/18 years		
	Subscale	N	M	SD	N	M	SD	N	M	SD	N	M	SD
Conners-3 T Content Scales	Inattention	169	59.07	12.198	179	60.95	13.842	82	59.11	11.656	72	57.72	15.051
	Hyperactivity/Impulsivity	168	65.60	15.878	179	67.85	17.520	82	63.23	14.884	72	63.54	17.312
	Learning Problems/ Executive Functioning	164	58.67	12.432	171	60.15	13.233	81	58.69	12.047	70	56.29	14.104
	Aggression	165	68.96	20.811	174	70.27	21.338	80	64.84	17.793	70	63.74	18.793
	Peer Relations	163	67.55	15.287	174	65.63	15.799	81	67.04	15.449	68	59.82	15.902
DSM-IV-TR Symptoms Scales	ADHD Inattentive	166	59.57	13.063	177	62.11	14.787	82	58.59	12.752	72	58.46	15.988
	ADHD Hyperactive-Impulsive	169	66.12	17.087	179	67.98	18.486	82	63.30	16.180	72	63.68	17.899
	Conduct Disorder	132	64.05	18.979	138	69.86	26.003	70	64.80	18.178	63	59.35	16.965
	Oppositional Defiant Disorder	166	70.31	19.858	174	72.06	21.713	81	67.57	17.197	71	66.99	18.418
Conners-3AI-SR	ADHD index	168	58.56	27.231	175	59.65	28.074	81	53.83	30.185	71	41.00	31.415
Conners-3GI-T	Conners-3 GI Total	169	63.25	19.295	179	64.22	19.264	81	61.85	17.110	71	62.30	18.323
	Restless-Impulsive	160	59.95	13.784	172	61.62	16.089	80	58.94	13.925	72	59.50	16.562
	Emotional Liability	160	68.70	20.331	172	67.84	20.324	76	66.97	19.660	69	65.94	18.618

CHAPTER V

DISCUSSION

Attention deficit hyperactivity disorder (ADHD) is becoming one of the most common neurodevelopmental disorders (Fumeaux et al., 2017). Besides, ADHD occurs in most cultures in a prevalence of about 5% of children and about 2.5% of adults (American Psychiatric Association [APA], 2013). Hence, it affects 1% to 20% of school aged children (Polanczyk, de Lima, Horta, Biederman, & Rohde, 2007). According to the international guidelines for the diagnosis of ADHD, it is recommended first for clinical examination and then use of valid questionnaires/ rating scales (Wolraich, et. al, 2011). The advantages of rating scales over other measures is that child's or adolescent's behaviors are observed by different raters such as parents and teachers (Sparrow, 2010). In addition, rating scales can be used to have standardized measures by comparison to the ratings of the child/ adolescent to a normative sample. Rating scales, such as Conners-3 rating scale, are one of the primary tools in the assessment of ADHD and other comorbid externalizing disorders such as conduct disorder (CD) and oppositional defiant disorder (ODD).

Early identification and treatment have been widely encouraged as a valuable and appreciated approach for helping these children to have a better life. Child psychologists (examiner) are faced with problems especially in the selection of appropriate measures to assess the child who is at risk and specifically child with ADHD. That is because, in the Arab world and specifically in Lebanon, rating scales are available in different languages especially English and not in Arabic Language. Usually, these rating scales are developed in Western cultures and are standardized according to their norms. Absence of the standardized measures with Lebanese norms will have an impact on choosing a suitable assessment tool, making

appropriate diagnosis, offering the proper recommendations for the intervention, and finally evaluating the impact of the intervention. For this reason, it is important to have rating scale suitable to the Lebanese culture. Developing a new scale will be challenging due to lingering time in designing it and the expenses it will bring along. Hence, adapting and validating a rating scale such as Conners-3 teacher and parent rating scales will assist clinicians in assessing student, making appropriate diagnosis, offering recommendations for intervention, and finally evaluating the impact of this intervention.

The purpose of this study was to adapt and validate Conners-3 teacher rating scale and parent rating scale to the Lebanese population as it can be used to assess behavior, emotions, academic and social problems, and specifically ADHD of children aged six to eighteen years. In addition, this study aimed to examine the reliability and validity of the adapted Conners-3 teacher rating scale and parent rating scale.

The study was done based on the final sample of 509 Lebanese students whose teachers filled the adapted Conners-3 teacher rating scale and 455 Lebanese students whose parents filled the adapted Conners-3 parent rating scale. The ages of these students ranged between 6-18 years old and were enrolled from grade 1 through grade 12. This chapter represents discussion of the results of the adapted Conners-3 teacher and parent rating scales in comparison to the original version. Besides, brief explanations of the results in relation to previous studies are provided in the section of reliability and validity. Then, implications of the theory and practice in the Lebanese context are represented. Finally, limitations on this study and recommendations for future research are provided.

Adaptation of Conners-3 Teacher and Parent Rating Scales

In order to adapt Conners-3 teacher and parent rating scales, the International Test Commission (ITC) guidelines for adapting tests were used. Most, if not all, rating scales are

developed on western standards and available in different languages especially, English. For this reason, we adapted the Conners-3 teacher and parent rating scales since we are ethically responsible to have a rating scale that assess ADHD and takes into consideration the linguistic and cultural differences among the Lebanese population.

The Conners-3 teacher and parent rating scales were translated by three professional translators according to the guidelines of the International Test Commission (ITC). Later, the Conners-3 teacher and parent rating scales were reviewed, and adaptations were done by two educational psychologists in order to have cultural suitability, age appropriacy, and language adequacy. Only two items were removed, item 11 in the parent's form and item number 33 in the teacher's form, "has forced someone into sexual activity", due to cultural issues and this behavior is not observed in our Lebanese culture. After adaption and translation was done, the A-Conners-3 teacher and parent rating scales were piloted to check stability. Later, parents and teachers were requested to provide any remarks or feedback about the test (language, age appropriateness…) through structured interviews. The adaptation process of Conners-3 parent and teacher rating scales was similar to study "Challenges in Translating the Conners 3rd Edition-Parent in 12 Languages" conducted by Verne and her colleagues (2015). Similarly, since most of the concepts assessed in the adapted Conners-3 teacher and parent rating scales were cross-culturally relevant, then the translation process did not reveal any cultural issues. Therefore, only three words were changed and three items with idiomatic content were modified by finding conceptual equivalents of the original items (Verne, Bailly & Rouillat, 2015). These solutions and changes were proposed and discussed with parents through structured interviews.

Developing of Norms

Norms were stated in the form of percentile ranks for each age group (6-18 years- in three years' interval) and by gender (male and female) for the thirteen subscales of the adapted Coners-3 teacher rating scale and fourteen subscales of the adapted Conners-3 parents rating scale (Appendix I). Moreover, percentile ranks for each subscale of both adapted Conners-3 parent and teacher rating scales were reported for each age[3] (Appendix J)

The norms were developed in this study and by comparing the norms of both the adapted Conners-3 teacher rating scale and the adapted-Conners-3 parent rating scale to the original Conners-3 teacher and parent rating scales, it is shown that norms are higher for both genders and each age level. Same results were demonstrated by al-Aghar (2000) in a study "Norming and validating the Conners' teacher rating scale-revised (CTRS-R) on a Lebanese sample of children", where the Lebanese A-CTRS-R for both genders and for each grade level were high. That is because due to the cultural differences and the Lebanese children might be affected by the unstable and stressful life (al-Aghar, 2000). Moreover, according to Farah and her colleagues (2009), they demonstrated that the rate of ADHD symptoms ranges from 5.1% to 14.9% among Arab students.

Gender and Age Effect

In this section, the results are compared to other researches and if the results agreed with them, then the findings are considered supported. Many subscales of the adapted Conners-3 parent rating scale significance gender differences were not observed except for the executive function, DSM-IV-TR- ADHD-Hyperactive- Impulsive, and DSM-IV-TR-ADHD-ODD subscales. Males were found to score significantly higher than females in these subscales. On the other hand, significant age differences were observed in most of the adapted

[3] Although our results did not show significance differences on the subscales by gender, percentile ranks for each subscale of both adapted Conners-3 parent and teacher rating scales for each age might be used by clinicians.

Conners-3 parent rating scale subscales. Unfortunately, adaptation of Conners-3 teacher rating scale did not show significant gender and age differences except on emotional liability subscale (gender effect) and aggression subscale (age effect). According to American Psychiatric Association (2013), DSM-V, ADHD is more frequent in males than females in general population. The ratio of males with respect to females is approximately 2:1 in children and 1.6:1 in adults (American Psychiatric Association [APA], 2013). In Lebanon, the prevalence of ADHD among males is also evident. Accordingly, Richa and his colleagues (2014) confirmed that ADHD is significantly more prevalent in boys 4.5% than in girls 1.8% (Richa et. al, 2014). However, the prevalence of boys 1.2% and girls 1.1% was not significant different on the Hyperactive-Impulsive subtype. The ADHD combined subtype showed that it is more prevalent in boys 2.7% than in girls 0.7% (Richa et. al, 2014).

In our study, there was no difference between gender as both males and females were evident on ADHD index. Some studies demonstrated that girls are underdiagnosed (Biedrman, Mick, Faraone, Braaten, Doyle, Spencer, Wilens, Frazier, & Johonson, 2002). That is because girls with ADHD are more likely to have inattentive features rather than disruptive behaviors. This is reflected clearly in the classrooms as one can see boys are always leaving their places and out of task (hyperactive), while girls are inattentive. This is in agreement with the literature review findings, as a result, females usually display inattentive behaviors (Biedrman et al., 2002; Gershon, 2002). Girls with ADHD manifested fewer primary symptoms (hyperactivity, inattention, and impulsivity) and externalizing problems (disruptive behavior) in comparison to boys with ADHD do (Gershon, 2002). Thus, they were rated as higher on social impairment, internalizing problems and intellectual impairments (Gershon, 2002) (Connor, 2011). For this reason, females usually referred to assessment for

school-related difficulties or learning disabilities (LD) (Nadeau, Littma, & Quinn, 1999) (as cited in Gershon & Gershon, 2002).

Besides, significant gender effects in favor of males group were evident on externalizing factors (aggression, ODD, and CD) while females group were not proved in this study. ADHD comorbid and coexist with other disorders such as oppositional defiant disorder and conduct disorder (Barkley & Murphy, 2014). Studies showed that about 30% to 50% of children with ADHD eventually develop conduct disorder (CD) (Beauchaine, Hinshaw, & Pang, 2010) (as cited in Mash & Wolfe, 2016). As mentioned before, males' rate higher on externalizing factors (conduct and aggression) (Barkley & Murphy, 2014). As result, males score higher on oppositional subscales than females. This was significant in this study, where males rated higher in aggression subscale than female. On the other hand, two meta-analysis studies verified that females with ADHD usually rated higher on internalizing problems than males (Gershon & Gershon, 2002; Goldstein, Gaub, & Carlson, 1997). For this reason, females usually show anxiety and depression symptoms that are related to poor self-concept (Gershon & Gershon,2002).

According to American Psychiatric Association (2013), DSM-V, ADHD occurs in most cultures in a prevalence of about 5% of children and about 2.5% of adults. Consequently, ADHD decreases with increasing age and persist into adulthood. Symptoms of ADHD continue in adolescence; however, the expression and nature change with age (Thorell & Rydell, 2008). In adolescence, disruptive behaviors decrease while attention and learning problems continues. That is because they lack problem solving strategies and academic skills. According to Gershon (2002), he demonstrated that adolescent with ADHD perform poorly in academic subjects and they are easily distracted. Academic burden can also cause emotional disturbances (anxiety and depression).

The difference between parents and teachers' responses might be due to different reasons. The first reason is that parents were responding to only one child while teachers were responding to 8 students. Hence, teachers filled out the forms of several students in one setting. In addition, some teachers may not want to show that they have ADHD students in their classroom.

In a summary, gender and age effects were not conclusive in our study. Thus, the results were not totally in an alignment with literature reviews and other studies. That could be for multiple reasons such as cultural differences, bias in teachers and parents scoring in their rating scales, and some unanswered items.

Reliability of A- Conners-3 Teacher and Parent Rating Scales

Internal Reliability

The internal reliability results were reported in table 6 for the adapted Conners-3 parent rating scale and table 7 for the adapted Conners-3 teacher rating scale. Both rating scales attained Cronbach alfa coefficients that were high across the whole scales and moderate to high across their subscales. The Cronbach alfa coefficient of the whole scale of the adapted Conners-3 parent rating scale was r=0.950 and of the adapted Conners-3 teacher rating scale was r=0.960. In comparison to the original Conners-3, the internal consistency of both rating scales the Conners-3 parent rating scale and the Conners-3 teacher rating scales was high. Thus, the mean Cronbach's alpha for the Conners-3 parents rating content scale was 0.91 (ranging from 0.85 to 0.94) while the mean Cronbach's alpha for the Conners-3 teachers rating content scale was 0.94 (ranging from 0.92 to 0.97) (Conners, 2008). With regards to internal consistency of the adapted Swedish Conners-3 rating scales, they were high (r>0.80) for most subscales rated by teachers and parents except for conducted problems assessed by parents (Thorell, et al., 2018). By comparison to the original and adapted Swedish Conners-3

parent and teacher rating scales, the internal consistency coefficients of the adapted Conners-3 parent and teacher rating scales are similar except for the learning problems and executive functioning subscale and peer/family relation subscale were lower.

In a conclusion, the adapted Conners-3 parent and teacher rating scales were proven to have a moderate to high reliability across the whole scale and its subscales. Consequently, the adapted Conners-3 parent and teacher rating scales are considered an accurate and reliable tool to assess ADHD and other disruptive behavior in children and adolescents.

Test-Retest Reliability

The test-retest was done over 2 to 3 weeks time interval in one of the selected schools and the reported results showed that the adapted Conners-3 parent rating scale and the adapted Conners-3 teacher rating scale test- retest reliability coefficients (Pearson product moment correlation) were high α=0.89 and α=0.94. The test-retest reliability coefficients of the fourteen subscales of the adapted Conners-3 parent ratings scales were moderate to high ranging between α= 0.72 and α= 0.97. Besides, the test-retest reliability coefficients of the thirteen subscales of the adapted Conners-3 teacher ratings scales were moderate to high ranging between α= 0.66 and α= 0.96. By comparison to the original Conners-3 parent and teacher rating scales the test-retest reliability coefficients are similar. Furthermore, in the Swedish adapted Conners-3 rating scale, the test-retest reliability coefficients were high (Thorell, et al., 2018). According to Thorell and her colleagues (2018), the high test-retest estimates may be due to overestimation and the sample size for this analysis was small (n=22).

Overall, the test-retest reliability coefficient indicated that the adapted Conners-3 parent and teacher rating scales are reliable tools with moderate to high stability over time for subscales and a high one for full scale.

Validity of A- Conners-3 Teacher and Parent Rating Scales

Construct Validity

To examine the construct validity, t-test analysis was conducted to compare the mean of the performance of two groups ADHD clinically referred and non-ADHD group on the adapted Conners-3 parent and teacher rating scales. The t-test of the total scale of adapted Conners-3 parent rating scale was t=15.37. All the subscales of adapted Conners-3 parent rating scale were significant ranging from zero to 0.046 except emotional liability subscale (0.152). The total scale of adapted Conners-3 teacher rating scale is t=10.81for ADHD group. All the subscales of adapted Conners-3 teacher rating scale were significant ranging from zero to 0.05. Thus, the results demonstrated that using the adapted Conners-3 parent and teacher rating scales showed significant differences between the two groups, ADHD and non-ADHD.

Similar to other studies in Germany and Sweden, the adapted Conners-3 rating scales differentiated between two groups ADHD and non-ADHD (Christiansen, et al., 2016; Thorell, et al., 2018). Hence, the adapted Conners-3 rating scale can be used as a reliable tool to assess ADHD symptoms and other comorbid disorders such as oppositional deficit disorder (ODD) and conduct disorder (CD) in children and adolescence (Thorell, et al., 2018). Therefore, the adapted Conners-3 parent and teacher rating scales proved to be an adequate clinical tool to distinguish between ADHD and non-ADHD groups.

Factor Analysis

The adapted Conners-3 parent rating scale's 14 subscales were subjected to the Principal Components Factor analysis that yielded four main factors hyperactivity / impulsivity, inattention, emotional liability, and peer relation explaining 81.98% of the variance. By comparison to the original Conners-3 parent rating scale, the Exploratory Factor Analysis revealed five factors learning problems, aggression, hyperactivity and impulsivity,

peer relation and executive functioning for 53.8% total variance (Conners, 2008). In comparison to the German Conners-3 parent rating scale, the Exploratory Factor Analysis also revealed five factors inattention/ learning problems, hyperactivity/ impulsivity, aggression, peer relation, and defiance for 53.10% total variance (Christiansen, et al., 2016).

The adapted Conners-3 teacher rating scale's 13 subscales were subjected to the Principal Components Factor analysis, that yielded three main factors hyperactivity/ impulsivity, inattention, and learning problems/ executive functioning explaining 86.70% of the variance. Referring back to the original Conners-3 teacher rating scale, the Exploratory Factor Analysis revealed four factors learning problems/ executive functioning, aggression, hyperactivity/ impulsivity, and peer relation for 63.8% total variance (Conners, 2008). Different from Conners'study (2008) is the number of factors. Besides, factors aggression and peer relation were not revealed in the adapted Conners-3 teacher rating scale. In addition, by comparison to the German Conners-3 teacher rating scale, the Exploratory Factor Analysis also revealed four factors Inattention/ Learning problems, Hyperactivity/ impulsivity, Aggression/ Defiance, and Peer relation for 59.43% total variance (Christiansen, et al., 2016).

Lastly, the four factors of the adapted Conners-3 parent rating scale and the three factors of the adapted Conners-3 teacher rating scale clearly categorize the subscales of what the Conners-3 parent and teacher ratings scales are intended to measure. Factors might be different from country to another because parents and teachers might not differentiate between those different domains in the same way due to culture differences.

In a summary, the psychometric properties, in terms of both reliability and validity, indicated that the adapted Conners-3 parent and teacher rating scales can be used for the assessment of ADHD and other comorbid disorders such as oppositional deficit disorder (ODD), conduct disorder (CD), learning problems, and emotional problems.

Implications Findings to Theory and Practice in the Lebanese Context

The results of this study provide a preliminary confirmation of the validity and reliability of the Lebanese culture. Thus, the adapted Conners-3 teacher and parent rating scales help to inform both research (theoretical aspect) and treatment (practical aspect) of children with ADHD.

- The adapted Conners-3 teacher and parent rating scales serve the practical aspect, since psychiatrists and psychologists can use these rating scales at the diagnostic level, pretreatment, treatment, and post-treatment levels. Therefore, they will be useful at the two levels prevention and intervention.
    - At the *diagnostic level*, the adapted Conners-3 teacher and parent rating scales can be used for early identification of ADHD (Andrews, et al., 2001). This will help the clinician (psychiatrists and psychologists) to make appropriate diagnosis and intervention recommendations that will improve children's over all mental health and behavior.
    - At the *pretreatment level*, the adapted Conners-3 teacher and parent rating scales can be used in order to identify a child's behavior that shows symptoms of ADHD. Hence, school psychologist can use it as tool for ADHD identification before referring him/ her to psychiatrist for further diagnosis.
    - At the *treatment level*, psychiatrist and psychologist can use the adapted Conners-3 teacher and parent rating scales to monitor the treatment plan (medication, behavior medication, and accommodations). Therefore, they can assess the effectiveness of the treatment plan.

- At the *posttreatment level*, when the adapted Conners-3 rating scales are administered repeatedly, results can easily be compared to determine whether there has been any progress and, if so, in which areas (Sparrow, 2010). Hence, progress can be evaluated through comparison of the score's resultant of initial ratings to that resultant from later ones. In other words, it can help the psychiatrist and psychologist to measure treatment outcome.

In a summary, the adapted Conners-3 parent and teacher rating scales psychometric properties (reliability and validity) showed that they can be used for the assessment of ADHD and other behavioral problems. Therefore, they can aid psychiatrists and psychologists in defining the critical behavior, determining treatment plan, and evaluating treatment outcome.

Limitations

- The Conners-3 teacher and parent rating scales were adapted and administered only to the Lebanese children in Greater of Beirut from grade 1 to grade 12. This will limit its generalizability to other regions in Lebanon.
- The sample size was small because not all schools and specifically private schools gave us approval to conduct our research on their campus. They refused for multiple different reasons such as parents being illiterate in Arabic, others were afraid of the reason their child was chosen, while others did not put much effort into reading it. On the other hand, some students such as high school students might have not even given it to their parents. However, other schools mentioned that they do not approve studies to be conducted on their campus.

- Another reason for having a small sample size was that parents and teachers did not complete the rating scales.
- Public schools that were part of the study have students from grade 1 to grade 8 or grade 9. That is because public schools in Beirut are from grade 1 to grade 9 or from grade 10 to grade 12 (they are few). For this study, we got approval on Public schools from grade 1 to grade 9. For this reason, the sample size of the age level groups: 12-14 years and 15-17 years were less than age level groups: 6-8 years and 9-11 years.
- Reliability might also be affected because the individuals (parents and teachers) participating in the study might not be able to comprehend all the scale's items.
- The reliability of the study might also be affected by several other factors such as social desirability, halo effect, proximity errors, and leniency errors.
- Teachers filled out the forms of several students in one setting (eight rating scales of the eight students) whereas teacher rates one child at a time when a child is referred clinically.
- Conners-3 parent and teacher rating scales (full scale) are lengthy with 110 items and 115 items. For this reason, some schools refused to be part of the study and some parents and teachers returned rating scales incomplete. One of the disadvantages of using Conners rating scale is that it is considered relatively lengthy and this limits its utility in research protocols and clinical applications such as screening (Collett, Ohan & Myers, 2003).
- Parents were not familiar with rating scale forms.

Recommendations for Future Research

Finally, the researcher would like to recommend future researches that can be done on the adapted Conners-3 teacher and parent rating scales in the following areas:

- The Conners-3 teacher and patent rating scales were adapted and administered to sample of Lebanese children in Greater Beirut only. Thus, future studies should be done to generalize it to other culture and regions.
- Further studies should be done to include larger sample size in order to confirm further reliability coefficient. This can help in determining reliability scores fall within the appropriate range.
- Translating and adapting Conners-3 self-report rating scale in order to establish more comprehensive tool to assess children with ADHD.
- For further studies, it is recommended to adapt and validate abbreviated Conners-3 rating scale (parent, teacher, and self-forms) because the abbreviated rating scale will have less items. Therefore, more parents, teachers, and children will participate in the study.
- Construct validity can be proved by different methods. Accordingly, to support construct validity, convergent validity should be investigated by correlating the Adapted Conners-3 teacher and parent rating scales with other measures believed to measure the same construct. Furthermore, divergent validity should be investigated by confirming that the adapted Conners-3 teacher and parent rating scales do not correlate with scales that measure different constructs. Unfortunately, both the convergent validity and divergent validity were not established because of the absence of any other adapted and valid tool in the Lebanese context. To establish construct validity, it is recommended to

correlate the scores with other global tools that measure the same construct and with scales supposed to measure different construct. Therefore, it can be correlated to Child Behavior Checklist teacher and parent forms and Behavior Assessment System for Children (third edition) BASC-3 teacher and parent forms so this will make the results of its validity stronger.

- Additionally, developing norms based on the confirmed factor analysis will support the adapted Conners-3 teacher and parent rating scales to serve diagnostic assessment purposes.

APPENDIX A

ADHD CRITERIA FROM THE DSM-V (2013)

According to Diagnostic and Statistical Manual of Mental Disorder (5th edition, 2013) - DSM-5:

There should be persistence pattern of inattention and/or hyperactivity-impulsivity. Thus, ADHD will be characterized by (1) and/or (2):

1. Inattention: for an individual to be diagnosed with inattention, six or more of the following symptoms have persisted for at least 6 months to a degree that is conflicting with developmental level and having negatively impacts on social and academic activities:
    a. Often makes carless mistakes in schoolwork and at work or fails to give close attention to details
    b. Often has difficulty to be on task for long time or has difficulty to sustain attention on task such as remaining focused during lectures.
    c. Often does not seem to listen when spoken directly
    d. Often fails to follow through instructions and fails to finish schoolwork, homework, and duties such as starts tasks but quickly loses focus.
    e. Often has difficulty organizing tasks and activities due to absence of organizational skills.
    f. Often dislikes and avoids engaging in tasks that require persistent and continuous effort such as homework, exam, schoolwork, reading long text…
    g. Often loses things (or personal things) need to be used for their tasks or activities such as school material, books, pencils, wallets, eyeglasses, mobiles…

h. Often easily distracted by extraneous stimuli

i. Often forget to do daily activities and chores

Note: For adolescents or adults (age 17 years or older) at least five of these symptoms are required.

2. Hyperactivity and Impulsivity: Like inattention, hyperactivity and impulsivity requires six or more of the following symptoms to persist for at least 6 months to a degree that is conflicting with developmental level and having negatively impacts on social and academic activities:

Hyperactivity:

a. Often taps or fidgets with feet or hands, or twists in seat.

b. Often leaves seat in a situation when it is expected to remain seated such as moving and leaving place in the classroom or in the workplace.

c. Often runs about or climbs in a situation where it is inappropriate to behave in this way.

d. Often has a difficulty to engage in leisure activities or play quietly

e. Often act as if "driven by a motor" or "on the go" so s/he is unable to be or comfortable being still for extended time in a meeting or restaurant.

f. Often talks excessively so s/he does not stop talking.

Impulsivity:

g. Often blurts out an answer before a question has been completed, does not wait his /her turn in conversation, or completes another people's sentence.

h. Often has difficulty to wait his or her turn

i. Often intrudes or interrupt others such as s/he might use other people's things without asking them or taking permission.

Note: For adolescents or adults (age 17 years or older) at least five of these symptoms are required.

APPENDIX B

ADHD AND COMERBIDITY

ADHD is frequently comorbid and associated with other psychiatric disorders such as:

1. Oppositional Defiant Disorder (ODD)

    Usually individuals with Oppositional defiant disorder have negative, hostile, and defiance behavior characteristic. Therefore, they may resist work or school tasks, have difficulty in sustaining mental effort and forget instructions. Similarly, individuals with ADHD may develop same characteristics and symptoms of secondary oppositional defiant disorder (American Psychiatric Association [APA], 2013).

2. Intermittent Explosive Disorder

    Both intermittent explosive disorder and ADHD share high levels of impulsive behavior. This does not mean that both disorders share most characteristics. For example, individuals with intermittent explosive disorder show serious aggression toward others, which is not characteristic of ADHD (American Psychiatric Association [APA], 2013). In fact, it is rare to diagnose a child with intermittent explosive disorder, but s/he might be diagnosed in the presence of ADHD.

3. Neurodevelopmental Disorders

    It is commonly that individual with ADHD moves a lot such as fidgeting. Thus, it must be distinguished from the repetitive behavior that characterizes stereotypic movement disorder. In stereotypic movement disorder, the motoric behavior is generally repetitive and fixed such as self-biting (American Psychiatric Association [APA], 2013). This is because restlessness and fidgeting in ADHD are typically not characterized by repetitive stereotypic movements. For that reason, it

is recommended to have a prolonged observation in order to differentiate between ADHD and stereotypic movement disorder.

4. Specific learning disorder

Learning disorder is common in reading, spelling, and math. Children with learning disorder are inattentive because they have limited ability, lack of interest or lack frustration. To be more specific, children with learning disorder will only show ADHD symptoms when they have academic tasks. Brock and his colleagues (2009) found that learning disorder was presented in 70% of the children with ADHD.

5. Intellectual Disability (intellectual developmental disorder)

When a child with intellectual disability is place in an inappropriate academic setting, symptoms with ADHD will be common. According to Farah and her colleagues (2009), they demonstrate that one of the studies showed that 11.8% of ADHD sample had borderline intellectual function and 11.1% had mental retardation.

6. Autism Spectrum Disorder

There are common characteristics of an individual with ADHD and Autism spectrum disorder such as social dysfunction, inattention, and difficult to manage behavior. Hence, we should distinguish between the Autism spectrum disorder and ADHD. Children with Autism spectrum disorder show social disengagement, isolation, and indifference to facial and tonal communication. In addition, they may display tantrums because they are unable to tolerate a change from their expected course of events. On other hand, children with ADHD may have tantrum

during a major transition because of their poor self-control (American Psychiatric Association, 2013).

7. Reactive Attachment Disorder

Reactive attachment disorder does not show full ADHD symptom cluster and it is only presented with social disinhibition (American Psychiatric Association [APA], 2013).

8. Anxiety Disorders

Both anxiety disorder and ADHD share symptoms of inattention. ADHD individuals have symptoms of inattention because they are attracted to external stimuli and new activities. In contrast, individual with anxiety disorder are inattentive due to worry and rumination (American Psychiatric Association [APA], 2013). Sobanski (2006) demonstrated that 40-60% of adult patients with ADHD suffer from one or more anxiety disorder during their lifetime.

9. Depressive Disorder

Individual with depressive disorder will lack concentration and this symptom is like the symptoms of individual with ADHD. Studies show that 35-50% of all adult individuals with ADHD suffer from one or more depressive disorder (Sobanski, 2006).

10. Bipolar Disorder

Individual with bipolar disorder may have symptoms of increased activity, poor concentration, and increased impulsivity but these symptoms are occasional. This impulsivity is accompanied by elevated mood and grandiosity (American Psychiatric Association [APA], 2013). On the other hand, children with ADHD

show significant alterations in mood within the same day so they will display excessive anger and irritability (American Psychiatric Association [APA], 2013).

11. Disruptive Mood Dysregulation Disorder

    Disruptive mood dysregulation disorder meets criteria of ADHD such as pervasive irritability and intolerance of frustration.

12. Substance Use Disorders

    In reality, both ADHD and substance use disorders are associated in a complex and varied way. A study found that up to 50% of adult with individual with ADHD suffer from additional substance use disorder and vice versa with 25-35% of adults with substance use disorder suffering from ADHD (Sobanski, 2006).

13. Personality Disorders

    Individual with personality disorder usually has the features disorganization, cognitive dysregulation, social intrusiveness, and emotional dysregulation. Therefore, it may be difficult to distinguish between ADHD and Personality disorder. For this reason, clinical observation, detailed history should be done in order to distinguish socially intrusive, impulsive, or inappropriate behavior from aggressive, narcissistic, or domineering behavior (American Psychiatric Association [APA], 2013).

14. Psychotic Disorders

    According to DSM-5 (2013), if symptoms of inattention and hyperactivity occur exclusively during the course of a psychotic disorder, this individual will not be diagnosed with ADHD.

15. Medication-induced Symptoms of ADHD

Some medications such as bronchodilators, isoniazid, neuroleptics, and thyroid replacement medication cause inattention, hyperactivity, or impulsivity (American Psychiatric Association [APA], 2013). Thus, detailed history should be known before diagnosis.

16. Neurocognitive Disorders

In fact, mild neurocognitive disorder is not known to be linked with ADHD, but may some clinical features be similar to ADHD (American Psychiatric Association [APA], 2013).

APPENDIX C

CONNERS-3 PARENT RATING SCALE

CONNERS-3 TEACHER RATING SCALE

Conners 3™–Parent

Response Booklet

C. Keith Conners, Ph.D.

Instructions: Here are some things parents might say about their children. Please tell us about *your* child and what he/she has been like in the *past month*. Read each item carefully, then mark how well it describes your child or how frequently it has happened in the *past month*.

0 = In the past month, this was *not true at all* about my child. It never (or seldom) happened.
1 = In the past month, this was *just a little true* about my child. It happened occasionally.
2 = In the past month, this was *pretty much true* about my child. It happened often (or quite a bit).
3 = In the past month, this was *very much true* about my child. It happened very often (very frequently).

Please circle only one answer for each item. It is important to respond to every item.
For items that you find difficult to answer, please give your best guess.

Child's Name/ID: _____

Age: _____ _____
Years Months

Gender: M F
(Circle One)

Birth Date: _____/_____/_____
Month Day Year

Grade: _____

Parent's Name/ID: _____

Today's Date: _____/_____/_____
Month Day Year

CONNERS 3™–Parent

C. Keith Conners, Ph.D

In the past month, this was...	0 = Not true at all (Never, Seldom) 1 = Just a little true (Occasionally)	2 = Pretty much true (Often, Quite a bit) 3 = Very much true (Very often, Very frequently)

1. Is happy, cheerful, and has a positive attitude.	0	1	2	3
2. Is forgetful in daily activities.	0	1	2	3
3. Talks too much.	0	1	2	3
4. Worries about many things.	0	1	2	3
5. Spelling is poor.	0	1	2	3
6. Skips classes.	0	1	2	3
7. Does not understand what he/she reads.	0	1	2	3
8. Is fun to be around.	0	1	2	3
9. Is good at memorizing facts.	0	1	2	3
10. Does not get invited to play or go out with others.	0	1	2	3
11. Has forced someone into sexual activity.	0	1	2	3
12. Has trouble staying focused on one thing at a time.	0	1	2	3
13. Has no friends.	0	1	2	3
14. Loses temper.	0	1	2	3
15. Forgets things already learned.	0	1	2	3
16. Bullies, threatens, or scares others.	0	1	2	3
17. Feels worthless.	0	1	2	3
18. I cannot figure out what makes him/her happy.	0	1	2	3
19. Fidgeting.	0	1	2	3
20. Has trouble controlling his/her worries.	0	1	2	3
21. Blames others for his/her mistakes or misbehavior.	0	1	2	3
22. Is cold-hearted and cruel.	0	1	2	3
23. Has a short attention span.	0	1	2	3
24. Has trouble keeping friends.	0	1	2	3
25. Cries often and easily.	0	1	2	3
26. Cannot do things right.	0	1	2	3
27. Uses a weapon (for example, a bat, brick, broken bottle, knife, or gun).	0	1	2	3
28. Avoids or dislikes things that take a lot of effort and are not fun.	0	1	2	3
29. Mood changes quickly and drastically.	0	1	2	3
30. Starts fights with others on purpose.	0	1	2	3
31. Makes mistakes.	0	1	2	3
32. Is difficult to please or amuse.	0	1	2	3
33. Tells the truth; doesn't even tell "little white lies."	0	1	2	3
34. Fails to finish things he/she starts.	0	1	2	3
35. Does not seem to listen to what is being said to him/her.	0	1	2	3
36. Has trouble with reading.	0	1	2	3
37. Has trouble getting started on tasks or projects.	0	1	2	3
38. Has to struggle to complete hard tasks.	0	1	2	3
39. Physically hurts people.	0	1	2	3
40. Demands must be met immediately—easily frustrated.	0	1	2	3
41. Is cruel to animals.	0	1	2	3
42. Is hard to motivate (even with rewards like candy or money).	0	1	2	3
43. Blurts out answers before the question has been completed.	0	1	2	3
44. Has trouble concentrating.	0	1	2	3
45. Is constantly moving.	0	1	2	3
46. Tells lies to hurt other people.	0	1	2	3
47. Doesn't pay attention to details; makes careless mistakes.	0	1	2	3
48. Is angry and resentful.	0	1	2	3
49. Has trouble changing from one activity to another.	0	1	2	3
50. Excitable, impulsive.	0	1	2	3
51. Needs extra explanation of instructions.	0	1	2	3

CONNERS 3™–Parent

C. Keith Conners, Ph.D

In the past month, this was...	0 = Not true at all (Never, Seldom) 1 = Just a little true (Occasionally)	2 = Pretty much true (Often, Quite a bit) 3 = Very much true (Very often, Very frequently)			
52. Gets over-stimulated.	0	1	2	3
53. Learns information as separate facts; does not "get the big picture."	0	1	2	3
54. Acts as if driven by a motor.	0	1	2	3
55. Blurts out the first thing that comes to mind.	0	1	2	3
56. Lies to avoid having to do something or to get things.	0	1	2	3
57. Tries to get even with people.	0	1	2	3
58. Steals secretly (for example, shoplifting or forgery).	0	1	2	3
59. Annoys other people on purpose.	0	1	2	3
60. Reads slowly and with a lot of effort.	0	1	2	3
61. Has difficulty waiting for his/her turn.	0	1	2	3
62. Is one of the last to be picked for teams or games.	0	1	2	3
63. Completes projects at the last minute.	0	1	2	3
64. Interacts well with other children.	0	1	2	3
65. Intentionally damages or destroys things that belong to others.	0	1	2	3
66. Seems tired; has low energy.	0	1	2	3
67. Inattentive, easily distracted.	0	1	2	3
68. Does not follow through on instructions (even when he/she understands and is trying to cooperate).	0	1	2	3
69. Runs or climbs when he/she is not supposed to.	0	1	2	3
70. Appears "on edge," nervous, or jumpy.	0	1	2	3
71. Is noisy and loud when playing or using free time.	0	1	2	3
72. Is good at planning ahead.	0	1	2	3
73. Is irritable and easily annoyed by others.	0	1	2	3
74. Behaves like an angel.	0	1	2	3
75. Forgets to turn in completed work.	0	1	2	3
76. Runs away from home for at least one night.	0	1	2	3
77. Gets bored.	0	1	2	3
78. Has intentionally set fires for the purpose of causing damage.	0	1	2	3
79. Fails to complete schoolwork, chores, or tasks (even when he/she understands and is trying to cooperate).	0	1	2	3
80. Is patient and content, even when waiting in a long line.	0	1	2	3
81. Temper outbursts.	0	1	2	3
82. Has lost interest or pleasure in activities.	0	1	2	3
83. Threatens to hurt others.	0	1	2	3
84. Has trouble organizing tasks or activities.	0	1	2	3
85. Disturbs other children.	0	1	2	3
86. Swears or uses bad language.	0	1	2	3
87. Cannot grasp arithmetic.	0	1	2	3
88. Gives up easily on difficult tasks.	0	1	2	3
89. Has broken into someone else's house, building, or car.	0	1	2	3
90. Is messy or disorganized.	0	1	2	3
91. Goes out at night even though it breaks the rules.	0	1	2	3
92. Does not know how to make friends.	0	1	2	3
93. Leaves seat when he/she should stay seated.	0	1	2	3
94. Actively refuses to do what adults tell him/her to do.	0	1	2	3
95. Has trouble keeping his/her mind on work or play for long.	0	1	2	3
96. Steals while confronting a person (for example, mugging, purse snatching, or armed robbery).	0	1	2	3
97. Loses things (for example, schoolwork, pencils, books, tools, or toys).	0	1	2	3
98. Fidgets or squirms in seat.	0	1	2	3
99. Restless or overactive.	0	1	2	3

CONNERS 3™–Parent

C. Keith Conners, Ph.D

In the past month, this was...	0 = Not true at all (Never, Seldom) 1 = Just a little true (Occasionally)	2 = Pretty much true (Often, Quite a bit) 3 = Very much true (Very often, Very frequently)			
100. Becomes irritable when anxious.	0	1	2	3
101. Is easily distracted by sights or sounds.	0	1	2	3
102. Argues with adults.	0	1	2	3
103. Is sad, gloomy, or irritable for many days at a time.	0	1	2	3
104. Interrupts others (for example, butts into conversations or games).	0	1	2	3
105. Is perfect in every way.	0	1	2	3

Think about your answers so far, then answer the next three items.

106. Your child's problems seriously affect schoolwork or grades.	0	1	2	3
107. Your child's problems seriously affect friendships and relationships.	0	1	2	3
108. Your child's problems seriously affect home life.	0	1	2	3

Additional Questions:

109. Do you have any other concerns about your child? _____

_____

110. What strengths or skills does your child have? _____

_____

Conners 3™–Teacher

Response Booklet

C. Keith Conners, Ph.D.

Instructions: Here are some things teachers might say about their students. Please tell us about *this* student and what he/she has been like in the *past month*. Read each item carefully, then mark how well it describes this student or how frequently it has happened in the *past month*.

0 = In the past month, this was *not true at all* about this student. It never (or seldom) happened.
1 = In the past month, this was *just a little true* about this student. It happened occasionally.
2 = In the past month, this was *pretty much true* about this student. It happened often (or quite a bit).
3 = In the past month, this was *very much true* about this student. It happened very often (very frequently).

Please circle only one answer for each item. It is important to respond to every item.
For items that you find difficult to answer, please give your best guess.

Student's Name/ID: _____

Age: _____ (Years) _____ (Months)

Gender: M F (Circle One)

Birth Date: _____/_____/_____ (Month / Day / Year)

Grade: _____

Teacher's Name/ID: _____

Class(es) Taught: _____

Time Known Student: _____ (Months)

Today's Date: _____/_____/_____ (Month / Day / Year)

In the U.S.A., P. O. Box 950, North Tonawanda, NY 14120-0950, (800) 456-3003.
In Canada, 3770 Victoria Park Ave., Toronto, ON M2H 3M6, (800) 268-6011.
International, +1-416-492-2627. Fax, +1-416-492-3343 or (888) 540-4484.

CONNERS 3™–Teacher

C. Keith Conners, Ph.D

In the past month, this was...	0 = Not true at all (Never, Seldom) 1 = Just a little true (Occasionally)	2 = Pretty much true (Often, Quite a bit) 3 = Very much true (Very often, Very frequently)			
1.	Leaves seat when he/she should stay seated.	0	1	2	3
2.	Gets overly excited.	0	1	2	3
3.	Has a short attention span.	0	1	2	3
4.	Fidgets or squirms in seat.	0	1	2	3
5.	Cannot do things right.	0	1	2	3
6.	Begins a task or project without making a plan.	0	1	2	3
7.	Restless or overactive.	0	1	2	3
8.	Threatens to hurt others.	0	1	2	3
9.	Blurts out answers before the question has been completed.	0	1	2	3
10.	Intentionally damages or destroys things that belong to others.	0	1	2	3
11.	Has trouble getting started on tasks or projects.	0	1	2	3
12.	Does not remember what he/she reads.	0	1	2	3
13.	Excitable, impulsive.	0	1	2	3
14.	Uses a weapon (e.g., a bat, brick, broken bottle, knife, or gun).	0	1	2	3
15.	Is patient and content, even when waiting in a long line.	0	1	2	3
16.	Cannot decide which things are the most important.	0	1	2	3
17.	Acts as if driven by a motor.	0	1	2	3
18.	Forgets instructions quickly.	0	1	2	3
19.	Has trouble keeping friends.	0	1	2	3
20.	Completes projects at the last minute.	0	1	2	3
21.	Is cruel to animals.	0	1	2	3
22.	Temper outbursts; explosive, unpredictable behavior.	0	1	2	3
23.	Is easily distracted by sights or sounds.	0	1	2	3
24.	Runs or climbs when he/she is not supposed to.	0	1	2	3
25.	Fails to finish things he/she starts.	0	1	2	3
26.	Talks out of turn.	0	1	2	3
27.	Steals while confronting a person (e.g., mugging, purse snatching, or armed robbery).	0	1	2	3
28.	Is perfect in every way.	0	1	2	3
29.	Interrupts others (e.g., butts into conversations or games).	0	1	2	3
30.	Has to struggle to complete hard tasks.	0	1	2	3
31.	Steals secretly (e.g., shoplifting or forgery).	0	1	2	3
32.	Is noisy and loud when playing or using free time.	0	1	2	3
33.	Has forced someone into sexual activity.	0	1	2	3
34.	Has no friends.	0	1	2	3
35.	Physically hurts people.	0	1	2	3
36.	Makes mistakes.	0	1	2	3
37.	Doesn't pay attention to details; makes careless mistakes.	0	1	2	3
38.	Is angry and resentful.	0	1	2	3
39.	Gets over-stimulated or "wound up."	0	1	2	3
40.	Lies to avoid having to do something or to get things.	0	1	2	3
41.	Gives up easily on difficult tasks.	0	1	2	3
42.	Appears to be unaccepted by group.	0	1	2	3
43.	Is cold-hearted and cruel.	0	1	2	3
44.	Is sidetracked easily.	0	1	2	3
45.	Spelling is poor.	0	1	2	3
46.	Mood changes quickly and drastically.	0	1	2	3
47.	Argues with adults.	0	1	2	3
48.	Disturbs other children.	0	1	2	3
49.	Is sad, gloomy, or irritable for many days at a time.	0	1	2	3
50.	Talks too much.	0	1	2	3
51.	Tries to get even with people.	0	1	2	3
52.	Has trouble with reading.	0	1	2	3
53.	Has lost interest or pleasure in activities.	0	1	2	3

CONNERS 3™ – Teacher

C. Keith Conners, Ph.D

In the past month, this was...	0 = Not true at all (Never, Seldom) 1 = Just a little true (Occasionally)	2 = Pretty much true (Often, Quite a bit) 3 = Very much true (Very often, Very frequently)			
54.	Skips classes.	0	1	2	3
55.	Tells the truth; does not even tell "little white lies."	0	1	2	3
56.	Is irritable and easily annoyed by others.	0	1	2	3
57.	Fails to complete schoolwork or tasks (even when he/she understands and is trying to cooperate).	0	1	2	3
58.	Becomes irritable when anxious.	0	1	2	3
59.	Annoys other people on purpose.	0	1	2	3
60.	Avoids or dislikes things that take a lot of effort and are not fun.	0	1	2	3
61.	Has intentionally set fires for the purpose of causing damage.	0	1	2	3
62.	Loses temper.	0	1	2	3
63.	Does not understand what he/she reads.	0	1	2	3
64.	Blames others for his/her mistakes or misbehavior.	0	1	2	3
65.	Forgets things already learned.	0	1	2	3
66.	Is good at planning ahead.	0	1	2	3
67.	Seems tired; has low energy.	0	1	2	3
68.	Gets into trouble with the police.	0	1	2	3
69.	Does not seem to listen to what is being said to him/her.	0	1	2	3
70.	Is selfish and self-centered with others.	0	1	2	3
71.	Actively refuses to do what adults tell him/her to do.	0	1	2	3
72.	Cannot grasp arithmetic.	0	1	2	3
73.	Does not follow through on instructions (even when he/she understands and is trying to cooperate).	0	1	2	3
74.	Interacts well with other children.	0	1	2	3
75.	Cries often and easily.	0	1	2	3
76.	Has difficulty waiting for his/her turn.	0	1	2	3
77.	Fidgeting.	0	1	2	3
78.	Is constantly moving.	0	1	2	3
79.	Worries about many things.	0	1	2	3
80.	Has poor social skills.	0	1	2	3
81.	Is happy, cheerful, and has a positive attitude.	0	1	2	3
82.	Has trouble controlling his/her worries.	0	1	2	3
83.	Talks non-stop.	0	1	2	3
84.	Demands must be met immediately – easily frustrated.	0	1	2	3
85.	Does not seem sorry for misbehaving.	0	1	2	3
86.	Gets bored.	0	1	2	3
87.	Appears "on edge," nervous, or jumpy.	0	1	2	3
88.	Is forgetful in daily activities.	0	1	2	3
89.	Does not know how to make friends.	0	1	2	3
90.	Has broken into someone else's house, building, or car.	0	1	2	3
91.	Gets up and moves around during lessons.	0	1	2	3
92.	Loses things (e.g., schoolwork, pencils, books, tools, or toys).	0	1	2	3
93.	Is difficult to please or amuse.	0	1	2	3
94.	Needs extra explanation of instructions.	0	1	2	3
95.	Feels worthless.	0	1	2	3
96.	Gets into trouble with teachers or school principal.	0	1	2	3
97.	Has trouble concentrating.	0	1	2	3
98.	Bullies, threatens, or scares others.	0	1	2	3
99.	Needs help to break a complex task into smaller, more manageable pieces.	0	1	2	3
100.	Inattentive, easily distracted.	0	1	2	3
101.	I cannot figure out what makes him/her happy.	0	1	2	3
102.	Acts in sneaky or manipulative ways.	0	1	2	3
103.	Has difficulty organizing tasks or activities.	0	1	2	3
104.	Is one of the last to be picked for teams or games.	0	1	2	3
105.	Intentionally starts fights with others.	0	1	2	3

CONNERS 3™–Teacher

C. Keith Conners, Ph.D

In the past month, this was...	0 = Not true at all (Never, Seldom) 1 = Just a little true (Occasionally)	2 = Pretty much true (Often, Quite a bit) 3 = Very much true (Very often, Very frequently)			
106. Forgets to turn in completed work.	0	1	2	3
107. Is fun to be around.	0	1	2	3
108. Has trouble changing from one task to another.	0	1	2	3
109. Behaves like an angel.	0	1	2	3
110. Is hard to motivate (even with highly desirable rewards).	0	1	2	3
111. Has trouble keeping his/her mind on work or play for long.	0	1	2	3

Think about your answers so far, then answer the next two items.

112. The student's problems seriously affect schoolwork or grades.	0	1	2	3
113. The student's problems seriously affect friendships and relationships.	0	1	2	3

Additional Questions:

114. Do you have any other concerns about this student? _____

_____

115. What strengths or skills does this student have? _____

_____

APPENDIX D

PUBLISHER PERMISSION TO CONDUCT THE STUDY

From: Betty
Sent: Thursday, September 21, 2017 2:45 PM
To: Karma El-Hassan
Subject: RE: Research on Conners 3

Hello Dr. Karma El Hassan,

We would be happy to allow you to translate the Conner 3 for your research only. We will require that you translate the Conners 3 Parent, Teacher, and Self-Report Long forms.

Thank you,
Betty

APPENDIX E

STRUCTURED INTERVIEW

Questions:

English

1. Did you face difficulty while rating any of the items?
2. Which words were difficult to understand?
3. Were any of the items unclear?
4. In your own words, how can we write such a phrase?

Arabic:

1. هل واجهت صعوبة خلال إجابتك على بنود مقياس كونرز-3 (المقنن)؟
2. ما هي الكلمات التي كان من الصعب فهمها؟
3. هل يوجد بند في المقياس غير واضح؟
4. إذا كنت تعتقد بوجود بند في المقياس غير واضح، فماذا تقترح لتعديل ذلك البند؟

APPENDIX F

ADAPTED ARABIC CONNERS-3 PARENT RATING SCALE

ADAPTED ARABIC CONNERS-3 TEACHER RATING SCALE

مقياس كونرز-3 إستمارة الأهل (المقتن)

Adapted Conners-3 Parent Rating Scale

التعليمات:

تبين الإستمارة التالية بعض العبارات التي تستخدم لوصف مظاهر وتصرفات السلوكية ع يقوم بها إبنكم/ إبنتكم في المدرسة. الرجاء قراءة العبارات بدقة وتحديد مدى تكرار السلوك أو التصرف من قبل إبنكم/إبنتكم خلال الشهر الماضي.

علامة (0-صفر) = تعني عدم حدوث هذا السلوك والتصرف خلال الشهر الماضي.

علامة (1-واحد) = تعني إن هذا السلوك والتصرف ظهر بدرجة محدودة وبأوقات متباعدة خلال الشهر الماضي.

علامة (2-إثنان) = تعني إن هذا السلوك والتصرف ظهر غالباً وتكرر حصوله خلال الشهر الماضي.

علامة (3-ثلاثة) = تعني إن هذا السلوك والتصرف تكرر بدرجة كبيرة خلال الشهر الماضي.

الرجاء تحويق (رسم دائرة) حول الرقم الذي يحدد الإجابة المناسبة لكل سلوك قام به إبنكم/إبنتكم مراعياً نسبة التكرار على مدى الشهر الماضي. من المهم جداً أن نجيب الإجابة على كل بند، وفيما خص البنود التي تجدها صعبة حاول أن تختار الإجابة الأقرب للواقع.

اسم إبنكم/ إبنتكم	.....		
العمر	السنة	الشهر	
الجنس	ذكر ☐	أنثى ☐	
تاريخ الولادة	الشهر	اليوم	السنة .....
إسم ولي الأمر	.....		
تاريخ ملء الاستمارة	الشهر	اليوم	السنة .....

الرقم	السلوك	أبداً	قليلاً	غالباً	دائماً
1	هو سعيد ومرح وإيجابي	0	1	2	3
2	ينسى أنشطته اليومية	0	1	2	3
3	يتكلم كثيراً	0	1	2	3
4	لديه قلق حيال أمور كثيرة	0	1	2	3
5	ضعيف في الإملاء	0	1	2	3
6	يغيب عن الحصص	0	1	2	3
7	لا يفهم ما يقرأ	0	1	2	3
8	يُشعر الآخرين بالسرور والفرح عند تواجده معهم	0	1	2	3
9	جيد في حفظ الحقائق	0	1	2	3
10	لا يتم دعوته للعب أو الخروج مع الآخرين	0	1	2	3
11	لديه صعوبة في التركيز على شيء واحد في الوقت المناسب	0	1	2	3
12	ليس لديه أصدقاء	0	1	2	3
13	لديه نوبات غضب	0	1	2	3
14	ينسى ما تعلمه	0	1	2	3
15	يهدد ويخيف الآخرين	0	1	2	3
16	يشعر بأن لا قيمة له	0	1	2	3
17	لا يتمكن من تحديد ما الأمور التي تجعله سعيداً	0	1	2	3
18	يتحرك دائماً	0	1	2	3
19	لديه صعوبة في السيطرة على مخاوفه وقلقه	0	1	2	3
20	يلوم الآخرين على أخطائه وسوء تصرفه	0	1	2	3
21	قلبه قاسي وبارد المشاعر	0	1	2	3
22	لديه قدرة على التركيز لفترة قصيرة	0	1	2	3
23	يجد صعوبة في الإحتفاظ بالأصدقاء	0	1	2	3
24	يبكي بسهولة	0	1	2	3
25	لا يستطيع أن يقوم بأعمال بطريقة صحيحة	0	1	2	3
26	يستخدم سلاح (مثلاً: عصى – حجر– قنينة مكسورة – سكين – سلاح ناري)	0	1	2	3
27	يتجنب أو يكره الأشياء التي تتطلب الجهد والغير ممتعة	0	1	2	3
28	يتغير مزاجه بسرعة وبشكل جذري	0	1	2	3
29	يتشاجر مع الآخرين بهدف ما	0	1	2	3
30	يقترف أخطاء	0	1	2	3
31	يصعب إرضاؤه أو تسليته	0	1	2	3
32	يقول الحقيقة ولا يكذب أبداً حتى كذبة صغيرة أو كذبة بيضة	0	1	2	3
33	يفشل في إنهاء المهام التي بدأها	0	1	2	3
34	يظهر كأنه غير مصغ لما يقال له	0	1	2	3
35	يعاني من صعوبات في القراءة	0	1	2	3

3	2	1	0	يجد صعوبة في البدء بالمهام والمشاريع	36
دائماً	غالباً	قليلاً	أبداً	السلوك	الرقم
3	2	1	0	يبذل مجهود لينهي المهمات الصعبة	37
3	2	1	0	يؤذي الآخرين جسدياً	38
3	2	1	0	مطالبه يجب أن تنفذ فوراً – يُحبط بسهولة	39
3	2	1	0	يتصرف بقسوة مع الحيوانات	40
3	2	1	0	يصعب تحفيزه (حتى من خلال حوافز محببة)	41
3	2	1	0	يتسرع بالإجابة قبل أن يُستكمل السؤال	42
3	2	1	0	يعاني من صعوبة في التركيز	43
3	2	1	0	يتحرك دائماً	44
3	2	1	0	يروي الأكاذيب لإيذاء الآخرين	45
3	2	1	0	لا يلتفت للتفاصيل، يقترف أخطاء بدون إنتباه	46
3	2	1	0	يبدو مستاء وعصبي	47
3	2	1	0	يعاني من صعوبة الانتقال من مهمة إلى آخرى	48
3	2	1	0	يستثار بسهولة، متهور	49
3	2	1	0	يحتاج لشرح التعليمات بشكل إضافي	50
3	2	1	0	يحفز كثيراً/أو يستثار	51
3	2	1	0	يتعلم المعلومات كوقائع منفصلة وليست مترابطة	52
3	2	1	0	يتصرف في حركة مستمرة دوماَ وكأنه يسير بمحرك	53
3	2	1	0	يتفوه بأول شيء يبادر إلى ذهنه	54
3	2	1	0	يكذب ليتهرب من تنفيذ أمر ما أو ليحصل على شيء ما	55
3	2	1	0	يسعى للإنتقام	56
3	2	1	0	يسرق بالسر	57
3	2	1	0	يزعج الآخرين عن قصد	58
3	2	1	0	يقرأ ببطء مع كثير من الجهد	59
3	2	1	0	يجد صعوبة في انتظار دوره	60
3	2	1	0	يكون أخر من يتم إختياره للمشاركة في المجموعات أو الألعاب	61
3	2	1	0	يكمل مشروعه في اللحظات الأخيرة	62
3	2	1	0	يتفاعل بشكل جيد مع الأطفال الآخرين	63
3	2	1	0	يتلف أو يحطم الأشياء التي يمتلكها الآخرون عمداً	64
3	2	1	0	يبدو متعباً، مع حيوية منخفضة	65
3	2	1	0	لا ينتبه أو يركز، ويُسهل تشتت انتباهه	66
3	2	1	0	لا يتبع التعليمات حتى النهاية (حتى حين يفهم التعليمات ويحاول أن يتعاون)	67
3	2	1	0	يركض أو يتسلّق في وقت لا يفترض به ذلك	68
3	2	1	0	يظهر العصبية أو الحدة	69
3	2	1	0	يسبب ضجة وأصوات عالية عند اللعب أو وقت الفراغ	70

3	2	1	0	هو جيد في التخطيط للمستقبل	71
3	2	1	0	هو سريع الغضب ويُسهل إزعاجه من قبل الآخرين	72
دائماً	غالباً	قليلاً	أبداً	السلوك	الرقم
3	2	1	0	يتصرف كالملاك	73
3	2	1	0	ينسى تقديم وجباته بشكل كامل	74
3	2	1	0	هرب من المنزل ليلة واحدة على الأقل	75
3	2	1	0	يصاب بالملل (الضجر)	76
3	2	1	0	يتعمد إشعال حريق (نار) لكي يسبب الأذى	77
3	2	1	0	يفشل في إنهاء الواجبات المدرسية أو المهام (حتى حينما يفهمها)	78
3	2	1	0	صبور وقنوع حتى في المواقف التي تتطلب طول الإنتظار	79
3	2	1	0	يظهر نوبات غضبا وتصرفاته غير متوقعة	80
3	2	1	0	فقد الاهتمام أو السرور في القيام بالأنشطة	81
3	2	1	0	يهدد بإيذاء الآخرين	82
3	2	1	0	لديه صعوبة في تنظيم المهام والأنشطة	83
3	2	1	0	يزعج الأطفال الآخرين	84
3	2	1	0	يحلف/ يتلفظ بكلمات نابية	85
3	2	1	0	لديه الصعوبة في فهم الحساب	86
3	2	1	0	يستسلم بسرعة عند القيام بمهام صعبة	87
3	2	1	0	سبق أن حطّم أو إقتحم منزل شخص ما أو سيارة أحدهم	88
3	2	1	0	هو فوضوي أو غير منظم	89
3	2	1	0	يخرج في الليل على الرغم من أنه يكسر القاعدة	90
3	2	1	0	لا يعرف كيفية إنشاء صداقات	91
3	2	1	0	يقوم من مكانه في حين يجب أن يبقى جالساً	92
3	2	1	0	يرفض بشدة الإنصياع لمطالب الكبار	93
3	2	1	0	يعاني من صعوبة في أن يبقي ذهنه منشغلاً بعمل ما أو اللعب لمدة طويلة	94
3	2	1	0	يسرق أثناء مواجهة شخص (مثلاً: خداع، سرقة محفظة، سرقة مسلحة)	95
3	2	1	0	يضيع أغراض (مثلاً: فروض منزلية، أقلام، كتب، أدوات، أو ألعاب)	96
3	2	1	0	يتحرك دائماً	97
3	2	1	0	كثير الحركة لا يهدأ (يتململ أو يضجر)	98
3	2	1	0	يصبح عصبياً عندما يكون قلقاً	99
3	2	1	0	يسهل تشتت انتباهه بالمشاهد والأصوات	100
3	2	1	0	يتجادل مع الكبار	101
3	2	1	0	يبدو حزيناً، كئيباً أو عصبي لعدة أيام متتالية	102
3	2	1	0	يقاطع الآخرين (مثلاً فجأة يقاطع الحوار أو يتدخل في العابهم)	103
3	2	1	0	يبدو وكأنه كامل في كل شيء	104

	فكر قليلاً في إجاباتك السابقة ومن ثم أجب عن الأسئلة التالية	أبداً	قليلاً	غالباً	دائماً
105	مشكلة إبنكم/إبنتكم لها تأثير جدي على أداءه المدرسي أو علاماته	0	1	2	3
106	مشكلة إبنكم/إبنتكم لها تأثير جدي على علاقته برفاقه وبالآخرين	0	1	2	3
107	إن مشكلة إبنكم/إبنتكم لها تأثير جدي على حياته المنزلية	0	1	2	3

أسئلة إضافية

108-هل تشغل بالك أمور إضافية مرتبطة بإبنكم/بإبنتكم؟

_____

_____

_____

109- ما هي نقاط القوة أو المهارات التي يملكها إبنكم/إبنتكم؟ يرجى كتباتها

_____

_____

_____

مقياس كونرز-3 إستمارة المعلم (المقتن)

Adapted Conners-3 Teacher Rating Scale

التعليمات:

تبين الإستمارة التالية بعض العبارات التي تستخدمها المعلمات لوصف مظاهر وتصرفات السلوكية يقوم بها التلميذ/ة في المدرسة. الرجاء قراءة العبارات بدقة وتحديد مدى تكرار السلوك أو التصرف من قبل التلميذ/ة خلال الشهر الماضي.

علامة (0-صفر) = تعني عدم حدوث هذا السلوك والتصرف خلال الشهر الماضي.

علامة (1-واحد) = تعني إن هذا السلوك والتصرف ظهر بدرجة محدودة وبأوقات متباعدة خلال الشهر الماضي.

علامة (2-إثنان) = تعني إن هذا السلوك والتصرف ظهر غالباً وتكرر حصوله خلال الشهر الماضي.

علامة (3-ثلاثة) = تعني إن هذا السلوك والتصرف تكرر بدرجة كبيرة خلال الشهر الماضي.

الرجاء تحويق (رسم دائرة) حول الرقم الذي يحدد الإجابة المناسبة لكل سلوك قام به التلميذ/ة مراعياً نسبة التكرار على مدى الشهر الماضي. من المهم جداً أن نجيب الإجابة على كل بند، وفيما خص البنود التي تجدها صعبة حاول أن تختار الإجابة الأقرب للواقع.

إسم التلميذ	.....		
العمر	السنة	الشهر	
الجنس	ذكر ☐	أنثى ☐	
تاريخ الولادة	الشهر	اليوم	السنة .....
إسم المعلم	.....		
المرحلة الدراسية التي يعلمها:	.....		
مدة معرفة الطالب	..... أشهر		
تاريخ ملء الاستمارة	الشهر	اليوم	السنة .....

الرقم	السلوك	أبداً	قليلاً	غالباً	دائماً
1	يقوم من مكانه في حين يجب أن يبقى جالساً	0	1	2	3
2	يتحمس بشدة	0	1	2	3
3	لديه قدرة على التركيز لفترة قصيرة	0	1	2	3
4	يتحرك ويتململ في مكانه أو في مقعده	0	1	2	3
5	لا يستطيع أن يقوم بأعمال بطريقة صحيحة	0	1	2	3
6	يبدأ بمشروع من دون وضع خطة	0	1	2	3
7	كثير الحركة لا يهدأ (يتململ أو يضجر)	0	1	2	3
8	يهدد بإيذاء الآخرين	0	1	2	3
9	يتسرع بالإجابة قبل أن يُستكمل السؤال	0	1	2	3
10	يتلف أو يحطم الأشياء التي يمتلكها الآخرين عمداً	0	1	2	3
11	يجد صعوبة في البدء بالمهام والمشاريع	0	1	2	3
12	لا يتذكر ما قد قرأه	0	1	2	3
13	يستثار بسهولة، متهور	0	1	2	3
14	يستخدم سلاح (مثلاً: عصى – حجر–قنينة مكسورة – سكين –سلاح ناري)	0	1	2	3
15	صبور وقنوع حتى في المواقف التي تتطلب طول الإنتظار	0	1	2	3
16	لا يستطيع أن يقرر الأمور المهمة من غير المهمة	0	1	2	3
17	يتصرف في حركة مستمرة دوماً وكأنه يسير بمحرك	0	1	2	3
18	ينسى التعليمات بسرعة	0	1	2	3
19	يجد صعوبة في الإحتفاظ بالأصدقاء	0	1	2	3
20	يكمل مشروعه في اللحظات الأخيرة	0	1	2	3
21	يتصرف بقسوة مع الحيوانات	0	1	2	3
22	يظهر نوبات غضبا وتصرفاته غير متوقعة	0	1	2	3
23	يسهل تشتيت انتباهه بالمشاهد والأصوات	0	1	2	3
24	يركض أو يتسلّق في وقت لا يفترض به ذلك	0	1	2	3
25	يفشل في إنهاء المهام التي بدأها	0	1	2	3
26	يتكلم بغير دوره	0	1	2	3
27	يسرق أثناء مواجهة شخص (مثلاً: خداع، سرقة محفظة، سرقة مسلحة)	0	1	2	3
28	يبدو وكأنه كامل في كل شيء	0	1	2	3
29	يقاطع الآخرين (مثلاً فجأة يقاطع الحوار أو يتدخل في العابهم)	0	1	2	3
30	يبذل مجهود لينهي المهمات الصعبة	0	1	2	3
31	يسرق بالسر	0	1	2	3
32	يسبب ضجة وأصوات عالية عند اللعب أو وقت الفراغ	0	1	2	3
33	ليس لديه أصدقاء	0	1	2	3
34	يؤذي الآخرين جسدياً	0	1	2	3
35	يقترف أخطاء	0	1	2	3

الرقم	السلوك	أبداً	قليلاً	غالباً	دائماً
36	لا يلتفت للتفاصيل، يقترف أخطاء بدون إنتباه	0	1	2	3
37	يبدو مستاء وعصبي	0	1	2	3
38	يحفز كثيراً/أو يستثار	0	1	2	3
39	يكذب ليتهرب من تنفيذ أمر ما أو ليحصل على شيء ما	0	1	2	3
40	يستسلم بسرعة عند القيام بمهام صعبة	0	1	2	3
41	يبدو كأنه غير مقبول في المجموعة	0	1	2	3
42	قلبه قاسي وبارد المشاعر	0	1	2	3
43	يمكن أن ينحرف عن الموضوع بسهولة	0	1	2	3
44	ضعيف في الإملاء	0	1	2	3
45	يتغير مزاجه بسرعة وبشكل جذري	0	1	2	3
46	يتجادل مع الكبار	0	1	2	3
47	يزعج الأطفال الآخرين	0	1	2	3
48	يبدو حزيناً، كئيباً أو عصبي لعدة أيام متتالية	0	1	2	3
49	يتكلم كثيراً	0	1	2	3
50	يسعى للإنتقام من الأخرين	0	1	2	3
51	يعاني من صعوبات في القراءة	0	1	2	3
52	فقد الاهتمام أو السرور في القيام بالأنشطة	0	1	2	3
53	يغيب عن الحصص	0	1	2	3
54	يقول الحقيقة ولا يكذب أبداً حتى كذبة صغيرة أو كذبة بيضة	0	1	2	3
55	هو سريع الغضب ويُسهل إزعاجه من قبل الآخرين	0	1	2	3
56	يفشل في إنهاء الواجبات المدرسية أو المهام (حتى حينما يفهمها)	0	1	2	3
57	يصبح عصبياً عندما يكون قلقاً	0	1	2	3
58	يزعج الآخرين عن قصد	0	1	2	3
59	يتجنب أو يكره الأشياء التي تتطلب الجهد والغير ممتعة	0	1	2	3
60	يتعمد إشعال حريق (نار) لكي يسبب الأذى	0	1	2	3
61	لديه نوبات غضب	0	1	2	3
62	لا يفهم ما يقرأ	0	1	2	3
63	يلوم الآخرين على أخطائه وسوء تصرفه	0	1	2	3
64	ينسى ما تعلمه	0	1	2	3
65	هو جيد في التخطيط للمستقبل	0	1	2	3
66	يبدو متعباً، مع حيوية منخفضة	0	1	2	3
67	يقع في مشاكل مع الشرطة	0	1	2	3
68	يظهر كأنه غير مصغ لما يقال له	0	1	2	3
69	هو أناني في تعامله مع الأخرين	0	1	2	3
70	يرفض بشدة الإنصياع لمطالب الكبار	0	1	2	3

71	لديه الصعوبة في فهم الحساب	0	1	2	3
72	لا يتبع التعليمات حتى النهاية (حتى حين يفهم التعليمات ويحاول أن يتعاون)	0	1	2	3
الرقم	السلوك	أبداُ	قليلاً	غالباً	دائماً
73	يتفاعل بشكل جيد مع الأطفال الآخرين	0	1	2	3
74	يبكي بسهولة	0	1	2	3
75	يجد صعوبة في انتظار دوره	0	1	2	3
76	يتحرك في مكانه دون توقف	0	1	2	3
77	يتحرك دائماً	0	1	2	3
78	لديه قلق حيال أمور كثيرة	0	1	2	3
79	مهاراته الإجتماعية ضعيفة	0	1	2	3
80	هو سعيد ومرح وإيجابي	0	1	2	3
81	لديه صعوبة في السيطرة على مخاوفه وقلقه	0	1	2	3
82	يتكلم من دون توقف	0	1	2	3
83	مطالبه يجب أن تنفذ فوراً – يُحبط بسهولة	0	1	2	3
84	لا يظهر الأسف عندما يسيء السلوك	0	1	2	3
85	يصاب بالملل (الضجر)	0	1	2	3
86	يظهر العصبية أو الحدة	0	1	2	3
87	ينسى أنشطته اليومية	0	1	2	3
88	لا يعرف كيفية إنشاء صداقات	0	1	2	3
89	سبق أن حطّم أو اقتحم منزل شخص ما أو سيارة أحدهم	0	1	2	3
90	يمشي في الصف خلال شرح الدرس	0	1	2	3
91	يضيع أغراض (مثلاً: فروض منزلية، أقلام، كتب، أدوات، أو ألعاب)	0	1	2	3
92	يصعب إرضاؤه وتسليته	0	1	2	3
93	يحتاج لشرح التعليمات بشكل إضافي	0	1	2	3
94	يشعر بأن لا قيمة له	0	1	2	3
95	يقع بمتاعب مع المعلمين وإدارة المدرسة	0	1	2	3
96	يعاني من صعوبة في التركيز	0	1	2	3
97	يهدد ويخيف الآخرين	0	1	2	3
98	يحتاج لمساعدة في تقسيم المهمة الصعبة إلى مهمات فرعية يمكن التعامل معها	0	1	2	3
99	لا ينتبه أو يركز، ويُسهل تشتت انتباهه	0	1	2	3
100	لا يتمكن من تحديد ما الأمور التي تجعله سعيداً	0	1	2	3
101	يتصرف بطريقة لئيمة واستغلالية مقنعة	0	1	2	3
102	لديه صعوبة في تنظيم المهام والأنشطة	0	1	2	3
103	يكون أخر من يتم إختياره للمشاركة في المجموعات أو الألعاب	0	1	2	3
104	يبدأ عمداً بالشجار والعراك مع الأخرين	0	1	2	3
105	ينسى تقديم واجباته بشكل كامل	0	1	2	3

106	يُشعر الآخرين بالسرور والفرح عند تواجده معهم	0	1	2	3
107	يعاني من صعوبة الانتقال من مهمة إلى آخرى	0	1	2	3
108	يتصرف كالملاك	0	1	2	3
الرقم	السلوك	أبداً	قليلاً	غالباً	دائماً
109	يصعب تحفيزه (حتى من خلال حوافز محببة)	0	1	2	3
110	يعاني من صعوبة في أن يبقي ذهنه منشغلاً بعمل ما أو اللعب لمدة طويلة	0	1	2	3

فكر قليلاً في إجاباتك السابقة ومن ثم أجب عن الأسئلة التالية		أبداً	قليلاً	غالباً	دائماً
111	مشكلة التلميذ/ة لها تأثير جدي على أداءه المدرسي أو علاماته	0	1	2	3
112	مشكلة التلميذ/ة لها تأثير جدي على علاقته برفاقه وبالآخرين	0	1	2	3

أسئلة إضافية

113-هل تشغل بالك أمور إضافية مرتبطة بالتلميذ/ة؟

_____

_____

_____

114- ما هي نقاط القوة أو المهارات التي يملكها التلميذ/ة؟ يرجى كتباتها

_____

_____

_____

APPEBDIX G

IRB FORMS (PRINCIPAL'S, PARENTAL, AND TEACHE

CONSENT FORMS- Pilot Phase)

American University of Beirut
Department of Education
School Principal Consent Form-Pilot Study Phase

Study Title: Adaptation and Validation of Conners-3 Teacher and Parent Rating Scales on Lebanese Children.

Principal Investigator: Dr. Karma El Hassan

Co-Investigator: Ms. Zainab Haidar

Dear principle,

We are requesting your approval to conduct a study in the school under Institutional Review Board (IRB) for human rights regulations. We are asking a group of teachers and parents to participate in a research study. Participation is completely voluntary. Please read the information below and feel free to ask any questions that you may have.

A. Project Description

1. This research is being conducted for the purpose of a Master's thesis in Educational Psychology-tests and Measurements and possibly presentation at academic conference.

2. The purpose of this study is to adapt and validate Conners-3 teacher rating scale and parent rating scale to the Lebanese population so that it can be used to assess behavior, emotions, academic and social problems, and ADHD of children aged six years to 18 years.

3. This study will be conducted in six schools (two public schools and four private schools) located in the Greater Beirut area, the three educational districts in Greater Beirut. This consent is to be signed by the school principals in order to be eligible to participate in the study. As a principal, you will be given a copy of this consent form to keep with you. After the school approves to participate, parent consent form will be sent to the parents with their children in order to be signed. Then, teacher consent form will be distributed to the teachers in order to be signed. Only teachers and parents of students who have signed the teacher consent form and parent consent form will be eligible to participate in the study.

4. Your school may also be chosen for conducting the pilot study. One of the six target schools will be randomly selected for pilot testing which will take place before the actual study. The sample is made up of 33 students randomly selected from a list of students of each grade level (from grade 1 to grade 12). They will be categorized according to four age level groups: 6-8 years, 9-11 years, 12-14 years, and 15-17/18 years. Thus, 33 parents will participate. From grade 1 to grade 3, n=2 students will be randomly selected from each grade level so the total number will be six students. For

each grade level, one teacher will be filling the rating scale (from grade 1 to grade 3). From grade 4 to grade12, n=3 students will be randomly selected from each grade level so the total number will be 27 students. For each grade level, three teachers will be filling the rating scale (Arabic, English, and Math). The total number of parents is n=33 while the total number of teachers n=30 (n=27 secondary teachers and n=3 primary teachers). The pilot study is procedurally the same as the actual study.

5. In this study, one rating scales will be distributed by the Co-Investigator to the teachers and parents of the student that is randomly selected from a list of students of each grade level (12 different grade levels- grade 1 to grade 12). Conners-3 rating scale is an instrument used to assess ADHD. For completing each rating scale, it will take about 20 minutes to complete.

6. Later, parents and teachers will be requested to provide any remarks or feedback about the test (language, age appropriateness…) through structured interviews. This process leaded to the formation of adapted version of Conners-3 teacher and parent rating scales.

7. Transportation expenses will not be reimbursed for parents and teachers.

B. Risks and Benefits

Teachers and parents' participation in this study does not involve any physical risk or emotional risk to them beyond the risks of their daily life. Participant teachers and parents have the right to withdraw your consent or discontinue participation at any time for any reason. Teacher and parent's decision to withdraw will not involve any penalty or loss of benefits to which you are entitled. Discontinuing participation in the study will in no way affect your relationship with the school or with AUB. In addition, refusal to participate in the study will involve no penalties of any kind or affect the principals or teachers' relationship with AUB. The schools will receive no direct benefits from participating in this research. However, the benefits of this study include providing researchers, psychologists, and school counselors a culturally valid ADHD assessment tool that is suitable for the Lebanese context from age 6 to 18 years old. The benefit of having a valid ADHD assessment tool can help psychologists to use the adapted Conners-3 in the assessment of ADHD since it has been found to be instrumental in variety of areas such as screening, assessment, and treatment monitoring.

C. Confidentiality

If you agree that the teachers and parents may participate in this research study, the information will be kept confidential. To assure confidentiality, data will be monitored and may be audited by the IRB. Besides, to secure the confidentiality of the responses of the teachers and parents, their names and other identifying information will never be attached to their answers; each teacher and parent will be given a code. All codes and data will be kept in a locked drawer in a locker room or on a password-protected computer that is kept secure. Data access is limited to the Principal Investigator and the Co-Investigator working directly on this study. All data will be destroyed

responsibly after the required retention period, which is usually three years. The teachers and parents' privacy will be maintained in all written data resulting from this study. Names or other identifying information of the teachers, parents, and of the school will not be used in any reports or presentations.

D. Contact Information

1. If you have any questions or concerns about the research, you may contact Dr. Karma El Hassan at 01-350000 ext. 3131 or by email: kelhassan@aub.edu.lb or Ms. Zainab Haidar by email: zah15@mail.aub.edu.
2. If you feel that your questions have not been answered, or if you have any questions, concerns, or complaints about your rights as a participant in this research, you can contact the following officer at AUB: Social and Behavioral Sciences Institutional Review Board at 01- 350000 or 01- 374374, Ext: 5445 or by email: irb@mail.aub.edu.

E. Participant rights

Participation in this study is voluntary. There are no monetary rewards for participation in the study. You are free to leave the study at any time without penalty. Your decision not to participate is no way influences your relationship with AUB in any way. A copy of this consent form will be given to you. Teachers and parents of the students (sample) may skip any questions that they may wish not to answer. Your decision will not result in any penalty or loss of benefits. If you have any questions regarding your rights, you may call: Institutional Review Board (IRB) on 01- 350000 ext. 5445.

Sincerely,

Karma El Hassan
Associate Professor, Department of Education & Director, Office of Institutional Research and
Assessment (OIRA)
Faculty of Arts and Sciences
American University of Beirut

Zainab Haidar
Graduate Student, Department of Education
Faculty of Arts and Sciences
American University of Beirut

I have read and understood the above information. I voluntarily agree for the teachers and parents of the students of this school to participate in this study.

Name of Principal: _____
Signature of Principal: _____
Date: _____
Co-Investigator Name: _____
Co-Investigator Signature: _____
Date: _____

الجامعة الأمريكية في بيروت
قسم التربية
إذن موافقة مدير المدرسة
المقاربة المباشرة- الدراسة التجريبية

عنوان الدراسة: تكيف وتطوير مقياس كونرز-3 (Conners-3) باللغة العربية بحيث يتناسب بيئة التلميذ اللبناني

الباحث الرئيسي: دكتورة كرمى الحسن

الباحثة المشاركة: زينب حيدر

حضرة السيد(ة) المدير(ة) مدرسة المحترم

إننا نرغب في الحصول على موافقتكم على المشاركة في هذه الدراسة تحت إشراف لجنة أخلاقيات البحث (IRB). إن المشاركة اختيارية تماما. رجاء إقرأ المعلومات الواردة أدناه ولا تتردد في طرح أي سؤال حولها.

I. وصف المشروع:

I. يجري هذا البحث لغرض أطروحة الماجستير في علم النفس التربوي فرع الإختبارات والقياس وربما سوف يعرض في المؤتمر الأكاديمي.

II. الغرض من هذه الدراسة هو تكيف وتطوير مقياس كونرز-3 (Conners-3) مقياس خاص المعلمين ومقياس خاص الوالدين باللغة العربية بحيث يتناسب بيئة التلميذ اللبناني بحيث يمكن استخدامه لرصد سلوكيات والمشاكل الأكاديمية والاجتماعية واضطراب فرط الحركة ونقص الانتباه عند الأطفال الذين تتراوح أعمارهم بين ست سنوات إلى 18 سنوات.

III. ستجرى هذه الدراسة في الست مدارس (مدرستان رسميتان وأربع مدارس خاصة) تقع في ثلاث مناطق تعليمية في بيروت الكبرى. يجب أن يوقع مدير المدرسة على هذه الموافقة لكي تكون مؤهلة للمشاركة في الدراسة. كمدير، سيتم منحك نسخة من نموذج الموافقة هذه كي تبقى معك. سيتم اختيار أربع مدارس خاصة ومدرستين رسميتين عشوائيا من المناطق التعليمية الثلاث في بيروت الكبرى .بعد موافقة المدرسة على المشاركة، سيتم إرسال نموذج موافقة الوالدين إلى الآباء والأمهات مع أطفالهم من أجل التوقيع عليها. ونموذج آخر وهو استمارة موافقة المعلمين ستوزع على المعلمين من أجل التوقيع عليها. فقط أهالي ومعلمين الطلاب الذين وقعوا على استمارة موافقة الوالدين واستمارة موافقة المعلم سيكونون مؤهلين للمشاركة في الدراسة.

IV. تم اختيار مدرستكم لإجراء الدراسة التجريبية. وتتكون عينة الدراسة من 33 طالبا بتم اختيارهم عشوائيا من قائمة الطلبة في كل صف (كما سيتم تصنيفهم حسب الفئات العمرية: 6-8 سنوات، 9-11 سنة، 12-14 سنة، و15-17/18 سنة). الدراسة التجريبية هي إجرائيا نفس الدراسة الفعلية. من الصف الأول إلى الصف الثالث، سيتم اختيار n=2 طلاب عشوائيا من كل صف بحيث يكون العدد الإجمالي ستة طلاب. حيث يملأ أحد المعلمين مقياس كونرز-3 خاص المعلمين من الصف الأول إلى الصف الثالث. ومن الصف الرابع إلى الصف 12، سيتم اختيار n=3 طالبا عشوائيا من كل صف بحيث يكون العدد الإجمالي 27 طالبا. ولكل صف، يملأ ثالثة مدرسين مقياس كونرز-3 خاص المعلمين (مدرسين لمواد اللغة العربية واللغة الإنكليزية ورياضيات). وتبعا لذلك، يبلغ العدد الإجمالي للمعلمين في المرحلة الابتدائية 3 معلمين ويبلغ العدد الإجمالي للمعلمين من المستوى الأعلى 27 معلما من كل مدرسة.

V. في هذه الدراسة، يوزع المحقق المشارك مقياس للرصد على المعلمين وأولياء أمور الطالب الذين تم اختيارهم عشوائيا من قائمة الطلاب من كل المراحل (من الصف الأول حتى الصف الثاني عشر). مقياس الرصد هو (كونرز- 3- Conners-3) وهي أداة تستخدم لرصد حالات اضطراب فرط الحركة ونقص الانتباه. يستغرق مقياس كونرز- 3- حوالي 20 دقيقة لإكماله.

VI. في وقت لاحق، سيطلب من الآباء والمعلمين تقديم ملاحظات حول الاختبار (اللغة، العمر ملاءمة ...) من خلال مقابلات منظمة. وتؤدي هذه العملية إلى تشكيل نسخة معدلة من كونرز-3 المعلمين وأولياء الأمور.

VII. لن يتم سداد نفقات النقل للوالدين والمعلمين.

II. المخاطر والفوائد:

إن مشاركتك في هذه الدراسة لا تشمل بأي من الأحوال التعرض لأي مخاطر جسدية أو شعورية تتجاوز مخاطر الحياة اليومية التي قد تعترض أي إنسان. لك كامل الحق في العودة عن موافقتك أو التوقف عن المشاركة في أي وقت ولأي سبب كان. إن قرارك بالانسحاب لن يعرضك لأي عقوبة أو خسارة لأي امتيازات أنت تستحقها. إن التوقف عن المشاركة في هذه الدراسة لن يؤثر على علاقتك بالمدرسة ولا بالجامعة الأمريكية في بيروت. كما أن رفض المشاركة من الاساس في هذه الدراسة لن يتضمن أي عقوبات من أي نوع ولن يؤثر على علاقة المعلم أو الأهل بالجامعة الأمريكية أو المدرسة.

تشمل فوائد هذه الدراسة توفير باحثين وعلماء النفس والمرشد التربوي النفسي في المدرسة أداة لتقييم ورصد نقص الانتباه وفرط الحركة ADHDتتناسب مع الثقافة اللبنانية من سن 6 إلى 18 سنة. فائدة وجود مقياس كونرز-3 (Conners-3) باللغة العربية يمكن أن يساعد علماء النفس في العديد من المجالات مثل فحص وتقييم ورصد العلاج.

III. السرية:

في حال وافقت على المشاركة في هذه الدراسة، فإن جميع المعلومات ستبقى قيد الكتمان. ولضمان السرية، ستتم مراقبة البيانات ويمكن مراجعتها من قبل لجنة الأخلاقياتIRB .أيضا"، سيتم مراجعة الإجابة ومراقبتها بالسرية. بالإضافة إلى ذلك، لضمان سرية استجابات المعلمين وأولياء الأمور، لن يتم ربط أسمائهم ومعلومات الهوية الأخرى بإجاباتهم. سيتم إعطاء رمز لكل معلم وأحد الوالدين. وسيتم الاحتفاظ بجميع الرموز والبيانات في درج مقفل أو على جهاز كمبيوتر محمي بكلمة مرور. سيكون الاطلاع على البيانات حكرا على الباحث الرئيسي والباحث الثانوي العاملين على هذه الدراسة. سيتم تلف جميع البيانات بشكل مسؤول بعد فترة الاحتفاظ المطلوبة، والتي عادة ما تكون ثلاث سنوات. سيتم الحفاظ على خصوصية المعلمين وأولياء الأمور في جميع البيانات المكتوبة الناتجة عن هذه الدراسة. لن يتم استخدام الأسماء أو المعلومات التعريفية الأخرى للمعلمين وأولياء الأمور والمدرسة في أي تقارير أو عروض تقديمية.

IV. وسائل التواصل:

1. في حال كنتم تودون طرح أي سؤال أو استفسار حول الدراسة، يمكنكم التواصل مع الدكتورة كرمى الحسن على رقم الهاتف 01-350000 مقسم: 3131، أو على البريد الالكتروني: kelhasan@aub.edu.lb أو يمكنكم التواصل مع الباحثة المشاركة الآنسة زينب حيدر عبر البريد الإلكتروني zah15@mail.aub.edu.

2. في حال شعرتم أن أيا من أسئلتكم لم يتم الإجابة عنها، أو في حال كان هناك أي استفسار أو شكوى حول حقوقكم كمشاركين في هذه الدراسة، فبإمكانكم التواصل مع المسؤول في الجامعة الأمريكية: في مجلس

مراجعة دراسات العلوم الانسانية والسلوكية على رقم 01-350000 مقسم :5445 أو عبر البريد الإلكتروني: .irb@mail.aub.edu

V. حقوق المشارك

المشاركة في هذه الدراسة طوعية. لا توجد مكافآت مالية للمشاركة في الدراسة. أنت حر في ترك الدراسة في أي وقت دون عقوبة. إن قرارك بعدم المشاركة لا يؤثر بأي شكل على علاقتك مع الجامعة الأمريكية بأي شكل من الأشكال. سيتم إعطاء نسخة من نموذج الموافقة هذا لك. يمكن للمعلمين وأولياء أمور الطلاب تخطي أي أسئلة قد يرغبون في عدم الإجابة عليها. لن يؤدي قراركم إلى أي عقوبة أو خسارة في المزايا. إذا كان لديك أي أسئلة بخصوص حقوقك، فيمكنك الاتصال بـ: مجلس المراجعة المؤسسية (IRB) على الرقم 01-350000 مقسم :5445.

الباحث الرئيسي: دكتورة كرمة الحسن
العنوان: الجامعة الأمريكية في بيروت
قسم التربية
أستاذ مشارك في علم النفس التربوي ومدير مكتب البحوث والتقييم (OIRA)

الباحثة المشاركة: زينب حيدر
العنوان: الجامعة الأمريكية في بيروت
قسم التربية
بيروت – لبنان

لقد قرأت وفهمت المعلومات الواردة أعلاه. وعليه إني اوافق بشكل طوعي لمشاركة المعلمين وأولياء أمور الطلاب المنتسبين لهذه المدرسة في هذه الدراسة.

توقيع نموذج الموافقة

إسم المدير والمدرسة .....

توقيع المدير .....

التاريخ .....

إسم الباحث المشارك .....

توقيع الباحث المشارك .....

التاريخ .....

American University of Beirut
Department of Education
Parent Consent Form- Pilot Study Phase

Study Title: Adaptation and Validation of Conners-3 Teacher and Parent Rating Scales on Lebanese Children

Principal Investigator: Dr. Karma El Hassan

Co-Investigator: Ms. Zainab Haidar

Dear parent,

Actually, we are asking a group of teachers and patents to participate in a research study. Participation is completely voluntary. Please read the information below and feel free to ask any questions that you may have.

A. Project Description

1. This research is being conducted for the purpose of a Master's thesis in Educational Psychology-tests and Measurements and possibly presentation at academic conference.

2. The purpose of this study is to adapt and validate Conners-3 teacher rating scale and parent rating scale to the Lebanese population so that it can be used to assess behavior, emotions, academic, and social problems of children aged six years to 18 years.

3. This study will be conducted in six schools (two public schools and three private schools) located in the Greater Beirut area, the three educational districts in Greater Beirut. This consent is to be signed by you in order to be eligible to participate in the study. Only parents of students who have signed the parent consent form will be eligible to participate in the study.

4. Your child's school is selected randomly from one of the six target schools for conducting the pilot study, which will take place before the actual study. The sample is made up of 33 students randomly selected from a list of students of each grade level (from grade 1 to grade 12). They will be categorized according to four age level groups: 6-8 years, 9-11 years, 12-14 years, and 15-17/18 years. Thus, 33 parents will participate. From grade 1 to grade 3, n=2 students will be randomly selected from each grade level so the total number will be six students. For each grade level, one teacher will be filling the rating scale (from grade 1 to grade 3). From grade 4 to grade12, n=3 students will be randomly selected from each grade level so the total number will be 27 students. For each grade level, three teachers will be filling the rating scale (Arabic, English, and Math). The total number of parents is n=33 while the total number of

teachers n=30 (n=27 secondary teachers and n=3 primary teachers). The pilot study is procedurally the same as the actual study.

5. In this study, one rating scales will be distributed by the Co-Investigator to the teachers and parents of the student that is randomly selected from a list of students of each grade level (12 different grade levels- grade 1 to grade 12). Conners-3 rating scale is an instrument used to assess ADHD. For completing each rating scale, it will take about 20 minutes to complete.

6. Later, parents and teachers will be requested to provide any remarks or feedback about the test (language, age appropriateness…) through structured interviews. This process leaded to the formation of adapted version of Conners-3 teacher and parent rating scales.

7. Transportation expenses will not be reimbursed for parents and teachers.

8. Before deciding whether to take part in the study, you, as parents should discuss with your child the study and the information you are asked to fill about her/his behavior.

9. While answering the rating scale, in case you think some of the items are applicable on your child, consult a specialist.

B. Risks and Benefits

Your participation in this study does not involve any physical risk or emotional risk to them beyond the risks of their daily life. You have the right to withdraw your consent or discontinue participation at any time for any reason. Your decision to withdraw will not involve any penalty or loss of benefits to which you are entitled. Discontinuing participation in the study will in no way affect your relationship with the school or with AUB. In addition, refusal to participate in the study will involve no penalties of any kind or affect your relationship with AUB. The schools will receive no direct benefits from participating in this research. However, the benefits of this study include providing researchers, psychologists, and school counselors a culturally valid ADHD assessment tool that is suitable for the Lebanese context from age 6 to 18 years old. The benefit of having a valid ADHD assessment tool can help psychologists to use the adapted Conners-3 in the assessment of ADHD since it has been found to be instrumental in variety of areas such as screening, assessment, and treatment monitoring.

C. Confidentiality

If you agree to participate in this research study, the information will be kept confidential. To assure confidentiality, data will be monitored and may be audited by the IRB. To secure the confidentiality of your responses, your name and other identifying information will never be attached to your answers; each parent will be given a code. All codes and data will be kept in a locked drawer in a locker room or on a password-protected computer that is kept secure. Data access is limited to the Principal Investigator and the Co-Investigator working directly on this study. All data

will be destroyed responsibly after the required retention period, which is usually three years. Your privacy will be maintained in all written data resulting from this study. Your name or other identifying information will not be used in any reports or presentations.

D. Contact Information

3. If you have any questions or concerns about the research, you may contact Dr. Karma El Hassan at 01-350000 ext. 3131 or by email: kelhassan@aub.edu.lb or Ms. Zainab Haidar by email: zah15@mail.aub.edu.
4. If you feel that your questions have not been answered, or if you have any questions, concerns, or complaints about your rights as a participant in this research, you can contact the following officer at AUB: Social and Behavioral Sciences Institutional Review Board at 01- 350000 or 01- 374374, Ext: 5445 or by email: irb@mail.aub.edu.

E. Participant rights

Participation in this study is voluntary. There are no monetary rewards for participation in the study. You are free to leave the study at any time without penalty. Your decision not to participate is no way influences your relationship with AUB in any way. A copy of this consent form will be given to you. You may skip any questions that they may wish not to answer. Your decision will not result in any penalty or loss of benefits. If you have any questions regarding your rights, you may call: Institutional Review Board (IRB) on 01- 350000 ext. 5445.

Sincerely,

Karma El Hassan
Associate Professor, Department of Education & Director, Office of Institutional Research and
Assessment (OIRA)
Faculty of Arts and Sciences
American University of Beirut

Zainab Haidar
Graduate Student, Department of Education
Faculty of Arts and Sciences
American University of Beirut

I have read and understood the above information. I voluntarily agree as a parent to participate in this study.

Name of Parent: _____
Signature of Parent: _____
Date & Time: _____
Co-Investigator Name: _____
Co-Investigator Signature: _____
Date & Time: _____

الجامعة الأمريكية في بيروت
قسم التربية
إذن موافقة الأهل
المقاربة المباشرة- الدراسة التجريبية

عنوان الدراسة: تكيف وتطوير مقياس كونرز-3 (Conners-3) باللغة العربية بحيث يتناسب بيئة التلميذ اللبناني

الباحث الرئيسي: دكتورة كرمى الحسن

الباحثة المشاركة: زينب حيدر

حضرة ولي أمر التلميذ(ة) المحترم

في الواقع، نحن نطلب مجموعة من المعلمين والأهل للمشاركة في دراسة بحثية. إن المشاركة في الدراسة البحثية اختيارية تماما. رجاء إقرأ المعلومات الواردة أدناه ولاتتردد في طرح أي سؤال حولها.

I. وصف المشروع:

1. يجري هذا البحث لغرض أطروحة الماجستير في علم النفس التربوي فرع الإختبارات والقياس وربما سوف يعرض في المؤتمر الأكاديمي.

2. الغرض من هذه الدراسة هو تكيف وتطوير مقياس كونرز-3 (Conners-3) مقياس خاص المعلمين ومقياس خاص الوالدين باللغة العربية بحيث يتناسب بيئة التلميذ اللبناني بحيث يمكن استخدامه لرصد سلوكيات والمشاكل الأكاديمية والاجتماعية واضطراب فرط الحركة ونقص الانتباه عند الأطفال الذين تتراوح أعمارهم بين ست سنوات إلى 18 سنوات.

3. ستجرى هذه الدراسة في ست مدارس (مدرستان رسميتان وثلاث مدارس خاصة) تقع في ثلاث مناطق تعليمية في بيروت الكبرى. لتكون مؤهلاً للمشاركة في الدراسة، يجب توقيع استمارة موافقة الوالدين. فقط أهالي الطلاب الذين وقعوا على استمارة موافقة الوالدين سيكونون مؤهلين للمشاركة في الدراسة.

4. تم اختيار مدرسة طفلك لإجراء الدراسة التجريبية. وتتكون عينة الدراسة من 33 طالبا بتم اختيارهم عشوائيا من قائمة الطلبة في كل صف (كما سيتم تصنيفهم حسب الفئات العمرية: 6-8 سنوات، 9-11 سنة، 12-14 سنة، و15-17/18 سنة). الدراسة التجريبية هي إجرائيا نفس الدراسة الفعلية. من الصف الأول إلى الصف الثالث، سيتم اختيار n=2 طلاب عشوائيا من كل صف بحيث يكون العدد الإجمالي ستة طلاب. حيث يملأ أحد المعلمين مقياس كونرز-3 خاص المعلمين من الصف الأول إلى الصف الثالث. ومن الصف الرابع إلى الصف 12، سيتم اختيار n=3 طالبا عشوائيا من كل صف بحيث يكون العدد الإجمالي 27 طالبا. ولكل صف، يملأ ثالثة مدرسين مقياس كونرز-3 خاص المعلمين (مدرسين لمواد اللغة العربية واللغة الإنكليزية ورياضيات). وتبعا لذلك، يبلغ العدد الإجمالي للمعلمين في المرحلة الابتدائية 3 معلمين ويبلغ العدد الإجمالي للمعلمين من المستوى الأعلى 27 معلما من كل مدرسة.

5. في هذه الدراسة، يوزع المحقق المشارك مقياس للرصد على المعلمين وأولياء أمور الطالب الذين تم اختياره عشوائيا من قائمة الطلاب من كل المراحل (من الصف الأول حتى الصف الثاني عشر). مقياس

الرصد هو (كونرز- 3- Conners-3) وهي أداة تستخدم لرصد حالات اضطراب فرط الحركة ونقص الانتباه. يستغرق مقياس كونرز- 3- حوالي 20 دقيقة لإكماله.

6. في وقت لاحق، سيطلب من الآباء والمعلمين تقديم ملاحظات حول الاختبار (اللغة، العمر ملاءمة ...) من خلال مقابلات منظمة. وتؤدي هذه العملية إلى تشكيل نسخة معدلة من كونرز-3 المعلمين وأولياء الأمور.

7. لن يتم سداد نفقات النقل للوالدين والمعلمين.

8. قبل إتخاذ القرار في الشروع بالدراسة، يرجى من الأهل الكرام مناقشة امر الدراسة والمعلومات المطلوب معرفتها حول السلوكيات مع أولادهم.

9. عند الإجابة على مقياس التقييم، في حال كنت تعتقد أن بعض العناصر قابلة للتطبيق على طفلك، استشر أحد المتخصصين.

II. المخاطر والفوائد:

إن مشاركتك في هذه الدراسة لا تشمل بأي من الأحوال التعرض لأي مخاطر جسدية أو شعورية تتجاوز مخاطر الحياة اليومية التي قد تعترض أي إنسان. لك كامل الحق في العودة عن موافقتك أو التوقف عن المشاركة في أي وقت ولأي سبب كان. إن قرارك بالانسحاب لن يعرضك لأي عقوبة أو خسارة لأي امتيازات أنت تستحقها. إن التوقف عن المشاركة في هذه الدراسة لن يؤثر على علاقتك بالمدرسة ولا بالجامعة الأمريكية في بيروت. كما أن رفض المشاركة من الاساس في هذه الدراسة لن يتضمن أي عقوبات من أي نوع ولن يؤثر على علاقة المعلم أو الأهل بالجامعة الأمريكية أو المدرسة.

تشمل فوائد هذه الدراسة توفير باحثين وعلماء النفس والمرشد التربوي النفسي في المدرسة أداة لتقييم ورصد نقص الانتباه وفرط الحركة ADHDتتناسب مع الثقافة اللبنانية من سن 6 إلى 18 سنة. فائدة وجود مقياس كونرز-3 (Conners-3) باللغة العربية يمكن أن يساعد علماء النفس في العديد من المجالات مثل فحص وتقييم ورصد العلاج.

III. السرية:

في حال وافقت على المشاركة في هذه الدراسة، فإن جميع المعلومات ستبقى قيد الكتمان. ولضمان السرية، ستتم مراقبة البيانات ويمكن مراجعتها من قبل لجنة الأخلاقيات IRB.أيضا"، سيتم مراجعة الإجابة ومراقبتها بالسرية. بالإضافة إلى ذلك، لضمان سرية استجابات المعلمين وأولياء الأمور، لن يتم ربط أسمائهم ومعلومات الهوية الأخرى بإجاباتهم. سيتم إعطاء رمز لكل معلم وأحد الوالدين. وسيتم الاحتفاظ بجميع الرموز والبيانات في درج مقفل أو على جهاز كمبيوتر محمي بكلمة مرور. سيكون الاطلاع على البيانات حكرا على الباحث الرئيسي والباحث الثانوي العاملين على هذه الدراسة. سيتم تلف جميع البيانات بشكل مسؤول بعد فترة الاحتفاظ المطلوبة، والتي عادة ما تكون ثلاث سنوات. سيتم الحفاظ على خصوصية المعلمين وأولياء الأمور في جميع البيانات المكتوبة الناتجة عن هذه الدراسة. لن يتم استخدام الأسماء أو المعلومات التعريفية الأخرى للمعلمين وأولياء الأمور والمدرسة في أي تقارير أو عروض تقديمية.

IV. وسائل التواصل:

1. في حال كنتم تودون طرح أي سؤال أو استفسار حول الدراسة، يمكنكم التواصل مع الدكتورة كرمى الحسن على رقم الهاتف 01-350000 مقسم: 3131، أو على البريد الالكتروني: kelhasan@aub.edu.lb أو يمكنكم التواصل مع الباحثة المشاركة الآنسة زينب حيدر عبر البريد الإلكترونيzah15@mail.aub.edu .

2. في حال شعرتم أن أيا من أسئلتكم لم يتم الإجابة عنها، أو في حال كان هناك أي استفسار أو شكوى حول حقوقكم كمشاركين في هذه الدراسة، فبإمكانكم التواصل مع المسؤول في الجامعة الأمريكية: في مجلس مراجعة دراسات العلوم الانسانية والسلوكية على رقم 350000-01 مقسم :5445 أو عبر البريد الإلكتروني: .irb@mail.aub.edu

V. حقوق المشارك

المشاركة في هذه الدراسة طوعية. لا توجد مكافآت مالية للمشاركة في الدراسة. أنت حر في ترك الدراسة في أي وقت دون عقوبة. إن قرارك بعدم المشاركة لا يؤثر بأي شكل على علاقتك مع الجامعة الأمريكية بأي شكل من الأشكال. سيتم إعطاء نسخة من نموذج الموافقة هذا لك. يمكن للمعلمين وأولياء أمور الطلاب تخطي أي أسئلة قد يرغبون في عدم الإجابة عليها. لن يؤدي قراركم إلى أي عقوبة أو خسارة في المزايا. إذا كان لديك أي أسئلة بخصوص حقوقك، فيمكنك الاتصال بـ: مجلس المراجعة المؤسسية (IRB) على الرقم 350000-01 مقسم :5445.

الباحث الرئيسي: دكتورة كرمة الحسن
العنوان: الجامعة الأمريكية في بيروت
قسم التربية
أستاذ مشارك في علم النفس التربوي ومدير مكتب البحوث والتقييم (OIRA)

الباحثة المشاركة: زينب حيدر
العنوان: الجامعة الأمريكية في بيروت
قسم التربية
بيروت – لبنان

لقد قرأت وفهمت المعلومات الواردة أعلاه. وعليه إني اوافق بشكل طوعي للمشاركة كولي أمر في هذه الدراسة.

توقيع نموذج الموافقة

إسم ولي الأمر .....

توقيع ولي الأمر .....

التاريخ .....

إسم الباحث المشارك .....

توقيع الباحث المشارك .....

التاريخ والوقت .....

American University of Beirut
Department of Education
Teacher Consent Form- Pilot Study Phase

Study Title: Adaptation and Validation of Conners-3 Teacher and Parent Rating Scales on Lebanese Children

Principal Investigator: Dr. Karma El Hassan

Co-Investigator: Ms. Zainab Haidar

Dear teacher,

Actually, we are asking a group of teachers and patents to participate in a research study. Participation is completely voluntary. Please read the information below and feel free to ask any questions that you may have.

A. Project Description

1. This research is being conducted for the purpose of a Master's thesis in Educational Psychology-tests and Measurements and possibly presentation at academic conference.

2. The purpose of this study is to adapt and validate Conners-3 teacher rating scale and parent rating scale to the Lebanese population so that it can be used to assess behavior, emotions, academic, and social problems of children aged six years to 18 years.

3. This study will be conducted in six schools (two public schools and four private schools) located in the Greater Beirut area, the three educational districts in Greater Beirut. This consent is to be signed by you in order to be eligible to participate in the study.

4. Your school is selected randomly from one of the six target schools for conducting the pilot study, which will take place before the actual study. The sample is made up of 33 students randomly selected from a list of students of each grade level (from grade 1 to grade 12). They will be categorized according to four age level groups: 6-8 years, 9-11 years, 12-14 years, and 15-17/18 years. Thus, 33 parents will participate. From grade 1 to grade 3, n=2 students will be randomly selected from each grade level so the total number will be six students. For each grade level, one teacher will be filling the rating scale (from grade 1 to grade 3). From grade 4 to grade12, n=3 students will be randomly selected from each grade level so the total number will be 27 students. For each grade level, three teachers will be filling the rating scale (Arabic, English, and Math). The total number of parents is n=33 while the total number of teachers n=30

(n=27 secondary teachers and n=3 primary teachers). The pilot study is procedurally the same as the actual study.

5. In this study, one rating scales will be distributed by the Co-Investigator to the teachers and parents of the ten students that are randomly selected from a list of students of each grade level (12 different grade levels- grade 1 to grade 12). Conners-3 rating scale is an instrument used to assess ADHD. For completing each rating scale, it will take about 20 minutes to complete.

6. Later, parents and teachers will be requested to provide any remarks or feedback about the test (language, age appropriateness…) through structured interviews. This process leaded to the formation of adapted version of Conners-3 teacher and parent rating scales.

7. Transportation expenses will not be reimbursed for parents and teachers.

B. Risks and Benefits

Your participation in this study does not involve any physical risk or emotional risk to them beyond the risks of their daily life. You have the right to withdraw your consent or discontinue participation at any time for any reason. Your decision to withdraw will not involve any penalty or loss of benefits to which you are entitled. Discontinuing participation in the study will in no way affect your relationship with the school or with AUB. In addition, refusal to participate in the study will involve no penalties of any kind or affect your relationship with AUB. The schools will receive no direct benefits from participating in this research. However, the benefits of this study include providing researchers, psychologists, and school counselors a culturally valid ADHD assessment tool that is suitable for the Lebanese context from age 6 to 18 years old. The benefit of having a valid ADHD assessment tool can help psychologists to use the adapted Conners-3 in the assessment of ADHD since it has been found to be instrumental in variety of areas such as screening, assessment, and treatment monitoring.

C. Confidentiality

If you agree to participate in this research study, the information will be kept confidential. To assure confidentiality, data will be monitored and may be audited by the IRB. To secure the confidentiality of your responses, your name and other identifying information will never be attached to your answers; each teacher will be given a code. All codes and data will be kept in a locked drawer in a locker room or on a password-protected computer that is kept secure. Data access is limited to the Principal Investigator and the Co-Investigator working directly on this study. All data will be destroyed responsibly after the required retention period, which is usually three years. Your privacy will be maintained in all written data resulting from this study. Your name or other identifying information will not be used in any reports or presentations.

D. Contact Information

1. If you have any questions or concerns about the research, you may contact Dr. Karma El Hassan at 01-350000 ext. 3131 or by email: kelhassan@aub.edu.lb or Ms. Zainab Haidar by email: zah15@mail.aub.edu.
2. If you feel that your questions have not been answered, or if you have any questions, concerns, or complaints about your rights as a participant in this research, you can contact the following officer at AUB: Social and Behavioral Sciences Institutional Review Board at 01- 350000 or 01- 374374, Ext: 5445 or by email: irb@mail.aub.edu.

E. Participant rights

Participation in this study is voluntary. There are no monetary rewards for participation in the study. You are free to leave the study at any time without penalty. Your decision not to participate is no way influences your relationship with AUB in any way. A copy of this consent form will be given to you. You may skip any questions that they may wish not to answer. Your decision will not result in any penalty or loss of benefits. If you have any questions regarding your rights, you may call: Institutional Review Board (IRB) on 01- 350000 ext. 5445.

Sincerely,

Karma El Hassan
Associate Professor, Department of Education & Director, Office of Institutional Research and
Assessment (OIRA)
Faculty of Arts and Sciences
American University of Beirut

Zainab Haidar
Graduate Student, Department of Education
Faculty of Arts and Sciences
American University of Beirut

I have read and understood the above information. I voluntarily agree as a teacher to participate in this study.
Name of Teacher: _____
Signature of Teacher: _____
Date: _____
Co-Investigator Name: _____
Co-Investigator Signature: _____
Date: _____

الجامعة الأمريكية في بيروت
قسم التربية
إذن موافقة المعلم
المقاربة المباشرة- الدراسة التجريبية

عنوان الدراسة: تكيف وتطوير مقياس كونرز-3 (Conners-3) باللغة العربية بحيث يتناسب بيئة التلميذ اللبناني

الباحث الرئيسي: دكتورة كرمى الحسن

الباحثة المشاركة: زينب حيدر

حضرة المعلم(ة) المحترم(ة)

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I. وصف المشروع:

1. يجري هذا البحث لغرض أطروحة الماجستير في علم النفس التربوي فرع الإختبارات والقياس وربما سوف يعرض في المؤتمر الأكاديمي.

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4. تم اختيار مدرستكم لإجراء الدراسة التجريبية. وتتكون عينة الدراسة من 33 طالبا بتم اختيارهم عشوائيا من قائمة الطلبة في كل صف (كما سيتم تصنيفهم حسب الفئات العمرية: 6-8 سنوات، 9-11 سنة، 12-14 سنة، و15-17/18 سنة). الدراسة التجريبية هي إجرائيا نفس الدراسة الفعلية. من الصف الأول إلى الصف الثالث، سيتم اختيار n=2 طلاب عشوائيا من كل صف بحيث يكون العدد الإجمالي ستة طلاب. حيث يملأ أحد المعلمين مقياس كونرز-3 خاص المعلمين من الصف الأول إلى الصف الثالث. ومن الصف الرابع إلى الصف 12، سيتم اختيار n=3 طالبا عشوائيا من كل صف بحيث يكون العدد الإجمالي 27 طالبا. ولكل صف، يملأ ثالثة مدرسين مقياس كونرز-3 خاص المعلمين (مدرسين لمواد اللغة العربية واللغة الإنكليزية ورياضيات). وتبعا لذلك، يبلغ العدد الإجمالي للمعلمين في المرحلة الابتدائية 3 معلمين ويبلغ العدد الإجمالي للمعلمين من المستوى الأعلى 27 معلما من كل مدرسة.

5. في هذه الدراسة، يوزع المحقق المشارك مقياس للرصد على المعلمين وأولياء أمور الطالب الذين تم اختياره عشوائيا من قائمة الطلاب من كل المراحل (من الصف الأول حتى الصف الثاني عشر). مقياس الرصد هو (كونرز- 3- Conners-3) وهي أداة تستخدم لرصد حالات اضطراب فرط الحركة ونقص الانتباه. يستغرق مقياس كونرز- 3- حوالي 20 دقيقة لإكماله.

6. في وقت لاحق، سيطلب من الآباء والمعلمين تقديم ملاحظات حول الاختبار (اللغة، العمر ملاءمة ...) من خلال مقابلات منظمة. وتؤدي هذه العملية إلى تشكيل نسخة معدلة من كونرز-3 المعلمين وأولياء الأمور.

7. لن يتم سداد نفقات النقل للوالدين والمعلمين.

II. المخاطر والفوائد:

إن مشاركتك في هذه الدراسة لا تشمل بأي من الأحوال التعرض لأي مخاطر جسدية أو شعورية تتجاوز مخاطر الحياة اليومية التي قد تعترض أي إنسان. لك كامل الحق في العودة عن موافقتك أو التوقف عن المشاركة في أي وقت ولأي سبب كان. إن قرارك بالانسحاب لن يعرضك لأي عقوبة أو خسارة لأي امتيازات أنت تستحقها. إن التوقف عن المشاركة في هذه الدراسة لن يؤثر على علاقتك بالمدرسة ولا بالجامعة الأمريكية في بيروت. كما أن رفض المشاركة من الاساس في هذه الدراسة لن يتضمن أي عقوبات من أي نوع ولن يؤثر على علاقة المعلم أو الأهل بالجامعة الأمريكية أو المدرسة.

تشمل فوائد هذه الدراسة توفير باحثين وعلماء النفس والمرشد التربوي النفسي في المدرسة أداة لتقييم ورصد نقص الانتباه وفرط الحركة ADHDتتناسب مع الثقافة اللبنانية من سن 6 إلى 18 سنة. فائدة وجود مقياس كونرز-3 (Conners-3) باللغة العربية يمكن أن يساعد علماء النفس في العديد من المجالات مثل فحص وتقييم ورصد العلاج.

III. السرية:

في حال وافقت على المشاركة في هذه الدراسة، فإن جميع المعلومات ستبقى قيد الكتمان. ولضمان السرية، ستتم مراقبة البيانات ويمكن مراجعتها من قبل لجنة الأخلاقيات IRB.أيضا"، سيتم مراجعة الإجابة ومراقبتها بالسرية. بالإضافة إلى ذلك، لضمان سرية استجابات المعلمين وأولياء الأمور، لن يتم ربط أسمائهم ومعلومات الهوية الأخرى بإجاباتهم. سيتم إعطاء رمز لكل معلم وأحد الوالدين. وسيتم الاحتفاظ بجميع الرموز والبيانات في درج مقفل أو على جهاز كمبيوتر محمي بكلمة مرور. سيكون الاطلاع على البيانات حكرا على الباحث الرئيسي والباحث الثانوي العاملين على هذه الدراسة. سيتم تلف جميع البيانات بشكل مسؤول بعد فترة الاحتفاظ المطلوبة، والتي عادة ما تكون ثلاث سنوات. سيتم الحفاظ على خصوصية المعلمين وأولياء الأمور في جميع البيانات المكتوبة الناتجة عن هذه الدراسة. لن يتم استخدام الأسماء أو المعلومات التعريفية الأخرى للمعلمين وأولياء الأمور والمدرسة في أي تقارير أو عروض تقديمية.

IV. وسائل التواصل:

1. في حال كنتم تودون طرح أي سؤال أو استفسار حول الدراسة، يمكنكم التواصل مع الدكتورة كرمى الحسن على رقم الهاتف 01-350000 مقسم: 3131، أو على البريد الالكتروني: kelhasan@aub.edu.lb أو يمكنكم التواصل مع الباحثة المشاركة الآنسة زينب حيدر عبر البريد الإلكترونيzah15@mail.aub.edu .

2. في حال شعرتم أن أيا من أسئلتكم لم يتم الإجابة عنها، أو في حال كان هناك أي استفسار أو شكوى حول حقوقكم كمشاركين في هذه الدراسة، فبإمكانكم التواصل مع المسؤول في الجامعة الأمريكية: في مجلس

مراجعة دراسات العلوم الانسانية والسلوكية على رقم 01-350000 مقسم :5445 أو عبر البريد الإلكتروني: .irb@mail.aub.edu

V. حقوق المشارك

المشاركة في هذه الدراسة طوعية. لا توجد مكافآت مالية للمشاركة في الدراسة. أنت حر في ترك الدراسة في أي وقت دون عقوبة. إن قرارك بعدم المشاركة لا يؤثر بأي شكل على علاقتك مع الجامعة الأمريكية بأي شكل من الأشكال. سيتم إعطاء نسخة من نموذج الموافقة هذا لك. يمكن للمعلمين وأولياء أمور الطلاب تخطي أي أسئلة قد يرغبون في عدم الإجابة عليها. لن يؤدي قراركم إلى أي عقوبة أو خسارة في المزايا. إذا كان لديك أي أسئلة بخصوص حقوقك، فيمكنك الاتصال بـ: مجلس المراجعة المؤسسية (IRB) على الرقم 01-350000 مقسم :5445.

الباحث الرئيسي: دكتورة كرمة الحسن
العنوان: الجامعة الأمريكية في بيروت
قسم التربية
أستاذ مشارك في علم النفس التربوي ومدير مكتب البحوث والتقييم (OIRA)

الباحثة المشاركة: زينب حيدر
العنوان: الجامعة الأمريكية في بيروت
قسم التربية
بيروت – لبنان

لقد قرأت وفهمت المعلومات الواردة أعلاه. وعليه إني اوافق بشكل طوعي لمشاركة كمعلم في هذه الدراسة.
توقيع نموذج الموافقة

إسم ولي الأمر .....

توقيع ولي الأمر .....

التاريخ .....

إسم الباحث المشارك .....

توقيع الباحث المشارك .....

التاريخ .....

APPEBDIX H

IRB FORMS (PRINCIPAL'S, PARENTAL, AND TEACHE

CONSENT FORMS- Study Phase)

American University of Beirut
Department of Education
School Principal Consent Form- Study Phase

Study Title: Adaptation and Validation of Conners-3 Teacher and Parent Rating Scales on Lebanese Children

Principal Investigator: Dr. Karma El Hassan

Co-Investigator: Ms. Zainab Haidar

Dear principal,

We are requesting your approval to conduct a study in the school under Institutional Review Board (IRB) for human rights regulations. We are asking a group of teachers and parents to participate in a research study. Participation is completely voluntary. Please read the information below and feel free to ask any questions that you may have.

A. Project Description

10. This research is being conducted for the purpose of a Master's thesis in Educational Psychology-Tests and Measurements and possibly presentation at academic conference.

11. The purpose of this study is to adapt and validate Conners-3 teacher rating scale and parent rating scale to the Lebanese population so that it can be used to assess behavior, emotions, academic, and social problems of children aged six years to 18 years.

12. This study will be conducted in six schools (two public schools and four private schools) located in the Greater Beirut area, the three educational districts in Greater Beirut. This consent is to be signed by the school principals in order to be eligible to participate in the study. As a principal, you will be given a copy of this consent form to keep with you. Four private schools and two public schools are randomly selected from the three educational districts in Greater Beirut. The sample is made up of 576 students registered in private and public schools. From each school 96 students will be selected. Eight students will be randomly selected from a list of students of each grade level (12 different grade levels- grade 1 to grade 12). These groups will be categorized according to *four age level groups: 6-8 years, 9-11 years, 12-14 years, and 15-17 years.* Thus, the total number of parents that will participate is 576. One teacher for each grade level (from grade 1 to grade 12) will participate. Consequently, the total number of teachers

is n=72 (12 teachers from each school). In order to have a well-validated ADHD assessment tool (Conners-3 parent rating scale and Conners-3 teacher rating scale), we need to have a big sample size that can be representative of the three educational districts in Greater Beirut. It is still an acceptable sample size, in case not all the 96 students (teachers and parents) per school accept to participate in the study so we end up with approximately 470 to 520 students as a total from all schools. After the school approves to participate, parent consent form will be sent to the parents with their children in order to be signed. Then, teacher consent form will be distributed to the teachers in order to be signed. Only teachers and parents of students who have signed the teacher consent form and parent consent form will be eligible to participate in the study.

13. In this study, one rating scales will be distributed by the Co-Investigator to the teachers and parents of the eight students that are randomly selected from a list of students of each grade level (12 different grade levels- grade 1 to grade 12). Conners-3 rating scale is an instrument used to assess ADHD.
    A meeting with teachers and parents (not mandatory) will be done in the school in order to explain for them the purpose of the study, to request their participation, and to explain and to instruct them how to fill in Conners-3-teacher rating scale and Conners-3 parent rating scale. In addition, teachers will be asked to complete the scale in one setting based on their observations and data collection of the student's behavior and actions over the past months. One teacher for each grade level (from grade 1 to grade 12) will be asked to complete the rating scales. Hence, overall 12 teachers will be asked. Moreover, parents will also be asked to complete the scale in one setting based on their observations and data collection of their child's behavior and actions over the past months. For completing each rating scale, it will take about 15-20 minutes to complete. Thus, the amount of teacher time required for the study is minimum 120 minutes and maximum 160 minutes (for each grade level). According to parents, the amount of time required for the study is minimum 15 minutes and maximum 25 minutes. Consent will be sought from teachers and parents.
    After 2 weeks from administration of the adapted Conners-3 teacher and parent rating scales, a third visit to one of the six schools will be done. The purpose of this visit is to re-administer the adapted Conners-3 teacher and parent rating scales for test-retest reliability. The sample will be made up of 36 students that are randomly selected to target three students from each grade level (grade 1 through grade 12). These students are already participated in the study before. Hence, parents and teachers of this sample will be given the Conners-3 teacher and parent rating scales to refill them.

14. Transportation expenses will not be reimbursed for parents and teachers.

B. Risks and Benefits

Teachers and parents' participation in this study does not involve any physical risk or emotional risk to them beyond the risks of their daily life. Participant teachers and parents have the right to withdraw your consent or discontinue participation at any time for any reason. Teacher and parent's decision to withdraw will not involve any penalty or loss of benefits to which you are entitled. Discontinuing participation in the study will in no way affect your relationship with the school or with AUB. In addition,

refusal to participate in the study will involve no penalties of any kind or affect the principals or teachers' relationship with AUB. The schools will receive no direct benefits from participating in this research. However, the benefits of this study include providing researchers, psychologists, and school counselors a culturally valid ADHD assessment tool that is suitable for the Lebanese context from age 6 to 18 years old. The benefit of having a valid ADHD assessment tool can help psychologists to use the adapted Conners-3 in the assessment of ADHD since it has been found to be instrumental in variety of areas such as screening, assessment, and treatment monitoring.

C. Confidentiality

If you agree that the teachers and parents may participate in this research study, the information will be kept confidential. To assure confidentiality, data will be monitored and may be audited by the IRB. Besides, to secure the confidentiality of the responses of the teachers and parents, their names and other identifying information will never be attached to their answers; each teacher and parent will be given a code. All codes and data will be kept in a locked drawer in a locker room or on a password-protected computer that is kept secure. Data access is limited to the Principal Investigator and the Co-Investigator working directly on this study. All data will be destroyed responsibly after the required retention period, which is usually three years. The teachers and parents' privacy will be maintained in all written data resulting from this study. Names or other identifying information of the teachers, parents, and of the school will not be used in any reports or presentations.

D. Contact Information

3. If you have any questions or concerns about the research, you may contact Dr. Karma El Hassan at 01-350000 ext. 3131 or by email: kelhassan@aub.edu.lb or Ms. Zainab Haidar by email: zah15@mail.aub.edu.
4. If you feel that your questions have not been answered, or if you have any questions, concerns, or complaints about your rights as a participant in this research, you can contact the following officer at AUB: Social and Behavioral Sciences Institutional Review Board at 01- 350000 or 01- 374374, Ext: 5445 or by email: irb@mail.aub.edu.

E. Participant rights

Participation in this study is voluntary. There are no monetary rewards for participation in the study. You are free to leave the study at any time without penalty. Your decision not to participate is no way influences your relationship with AUB in any way. A copy of this consent form will be given to you. Teachers and parents of the students (sample) may skip any questions that they may wish not to answer. Your decision will not result in any penalty or loss of benefits. If you have any questions regarding your rights, you may call: Institutional Review Board (IRB) on 01- 350000 ext. 5445.

Sincerely,

Karma El Hassan
Associate Professor, Department of Education & Director, Office of Institutional Research and Assessment (OIRA)
Faculty of Arts and Sciences
American University of Beirut

Zainab Haidar
Graduate Student, Department of Education
Faculty of Arts and Sciences
American University of Beirut

I have read and understood the above information. I voluntarily agree for the teachers and parents of the students of this school to participate in this study.

Name of Principal: _____
Signature of Principal: _____
Date: _____
Co-Investigator Name: _____
Co-Investigator Signature: _____
Date: _____

الجامعة الأمريكية في بيروت
قسم التربية
إذن موافقة مدير المدرسة
المقاربة المباشرة-مرحلة الدراسة

عنوان الدراسة: تكيف وتطوير مقياس كونرز-3 (Conners-3) باللغة العربية بحيث يتناسب بيئة التلميذ اللبناني

الباحث الرئيسي: دكتورة كرمى الحسن

الباحثة المشاركة: زينب حيدر

حضرة السيد(ة) المدير(ة) مدرسة المحترم

إننا نرغب في الحصول على موافقتكم على المشاركة في هذه الدراسة تحت إشراف لجنة أخلاقيات البحث (IRB). إن المشاركة اختيارية تماما. رجاء اقرأ المعلومات الواردة أدناه ولا تتردد في طرح أي سؤال حولها.

VI. وصف المشروع:

1. يجري هذا البحث لغرض أطروحة الماجستير في علم النفس التربوي فرع الإختبارات والقياس وربما سوف يعرض في المؤتمر الأكاديمي.

2. الغرض من هذه الدراسة هو تكيف وتطوير مقياس كونرز-3 (Conners-3) مقياس خاص المعلمين ومقياس خاص الوالدين باللغة العربية بحيث يتناسب بيئة التلميذ اللبناني بحيث يمكن استخدامه لرصد سلوكيات والمشاكل الأكاديمية والاجتماعية واضطراب فرط الحركة ونقص الانتباه عند الأطفال الذين تتراوح أعمارهم بين ست سنوات إلى 18 سنوات.

3. ستجرى هذه الدراسة في الست مدارس (مدرستان رسميتان وأربع مدارس خاصة) تقع في ثلاث مناطق تعليمية في بيروت الكبرى. يجب أن يوقع مدير المدرسة على هذه الموافقة لكي تكون مؤهلة للمشاركة في الدراسة. كمدير، سيتم منحك نسخة من نموذج الموافقة هذه كي تبقى معك. سيتم اختيار أربع مدارس خاصة ومدرستين رسميتين عشوائيا من المناطق التعليمية الثلاث في بيروت الكبرى. وتتكون العينة من 576 طالبا وطالبة مسجلين في المدارس الخاصة والرسمية. سيتم اختيار 96 طالب من كل مدرسة. وسيتم اختيار ثمان طلاب عشوائيا من قائمة الطلاب من كافة المراحل (الصف 1 إلى الصف 12). تصنف هذه المجموعات حسب الفئات العمرية: 6-8 سنوات، 9-11 سنة، 12-14 سنة، و15-17/18 سنة. وعليه، فإن العدد الإجمالي لأولياء الأمور الذين سيملؤون الإستمارات هو 96. وفي الوقت نفسه، سيشارك معلم واحد لكل من الصف الأول إلى الصف الثاني عشر. وتبعا لذلك، يبلغ العدد الإجمالي للمعلمين 72معلماً. من أجل الحصول على أداة رصد حالات اضطراب فرط الحركة ونقص الانتباه عند الأطفال (مقياس كونرز-3 خاص الوالدين ومقياس كونرز-3 خاص المعلمين)، يجب أن يكون لدينا حجم عينة كبير يمكن أن يكون ممثلا للمناطق التعليمية الثلاث في بيروت الكبرى. لا يزال حجم العينة مقبول، في حال لم يقبل كل 96 طالب (المعلمين وأولياء الأمور) في كل مدرسة للمشاركة في الدراسة وننتهي في نهاية المطاف مع ما يقرب من 470 إلى 520 طالبا إجمالا من جميع المدارس. بعد موافقة المدرسة على المشاركة، سيتم إرسال نموذج موافقة الوالدين إلى الآباء والأمهات مع أطفالهم من أجل التوقيع عليها. ونموذج آخر وهو استمارة موافقة المعلمين ستوزع على المعلمين

من أجل التوقيع عليها. فقط أهالي ومعلمين الطلاب الذين وقعوا على استمارة موافقة الوالدين واستمارة موافقة المعلم سيكونون مؤهلين للمشاركة في الدراسة.

4. في هذه الدراسة، يوزع المحقق المشارك مقياس كونرز- 3- (Conners- 3) للرصد على المعلمين وأولياء أمور الطلاب الثمانية الذين يتم اختيارهم عشوائيا من قائمة الطلاب من كل المراحل (من الصف الأول حتى الصف الثاني عشر). مقياس الرصد كونرز- 3- Conners-3) هي الأداة تستخدم لرصد حالات اضطراب فرط الحركة ونقص الانتباه. وسيتم عقد لقاء مع المعلمين وأولياء الأمور (ليس إلزاميا) من أجل شرح لهم الغرض من الدراسة، لطلب مشاركتهم، وشرح وإرشادهم كيفية ملء مقياس كونرز-3 خاص الوالدين ومقياس كونرز-3 خاص المعلمين.
وبالإضافة إلى ذلك، سيطلب من المعلمين لاستكمال المقياس في إطار واحد استنادا إلى ملاحظاتهم وجمع البيانات من سلوك الطالب والإجراءات خلال الأشهر الماضية. حيث يطلب من معلم لكل من الصف الأول إلى الصف الثاني عشر. وتبعا لذلك، يبلغ العدد الإجمالي للمعلمين 72 معلما من كل مدرسة. وعلاوة على ذلك، سيطلب من أولياء أمور (96ولي أمر) أيضا استكمال الجدول في إطار واحد استنادا إلى ملاحظاتهم وجمع البيانات من سلوك الطفل والإجراءات على مدى الأشهر الماضية. يستغرق مقياس كونرز- 3- حوالي 15-20 دقيقة لإكماله. وبالتالي، فإن مقدار وقت المعلم المطلوب منه للدراسة هو 120 دقيقة كحد أدنى 160 دقيقة كحد أقصى (لكل مستوى الصف). وأم بالنسبة للأهل، فمقدار الوقت اللازم للدراسة هو الحد الأدنى 15 دقيقة والحد الأقصى 25 دقيقة. وسيتم طلب الموافقة من المعلمين وأولياء الأمور.
وبعد أسبوعين من ملء مقياس كونرز-3 خاص الوالدين ومقياس كونرز-3 خاص المعلمين.، ستجري زيارة ثالثة إلى إحدى المدارس الست. والغرض من هذه الزيارة هو ملء مقياس كونرز-3 خاص الوالدين ومقياس كونرز-3 خاص المعلمين مرة ثانية. وستكون العينة مكونة من 36 طالبا يتم اختيارهم عشوائيا لذا سيتم اختيار طالبين من كل صف قد شاركا في الدراسة من قبل (الصف الأول حتى الصف 12).

5. لن يتم سداد نفقات النقل للوالدين والمعلمين.

VII. المخاطر والفوائد:

إن مشاركتك في هذه الدراسة لا تشمل بأي من الأحوال التعرض لأي مخاطر جسدية أو شعورية تتجاوز مخاطر الحياة اليومية التي قد تعترض أي إنسان. لك كامل الحق في العودة عن موافقتك أو التوقف عن المشاركة في أي وقت ولأي سبب كان. إن قرارك بالانسحاب لن يعرضك لأي عقوبة أو خسارة لأي امتيازات أنت تستحقها. إن التوقف عن المشاركة في هذه الدراسة لن يؤثر على علاقتك بالمدرسة ولا بالجامعة الأمريكية في بيروت. كما أن رفض المشاركة من الاساس في هذه الدراسة لن يتضمن أي عقوبات من أي نوع ولن يؤثر على علاقة المعلم أو الأهل بالجامعة الأمريكية أو المدرسة.

تشمل فوائد هذه الدراسة توفير باحثين وعلماء النفس والمرشد التربوي النفسي في المدرسة أداة لتقييم ورصد نقص الانتباه وفرط الحركة ADHDتتناسب مع الثقافة اللبنانية من سن 6 إلى 18 سنة. فائدة وجود مقياس كونرز-3 (Conners-3) باللغة العربية يمكن أن يساعد علماء النفس في العديد من المجالات مثل فحص وتقييم ورصد العلاج.

VIII. السرية:

في حال وافقت على المشاركة في هذه الدراسة، فإن جميع المعلومات ستبقى قيد الكتمان. ولضمان السرية، ستتم مراقبة البيانات ويمكن مراجعتها من قبل لجنة الأخلاقيات IRB.أيضا"، سيتم مراجعة الإجابة ومراقبتها بالسرية. بالإضافة إلى ذلك، لضمان سرية استجابات المعلمين وأولياء الأمور، لن يتم ربط أسمائهم ومعلومات الهوية الأخرى بإجاباتهم. سيتم إعطاء رمز لكل معلم وأحد الوالدين. وسيتم الاحتفاظ بجميع الرموز والبيانات في درج مقفل أو على جهاز كمبيوتر محمي بكلمة مرور. سيكون الاطلاع على البيانات حكرا على الباحث الرئيسي والباحث الثانوي العاملين على هذه الدراسة. سيتم تلف جميع البيانات بشكل مسؤول بعد فترة الاحتفاظ المطلوبة، والتي عادة ما تكون ثلاث سنوات. سيتم الحفاظ على خصوصية المعلمين وأولياء الأمور في جميع البيانات المكتوبة الناتجة عن هذه الدراسة. لن يتم استخدام الأسماء أو المعلومات التعريفية الأخرى للمعلمين وأولياء الأمور والمدرسة في أي تقارير أو عروض تقديمية.

IX. وسائل التواصل:

3. في حال كنتم تودون طرح أي سؤال أو استفسار حول الدراسة، يمكنكم التواصل مع الدكتورة كرمى الحسن على رقم الهاتف 01-350000 مقسم: 3131، أو على البريد الالكتروني: kelhasan@aub.edu.lb أو يمكنكم التواصل مع الباحثة المشاركة الآنسة زينب حيدر عبر البريد الإلكتروني zah15@mail.aub.edu.

4. في حال شعرتم أن أيا من أسئلتكم لم يتم الإجابة عنها، أو في حال كان هناك أي استفسار أو شكوى حول حقوقكم كمشاركين في هذه الدراسة، فبإمكانكم التواصل مع المسؤول في الجامعة الأمريكية: في مجلس مراجعة دراسات العلوم الانسانية والسلوكية على رقم 01-350000 مقسم :5445 أو عبر البريد الإلكتروني: .irb@mail.aub.edu

X. حقوق المشارك

المشاركة في هذه الدراسة طوعية. لك كامل الحرية في أن تتوقف عن المشاركة في هذه الدراسة في أي وقت من دون التعرض لأي عقوبة. إن قرارك في عدم المشاركة لن يؤثر بأي حال من الأحوال على علاقتك بالجامعة الأمريكية في بيروت. ستحصل على نسخة الموافقة على المشاركة هذه.

الباحث الرئيسي: دكتورة كرمة الحسن
العنوان: الجامعة الأمريكية في بيروت
قسم التربية
أستاذ مشارك في علم النفس التربوي ومدير مكتب البحوث والتقييم (OIRA)

الباحثة المشاركة: زينب حيدر
العنوان: الجامعة الأمريكية في بيروت
قسم التربية
بيروت – لبنان

لقد قرأت وفهمت المعلومات الواردة أعلاه. وعليه إني اوافق بشكل طوعي لمشاركة المعلمين وأولياء أمور الطلاب المنتسبين لهذه المدرسة في هذه الدراسة.

توقيع نموذج الموافقة

إسم المدير والمدرسة .....

توقيع المدير .....

التاريخ .....

إسم الباحث المشارك .....

توقيع الباحث المشارك .....

التاريخ .....

American University of Beirut
Department of Education
Parent Consent Form- Study Phase

Study Title: Adaptation and Validation of Conners-3 Teacher and Parent Rating Scales on Lebanese Children

Principal Investigator: Dr. Karma El Hassan

Co-Investigator: Ms. Zainab Haidar

Dear parent,

Actually, we are asking a group of teachers and patents to participate in a research study. Participation is completely voluntary. Please read the information below and feel free to ask any questions that you may have.

A. Project Description

1. This research is being conducted for the purpose of a Master's thesis in Educational Psychology-tests and Measurements and possibly presentation at academic conference.

2. The purpose of this study is to adapt and validate Conners-3 teacher rating scale and parent rating scale to the Lebanese population so that it can be used to assess behavior, emotions, academic, and social problems of children aged six years to 18 years.

3. This study will be conducted in six schools (two public schools and four private schools) located in the Greater Beirut area, the three educational districts in Greater Beirut. This consent is to be signed by you in order to be eligible to participate in the study. As a parent, you will be given a copy of this consent form to keep with you. Four private schools and two public schools are randomly selected from the three educational districts in Greater Beirut. The sample is made up of 576 students registered in private and public schools. From each school 96 students will be selected. Eight students will be randomly selected from a list of students of each grade level (12 different grade levels- grade 1 to grade 12). These groups will be categorized according to four age level groups: 6-8 years, 9-11 years, 12-14 years, and 15-17/18 years. Thus, the total number of parents that will participate is 576. One teacher for each grade level (from grade 1 to grade 12) will participate. Consequently, the total number of teachers is n=72 (12 teachers from each school). In order to have a well-validated ADHD assessment tool (Conners-3 parent rating scale and Conners-3 teacher rating scale), we need to have a big sample size that can be representative of the three educational districts in Greater Beirut. It is still an acceptable sample size, in case not all the 96 students (teachers and parents) per school accept to participate in the study so we end up with approximately 470 to 520 students as a total from all schools. After the school approves to participate, parent consent form will be sent to

the parents with their children in order to be signed. Then, teacher consent form will be distributed to the teachers in order to be signed.

4. In this study, one rating scales will be distributed by the Co-Investigator to the teachers and parents of the eight students that are randomly selected from a list of students of each grade level (12 different grade levels- grade 1 to grade 12). Conners-3 rating scale is an instrument used to assess ADHD.
   A meeting with teachers and parents (not mandatory) will be done in the school in order to explain for them the purpose of the study, to request their participation, and to explain and to instruct them how to fill in Conners-3-teacher rating scale and Conners-3 parent rating scale. In addition, teachers will be asked to complete the scale in one setting based on their observations and data collection of the student's behavior and actions over the past months. One teacher for each grade level (from grade 1 to grade 12) will be asked to complete the rating scales. Hence, overall 12 teachers will be asked. Moreover, parents will also be asked to complete the scale in one setting based on their observations and data collection of their child's behavior and actions over the past months. For completing each rating scale, it will take about 15-20 minutes to complete. Thus, the amount of teacher time required for the study is minimum 120 minutes and maximum 160 minutes (for each grade level). According to parents, the amount of time required for the study is minimum 15 minutes and maximum 25 minutes. Consent will be sought from teachers and parents.
   After 2 weeks from administration of the adapted Conners-3 teacher and parent rating scales, a third visit to one of the six schools will be done. The purpose of this visit is to re-administer the adapted Conners-3 teacher and parent rating scales for test-retest reliability. The sample will be made up of 36 students that are randomly selected to target three students from each grade level (grade 1 through grade 12). These students are already participated in the study before. Hence, parents and teachers of this sample will be given the Conners-3 teacher and parent rating scales to refill them.

5. Transportation expenses will not be reimbursed for parents and teachers.

6. Before deciding whether to take part in the study, you, as parents should discuss with your child the study and the information you are asked to fill about her/his behavior.

7. While answering the rating scale, in case you think some of the items are applicable on your child, consult a specialist.

B. Risks and Benefits

Your participation in this study does not involve any physical risk or emotional risk to them beyond the risks of their daily life. You have the right to withdraw your consent or discontinue participation at any time for any reason. Your decision to withdraw will not involve any penalty or loss of benefits to which you are entitled. Discontinuing participation in the study will in no way affect your relationship with the school or with AUB. In addition, refusal to participate in the study will involve no penalties of any kind or affect your relationship with AUB. The schools will receive no direct benefits from participating in this research. However, the benefits of this study include

providing researchers, psychologists, and school counselors a culturally valid ADHD assessment tool that is suitable for the Lebanese context from age 6 to 18 years old. The benefit of having a valid ADHD assessment tool can help psychologists to use the adapted Conners-3 in the assessment of ADHD since it has been found to be instrumental in variety of areas such as screening, assessment, and treatment monitoring.

C. Confidentiality

If you agree to participate in this research study, the information will be kept confidential. To assure confidentiality, data will be monitored and may be audited by the IRB. To secure the confidentiality of your responses, your name and other identifying information will never be attached to your answers; each parent will be given a code. All codes and data will be kept in a locked drawer in a locker room or on a password-protected computer that is kept secure. Data access is limited to the Principal Investigator and the Co-Investigator working directly on this study. All data will be destroyed responsibly after the required retention period, which is usually three years. Your privacy will be maintained in all written data resulting from this study. Your name or other identifying information will not be used in any reports or presentations.

D. Contact Information

1. If you have any questions or concerns about the research, you may contact Dr. Karma El Hassan at 01-350000 ext. 3131 or by email: kelhassan@aub.edu.lb or Ms. Zainab Haidar by email: zah15@mail.aub.edu.
2. If you feel that your questions have not been answered, or if you have any questions, concerns, or complaints about your rights as a participant in this research, you can contact the following officer at AUB: Social and Behavioral Sciences Institutional Review Board at 01- 350000 or 01- 374374, Ext: 5445 or by email: irb@mail.aub.edu.

E. Participant rights

Participation in this study is voluntary. There are no monetary rewards for participation in the study. You are free to leave the study at any time without penalty. Your decision not to participate is no way influences your relationship with AUB in any way. A copy of this consent form will be given to you. You may skip any questions that they may wish not to answer. Your decision will not result in any penalty or loss of benefits. If you have any questions regarding your rights, you may call: Institutional Review Board (IRB) on 01- 350000 ext. 5445.

Sincerely,

Karma El Hassan
Associate Professor, Department of Education & Director, Office of Institutional Research and Assessment (OIRA)

Faculty of Arts and Sciences
American University of Beirut

Zainab Haidar
Graduate Student, Department of Education
Faculty of Arts and Sciences
American University of Beirut

I have read and understood the above information. I voluntarily agree as a parent to participate in this study.

Name of Parent: _____
Signature of Parent: _____
Date: _____
Co-Investigator Name: _____
Co-Investigator Signature: _____
Date: _____

الجامعة الأمريكية في بيروت
قسم التربية
إذن موافقة الأهل
المقاربة المباشرة-مرحلة الدراسة

عنوان الدراسة: تكيف وتطوير مقياس كونرز-3 (Conners-3) باللغة العربية بحيث يتناسب بيئة التلميذ اللبناني

الباحث الرئيسي: دكتورة كرمى الحسن

الباحثة المشاركة: زينب حيدر

حضرة ولي أمر التلميذ(ة) المحترم

في الواقع، نحن نطلب مجموعة من المعلمين والأهل للمشاركة في دراسة بحثية. إن المشاركة في الدراسة البحثية اختيارية تماما. رجاء إقرأ المعلومات الواردة أدناه ولا تتردد في طرح أي سؤال حولها.

I. وصف المشروع:

I. يجري هذا البحث لغرض أطروحة الماجستير في علم النفس التربوي فرع الإختبارات والقياس وربما سوف يعرض في المؤتمر الأكاديمي.

II. الغرض من هذه الدراسة هو تكيف وتطوير مقياس كونرز-3 (Conners-3) مقياس خاص المعلمين ومقياس خاص الوالدين باللغة العربية بحيث يتناسب بيئة التلميذ اللبناني بحيث يمكن استخدامه لرصد سلوكيات والمشاكل الأكاديمية والاجتماعية واضطراب فرط الحركة ونقص الانتباه عند الأطفال الذين تتراوح أعمارهم بين ست سنوات إلى 18 سنوات.

III. ستجرى هذه الدراسة في ست مدارس (مدرستان رسميتان وأربع مدارس خاصة) تقع في ثلاث مناطق تعليمية في بيروت الكبرى. يجب أن يوقع مدير المدرسة على هذه الموافقة لكي تكون مؤهلة للمشاركة في الدراسة. كمدير، سيتم منحك نسخة من نموذج الموافقة هذه كي تبقى معك. سيتم اختيار أربع مدارس خاصة ومدرستين رسميتين عشوائيا من المناطق التعليمية الثلاث في بيروت الكبرى. وتتكون العينة من 576 طالبا وطالبة مسجلين في المدارس الخاصة والرسمية. سيتم اختيار 96 طالب من كل مدرسة. وسيتم اختيار ثمان طلاب عشوائيا من قائمة الطلاب من كافة المراحل (الصف 1 إلى الصف 12). تصنف هذه المجموعات حسب الفئات العمرية: 6-8 سنوات، 9-11 سنة، 12-14 سنة، و15-17/18 سنة. وعليه، فإن العدد الإجمالي لأولياء الأمور الذين سيملؤون الإستمارات هو 96. وفي الوقت نفسه، سيشارك معلم واحد لكل من الصف الأول إلى الصف الثاني عشر. وتبعا لذلك، يبلغ العدد الإجمالي للمعلمين 72معلماً. من أجل الحصول على أداة رصد حالات اضطراب فرط الحركة ونقص الانتباه عند الأطفال (مقياس كونرز-3 خاص الوالدين ومقياس كونرز-3 خاص المعلمين)، يجب أن يكون لدينا حجم عينة كبير يمكن أن يكون ممثلا للمناطق التعليمية الثلاث في بيروت الكبرى. لا يزال حجم العينة مقبول، في حال لم يقبل كل 96 طالب (المعلمين وأولياء الأمور) في كل مدرسة للمشاركة في الدراسة وننتهي في نهاية المطاف مع ما يقرب من 470 إلى 520 طالبا إجمالا من جميع المدارس. سيتم إرسال نموذج موافقة

الوالدين إلى الآباء والأمهات مع أطفالهم من أجل التوقيع عليها. ونموذج آخر وهو استمارة موافقة المعلمين ستوزع على المعلمين من أجل التوقيع عليها.

IV. في هذه الدراسة، يوزع المحقق المشارك مقياس للرصد على المعلمين وأولياء أمور الطلاب الثمانية الذين يتم اختيارهم عشوائيا من قائمة الطلاب من كل المراحل (من الصف الأول حتى الصف الثاني عشر). مقياس الرصد هم (كونرز- 3- Conners-3) وهي أداة تستخدم لرصد حالات اضطراب فرط الحركة ونقص الانتباه. وسيتم عقد لقاء مع المعلمين وأولياء الأمور (ليس إلزاميا) من أجل شرح لهم الغرض من الدراسة، لطلب مشاركتهم، وشرح وإرشادهم كيفية ملء مقياس كونرز-3 خاص الوالدين ومقياس كونرز-3 خاص المعلمين. وبالإضافة إلى ذلك، سيطلب من المعلمين لاستكمال المقياس في إطار واحد استنادا إلى ملاحظاتهم وجمع البيانات من سلوك الطالب والإجراءات خلال الأشهر الماضية. حيث يطلب من معلم لكل من الصف الأول إلى الصف الثاني عشر. وتبعا لذلك، يبلغ العدد الإجمالي للمعلمين 72 معلما من كل مدرسة. وعلاوة على ذلك، سيطلب من أولياء أمور (96ولي أمر) أيضا استكمال الجدول في إطار واحد استنادا إلى ملاحظاتهم وجمع البيانات من سلوك الطفل والإجراءات على مدى الأشهر الماضية. يستغرق مقياس كونرز- 3- حوالي 15-20 دقيقة لإكماله. وبالتالي، فإن مقدار وقت المعلم المطلوب منه للدراسة هو 120 دقيقة كحد أدنى 160 دقيقة كحد أقصى (لكل مستوى الصف). وأم بالنسبة للأهل، فمقدار الوقت اللازم للدراسة هو الحد الأدنى 15 دقيقة والحد الأقصى 25 دقيقة.
وبعد أسبوعين من ملء مقياس كونرز-3 خاص الوالدين ومقياس كونرز-3 خاص المعلمين.، ستجري زيارة ثالثة إلى إحدى المدارس الست. والغرض من هذه الزيارة هو ملء مقياس كونرز-3 خاص الوالدين ومقياس كونرز-3 خاص المعلمين مرة ثانية. وستكون العينة مكونة من 36 طالبا يتم اختيارهم عشوائيا لذا سيتم اختيار طالبين من كل صف قد شاركا في الدراسة من قبل (الصف الأول حتى الصف 12).

V. لن يتم سداد نفقات النقل للوالدين والمعلمين.

VI. قبل إتخاذ القرار في الشروع بالدراسة، يرجى من الأهل الكرام مناقشة امر الدراسة والمعلومات المطلوب معرفتها حول السلوكيات مع أولادهم.

VII. عند الإجابة على مقياس التقييم، في حال كنت تعتقد أن بعض العناصر قابلة للتطبيق على طفلك، استشر أحد المتخصصين.

II. المخاطر والفوائد:

إن مشاركتك في هذه الدراسة لا تشمل بأي من الأحوال التعرض لأي مخاطر جسدية أو شعورية تتجاوز مخاطر الحياة اليومية التي قد تعترض أي إنسان. لك كامل الحق في العودة عن موافقتك أو التوقف عن المشاركة في أي وقت ولأي سبب كان. إن قرارك بالانسحاب لن يعرضك لأي عقوبة أو خسارة لأي امتيازات أنت تستحقها. إن التوقف عن المشاركة في هذه الدراسة لن يؤثر على علاقتك بالمدرسة ولا بالجامعة الأمريكية في بيروت. كما أن رفض المشاركة من الاساس في هذه الدراسة لن يتضمن أي عقوبات من أي نوع ولن يؤثر على علاقة المعلم أو الأهل بالجامعة الأمريكية أو المدرسة.

تشمل فوائد هذه الدراسة توفير باحثين وعلماء النفس والمرشد التربوي النفسي في المدرسة أداة لتقييم ورصد نقص الانتباه وفرط الحركة ADHDتتناسب مع الثقافة اللبنانية من سن 6 إلى 18 سنة. فائدة وجود مقياس كونرز-3 (Conners-3) باللغة العربية يمكن أن يساعد علماء النفس في العديد من المجالات مثل فحص وتقييم ورصد العلاج.

III. السرية:

في حال وافقت على المشاركة في هذه الدراسة، فإن جميع المعلومات ستبقى قيد الكتمان. ولضمان السرية، ستتم مراقبة البيانات ويمكن مراجعتها من قبل لجنة الأخلاقيات IRB.أيضا"، سيتم مراجعة الإجابة ومراقبتها بالسرية. بالإضافة إلى ذلك، لضمان سرية استجابات المعلمين وأولياء الأمور، لن يتم ربط أسمائهم ومعلومات الهوية الأخرى بإجاباتهم. سيتم إعطاء رمز لكل معلم وأحد الوالدين. وسيتم الاحتفاظ بجميع الرموز والبيانات في درج مقفل أو على جهاز كمبيوتر محمي بكلمة مرور. سيكون الاطلاع على البيانات حكرا على الباحث الرئيسي والباحث الثانوي العاملين على هذه الدراسة. سيتم تلف جميع البيانات بشكل مسؤول بعد فترة الاحتفاظ المطلوبة، والتي عادة ما تكون ثلاث سنوات. سيتم الحفاظ على خصوصية المعلمين وأولياء الأمور في جميع البيانات المكتوبة الناتجة عن هذه الدراسة. لن يتم استخدام الأسماء أو المعلومات التعريفية الأخرى للمعلمين وأولياء الأمور والمدرسة في أي تقارير أو عروض تقديمية.

IV. وسائل التواصل:

1. في حال كنتم تودون طرح أي سؤال أو استفسار حول الدراسة، يمكنكم التواصل مع الدكتورة كرمى الحسن على رقم الهاتف 01-350000 مقسم: 3131، أو على البريد الالكتروني: kelhasan@aub.edu.lb أو يمكنكم التواصل مع الباحثة المشاركة الآنسة زينب حيدر عبر البريد الإلكترونيzah15@mail.aub.edu .

2. في حال شعرتم أن أيا من أسئلتكم لم يتم الإجابة عنها، أو في حال كان هناك أي استفسار أو شكوى حول حقوقكم كمشاركين في هذه الدراسة، فبإمكانكم التواصل مع المسؤول في الجامعة الأمريكية: في مجلس مراجعة دراسات العلوم الانسانية والسلوكية على رقم 01-350000 مقسم :5445 أو عبر البريد الإلكتروني: irb@mail.aub.edu.

V. حقوق المشارك

المشاركة في هذه الدراسة طوعية. لا توجد مكافآت مالية للمشاركة في الدراسة. أنت حر في ترك الدراسة في أي وقت دون عقوبة. إن قرارك بعدم المشاركة لا يؤثر بأي شكل على علاقتك مع الجامعة الأمريكية بأي شكل من الأشكال. سيتم إعطاء نسخة من نموذج الموافقة هذا لك. يمكن للمعلمين وأولياء أمور الطلاب تخطي أي أسئلة قد يرغبون في عدم الإجابة عليها. لن يؤدي قراركم إلى أي عقوبة أو خسارة في المزايا. إذا كان لديك أي أسئلة بخصوص حقوقك، فيمكنك الاتصال بـ: مجلس المراجعة المؤسسية (IRB) على الرقم 01-350000 مقسم :5445.

الباحث الرئيسي: دكتورة كرمة الحسن
العنوان: الجامعة الأمريكية في بيروت
قسم التربية
أستاذ مشارك في علم النفس التربوي ومدير مكتب البحوث والتقييم (OIRA)

الباحثة المشاركة: زينب حيدر
العنوان: الجامعة الأمريكية في بيروت
قسم التربية
بيروت – لبنان

لقد قرأت وفهمت المعلومات الواردة أعلاه. وعليه إني اوافق بشكل طوعي للمشاركة كولي أمر في هذه الدراسة.
توقيع نموذج الموافقة

إسم ولي الأمر .....

توقيع ولي الأمر .....

التاريخ .....

إسم الباحث المشارك .....

توقيع الباحث المشارك .....

التاريخ .....

American University of Beirut
Department of Education
Teacher Consent Form- Study Phase

Study Title: Adaptation and Validation of Conners-3 Teacher and Parent Rating Scales on Lebanese Children

Principal Investigator: Dr. Karma El Hassan

Co-Investigator: Ms. Zainab Haidar

Dear teacher,

Actually, we are asking a group of teachers and patents to participate in a research study. Participation is completely voluntary. Please read the information below and feel free to ask any questions that you may have.

A. Project Description

1. This research is being conducted for the purpose of a Master's thesis in Educational Psychology-tests and Measurements and possibly presentation at academic conference.

2. The purpose of this study is to adapt and validate Conners-3 teacher rating scale and parent rating scale to the Lebanese population so that it can be used to assess behavior, emotions, academic, and social problems of children aged six years to 18 years.

3. This study will be conducted in six schools (two public schools and four private schools) located in the Greater Beirut area, the three educational districts in Greater Beirut. This consent is to be signed by you in order to be eligible to participate in the study. As a teacher, you will be given a copy of this consent form to keep with you. Four private schools and two public schools will be randomly selected from the three educational districts in Greater Beirut. The sample is made up of 576 students registered in private and public schools. From each school 96 students will be selected. Eight students will be randomly selected from a list of students of each grade level (12 different grade levels- grade 1 to grade 12). These groups will be categorized according to four age level groups: 6-8 years, 9-11 years, 12-14 years, and 15-17/18 years. Thus, the total number of parents that will participate is 576. One teacher for each grade level (from grade 1 to grade 12) will participate. Consequently, the total number of teachers is n=72 (12 teachers from each school). In order to have a well-validated ADHD assessment tool (Conners-3 parent rating scale and Conners-3 teacher rating scale), we need to have a big sample size that can be representative of the three educational districts in Greater Beirut. It is still an acceptable sample size, in

case not all the 96 students (teachers and parents) per school accept to participate in the study so we end up with approximately 470 to 520 students as a total from all schools. After the school approves to participate, parent consent form will be sent to the parents with their children in order to be signed. Then, teacher consent form will be distributed to the teachers in order to be signed. Only teachers and parents of students who have signed the teacher consent form and parent consent form will be eligible to participate in the study.

4. In this study, one rating scales will be distributed by the Co-Investigator to the teachers and parents of the eight students that are randomly selected from a list of students of each grade level (12 different grade levels- grade 1 to grade 12). Conners-3 rating scale is an instrument used to assess ADHD.
   A meeting with teachers and parents (not mandatory) will be done in the school in order to explain for them the purpose of the study, to request their participation, and to explain and to instruct them how to fill in Conners-3-teacher rating scale and Conners-3 parent rating scale. In addition, teachers will be asked to complete the scale in one setting based on their observations and data collection of the student's behavior and actions over the past months. One teacher for each grade level (from grade 1 to grade 12) will be asked to complete the rating scales. Hence, overall 12 teachers will be asked. Moreover, parents will also be asked to complete the scale in one setting based on their observations and data collection of their child's behavior and actions over the past months. For completing each rating scale, it will take about 15-20 minutes to complete. Thus, the amount of teacher time required for the study is minimum 120 minutes and maximum 160 minutes (for each grade level). According to parents, the amount of time required for the study is minimum 15 minutes and maximum 25 minutes.
   After 2 weeks from administration of the adapted Conners-3 teacher and parent rating scales, a third visit to one of the six schools will be done. The purpose of this visit is to re-administer the adapted Conners-3 teacher and parent rating scales for test-retest reliability. The sample will be made up of 36 students that are randomly selected to target two students from each grade level (grade 1 through grade 12). These students are already participated in the study before. Hence, parents and teachers of this sample will be given the Conners-3 teacher and parent rating scales to refill them.

5. Transportation expenses will not be reimbursed for parents and teachers.

B. Risks and Benefits

Your participation in this study does not involve any physical risk or emotional risk to them beyond the risks of their daily life. You have the right to withdraw your consent or discontinue participation at any time for any reason. Your decision to withdraw will not involve any penalty or loss of benefits to which you are entitled. Discontinuing participation in the study will in no way affect your relationship with the school or with AUB. In addition, refusal to participate in the study will involve no penalties of any kind or affect your relationship with AUB. The schools will receive no direct benefits from participating in this research. However, the benefits of this study include providing researchers, psychologists, and school counselors a culturally valid ADHD assessment tool that is suitable for the Lebanese context from age 6 to 18 years old.

The benefit of having a valid ADHD assessment tool can help psychologists to use the adapted Conners-3 in the assessment of ADHD since it has been found to be instrumental in variety of areas such as screening, assessment, and treatment monitoring.

C. Confidentiality

If you agree to participate in this research study, the information will be kept confidential. To assure confidentiality, data will be monitored and may be audited by the IRB. To secure the confidentiality of your responses, your name and other identifying information will never be attached to your answers; each teacher will be given a code. All codes and data will be kept in a locked drawer in a locker room or on a password-protected computer that is kept secure. Data access is limited to the Principal Investigator and the Co-Investigator working directly on this study. All data will be destroyed responsibly after the required retention period, which is usually three years. Your privacy will be maintained in all written data resulting from this study. Your name or other identifying information will not be used in any reports or presentations.

D. Contact Information

3. If you have any questions or concerns about the research, you may contact Dr. Karma El Hassan at 01-350000 ext. 3131 or by email: kelhassan@aub.edu.lb or Ms. Zainab Haidar by email: zah15@mail.aub.edu.
4. If you feel that your questions have not been answered, or if you have any questions, concerns, or complaints about your rights as a participant in this research, you can contact the following officer at AUB: Social and Behavioral Sciences Institutional Review Board at 01- 350000 or 01- 374374, Ext: 5445 or by email: irb@mail.aub.edu.

E. Participant rights

Participation in this study is voluntary. There are no monetary rewards for participation in the study. You are free to leave the study at any time without penalty. Your decision not to participate is no way influences your relationship with AUB in any way. A copy of this consent form will be given to you. You may skip any questions that they may wish not to answer. Your decision will not result in any penalty or loss of benefits. If you have any questions regarding your rights, you may call: Institutional Review Board (IRB) on 01- 350000 ext. 5445.

Sincerely,

Karma El Hassan
Associate Professor, Department of Education & Director, Office of Institutional Research and Assessment (OIRA)

Faculty of Arts and Sciences
American University of Beirut

Zainab Haidar
Graduate Student, Department of Education
Faculty of Arts and Sciences
American University of Beirut

I have read and understood the above information. I voluntarily agree as a teacher to participate in this study.

Name of Teacher: _____
Signature of Teacher: _____
Date: _____
Co-Investigator Name: _____
Co-Investigator Signature: _____
Date: _____

الجامعة الأمريكية في بيروت
قسم التربية
إذن موافقة المعلم
المقاربة المباشرة-مرحلة الدراسة

عنوان الدراسة: تكيف وتطوير مقياس كونرز-3 (Conners-3) باللغة العربية بحيث يتناسب بيئة التلميذ اللبناني

الباحث الرئيسي: دكتورة كرمة الحسن

الباحثة المشاركة: زينب حيدر

حضرة المعلم(ة) المحترم(ة)

في الواقع، نحن نطلب مجموعة من المعلمين والأهل للمشاركة في دراسة بحثية. إن المشاركة اختيارية تماما. رجاء إقرأ المعلومات الواردة أدناه ولا تتردد في طرح أي سؤال حولها.

I. وصف المشروع:

I. يجري هذا البحث لغرض أطروحة الماجستير في علم النفس التربوي فرع الإختبارات والقياس وربما سوف يعرض في المؤتمر الأكاديمي.

II. الغرض من هذه الدراسة هو تكيف وتطوير مقياس كونرز-3 (Conners-3) مقياس خاص المعلمين ومقياس خاص الوالدين باللغة العربية بحيث يتناسب بيئة التلميذ اللبناني بحيث يمكن استخدامه لرصد سلوكيات والمشاكل الأكاديمية والاجتماعية واضطراب فرط الحركة ونقص الانتباه عند الأطفال الذين تتراوح أعمارهم بين ست سنوات إلى 18 سنوات.

III. ستجرى هذه الدراسة في ست مدارس (مدرستان رسميتان وأربع مدارس خاصة) تقع في ثلاث مناطق تعليمية في بيروت الكبرى. يجب أن يوقع مدير المدرسة على هذه الموافقة لكي تكون مؤهلة للمشاركة في الدراسة. كمعلم، سيتم منحك نسخة من نموذج الموافقة هذه كي تبقى معك. سيتم اختيار أربع مدارس خاصة ومدرستين رسميتين عشوائيا من المناطق التعليمية الثلاث في بيروت الكبرى. وتتكون العينة من 576 طالبا وطالبة مسجلين في المدارس الخاصة والرسمية. سيتم اختيار 96 طالب من كل مدرسة. وسيتم اختيار ثمان طلاب عشوائيا من قائمة الطلاب من كافة المراحل (الصف 1 إلى الصف 12). تصنف هذه المجموعات حسب الفئات العمرية: 6-8 سنوات، 9-11 سنة، 12-14 سنة، و15-17/18 سنة. وعليه، فإن العدد الإجمالي لأولياء الأمور الذين سيملؤون الإستمارات هو 96. وفي الوقت نفسه، سيشارك معلم واحد لكل من الصف الأول إلى الصف الثاني عشر. وتبعا لذلك، يبلغ العدد الإجمالي للمعلمين 72معلماً. من أجل الحصول على أداة رصد حالات اضطراب فرط الحركة ونقص الانتباه عند الأطفال (مقياس كونرز-3 خاص الوالدين ومقياس كونرز-3 خاص المعلمين)، يجب أن يكون لدينا حجم عينة كبير يمكن أن يكون ممثلا للمناطق التعليمية الثلاث في بيروت الكبرى. لا يزال حجم العينة مقبول، في حال لم يقبل كل 96 طالب (المعلمين وأولياء الأمور) في كل مدرسة للمشاركة في الدراسة وننتهي في نهاية المطاف مع ما يقرب من 470 إلى 520 طالبا إجمالا من جميع المدارس بعد موافقة المدرسة على المشاركة، سيتم توزيع استمارة موافقة المعلمين على المعلمين من أجل التوقيع عليها. وبالإضافة إلى ذلك، سيتم إرسال نموذج موافقة الوالدين إلى الآباء والأمهات مع أطفالهم من أجل التوقيع عليها. فقط أهالي ومعلمين الطلاب الذين وقعوا على استمارة موافقة الوالدين واستمارة موافقة المعلم سيكونون مؤهلين للمشاركة في الدراسة.

IV. في هذه الدراسة، يوزع المحقق المشارك مقياس كونرز- 3- (Conners 3-) للرصد على المعلمين وأولياء أمور الطلاب الثمانية الذين يتم اختيارهم عشوائيا من قائمة الطلاب من كل المراحل (من الصف الأول حتى الصف الثاني عشر). مقياس الرصد كونرز- 3- Conners-3) هي الأداة تستخدم سوف تستخدم لرصد حالات اضطراب فرط الحركة ونقص الانتباه. وسيتم عقد لقاء مع المعلمين وأولياء الأمور (ليس إلزاميا) من أجل شرح لهم الغرض من الدراسة، لطلب مشاركتهم، وشرح وإرشادهم كيفية ملء مقياس كونرز-3 خاص الوالدين ومقياس كونرز-3 خاص المعلمين. وبالإضافة إلى ذلك، سيطلب من المعلمين لاستكمال المقياس في إطار واحد استنادا إلى ملاحظاتهم وجمع البيانات من سلوك الطالب والإجراءات خلال الأشهر الماضية. حيث يطلب من معلم لكل من الصف الأول إلى الصف الثاني عشر. وتبعا لذلك، يبلغ العدد الإجمالي للمعلمين 72 معلما من كل مدرسة. وعلاوة على ذلك، سيطلب من أولياء أمور (96ولي أمر) أيضا استكمال الجدول في إطار واحد استنادا إلى ملاحظاتهم وجمع البيانات من سلوك الطفل والإجراءات على مدى الأشهر الماضية. يستغرق مقياس كونرز- 3- حوالي 15-20 دقيقة لإكماله. وبالتالي، فإن مقدار وقت المعلم المطلوب منه للدراسة هو 120 دقيقة كحد أدنى 160 دقيقة كحد أقصى (لكل مستوى الصف). وأم بالنسبة للأهل، فمقدار الوقت اللازم للدراسة هو الحد الأدنى 15 دقيقة والحد الأقصى 25 دقيقة.
وبعد أسبوعين من ملء مقياس كونرز-3 خاص الوالدين ومقياس كونرز-3 خاص المعلمين.، ستجري زيارة ثالثة إلى إحدى المدارس الست. والغرض من هذه الزيارة هو ملء مقياس كونرز-3 خاص الوالدين ومقياس كونرز-3 خاص المعلمين مرة ثانية. وستكون العينة مكونة من 36 طالبا يتم اختيارهم عشوائيا لذا سيتم اختيار طالبين من كل صف قد شاركا في الدراسة من قبل (الصف الأول حتى الصف 12).

V. لن يتم سداد نفقات النقل للوالدين والمعلمين.

II. المخاطر والفوائد:

إن مشاركتك في هذه الدراسة لا تشمل بأي من الأحوال التعرض لأي مخاطر جسدية أو شعورية تتجاوز مخاطر الحياة اليومية التي قد تعترض أي إنسان. لك كامل الحق في العودة عن موافقتك أو التوقف عن المشاركة في أي وقت ولأي سبب كان. إن قرارك بالانسحاب لن يعرضك لأي عقوبة أو خسارة لأي امتيازات أنت تستحقها. إن التوقف عن المشاركة في هذه الدراسة لن يؤثر على علاقتك بالمدرسة ولا بالجامعة الأمريكية في بيروت. كما أن رفض المشاركة من الاساس في هذه الدراسة لن يتضمن أي عقوبات من أي نوع ولن يؤثر على علاقة المعلم أو الأهل بالجامعة الأمريكية أو المدرسة.

تشمل فوائد هذه الدراسة توفير باحثين وعلماء النفس والمرشد التربوي النفسي في المدرسة أداة لتقييم ورصد نقص الانتباه وفرط الحركة ADHDتتناسب مع الثقافة اللبنانية من سن 6 إلى 18 سنة. فائدة وجود مقياس كونرز-3 (Conners-3) باللغة العربية يمكن أن يساعد علماء النفس في العديد من المجالات مثل فحص وتقييم ورصد العلاج.

III. السرية:

في حال وافقت على المشاركة في هذه الدراسة، فإن جميع المعلومات ستبقى قيد الكتمان. ولضمان السرية، ستتم مراقبة البيانات ويمكن مراجعتها من قبل لجنة الأخلاقيات IRB.أيضا"، سيتم مراجعة الإجابة ومراقبتها بالسرية. بالإضافة إلى ذلك، لضمان سرية استجابات المعلمين وأولياء الأمور، لن يتم ربط أسمائهم ومعلومات الهوية الأخرى بإجاباتهم. سيتم إعطاء رمز لكل معلم وأحد الوالدين. وسيتم الاحتفاظ بجميع الرموز والبيانات في درج مقفل أو على جهاز كمبيوتر محمي بكلمة مرور. سيكون الاطلاع على البيانات حكرا على الباحث الرئيسي والباحث الثانوي العاملين على هذه الدراسة. سيتم تلف جميع البيانات بشكل مسؤول بعد فترة الاحتفاظ المطلوبة، والتي عادة ما تكون ثلاث سنوات. سيتم الحفاظ على خصوصية المعلمين وأولياء الأمور في جميع البيانات المكتوبة الناتجة عن هذه الدراسة. لن يتم استخدام الأسماء أو المعلومات التعريفية الأخرى للمعلمين وأولياء الأمور والمدرسة في أي تقارير أو عروض تقديمية.

IV. وسائل التواصل:

1. في حال كنتم تودون طرح أي سؤال أو استفسار حول الدراسة، يمكنكم التواصل مع الدكتورة كرمى الحسن على رقم الهاتف 01-350000 مقسم: 3131، أو على البريد الالكتروني: kelhasan@aub.edu.lb أو يمكنكم التواصل مع الباحثة المشاركة الآنسة زينب حيدر عبر البريد الإلكترونيzah15@mail.aub.edu .

2. في حال شعرتم أن أيا من أسئلتكم لم يتم الإجابة عنها، أو في حال كان هناك أي استفسار أو شكوى حول حقوقكم كمشاركين في هذه الدراسة، فبإمكانكم التواصل مع المسؤول في الجامعة الأمريكية: في مجلس مراجعة دراسات العلوم الانسانية والسلوكية على رقم 01-350000 مقسم :5445 أو عبر البريد الإلكتروني: .irb@mail.aub.edu

V. حقوق المشارك

المشاركة في هذه الدراسة طوعية. لا توجد مكافآت مالية للمشاركة في الدراسة. أنت حر في ترك الدراسة في أي وقت دون عقوبة. إن قرارك بعدم المشاركة لا يؤثر بأي شكل على علاقتك مع الجامعة الأمريكية بأي شكل من الأشكال. سيتم إعطاء نسخة من نموذج الموافقة هذا لك. يمكن للمعلمين وأولياء أمور الطلاب تخطي أي أسئلة قد يرغبون في عدم الإجابة عليها. لن يؤدي قراركم إلى أي عقوبة أو خسارة في المزايا. إذا كان لديك أي أسئلة بخصوص حقوقك، فيمكنك الاتصال بـ: مجلس المراجعة المؤسسية (IRB) على الرقم 01-350000 مقسم :5445.

الباحث الرئيسي: دكتورة كرمة الحسن
العنوان: الجامعة الأمريكية في بيروت
قسم التربية
أستاذ مشارك في علم النفس التربوي ومدير مكتب البحوث والتقييم (OIRA)

الباحثة المشاركة: زينب حيدر
العنوان: الجامعة الأمريكية في بيروت
قسم التربية
بيروت – لبنان

لقد قرأت وفهمت المعلومات الواردة أعلاه. وعليه إني اوافق بشكل طوعي لمشاركة كمعلم في هذه الدراسة.
توقيع نموذج الموافقة

إسم المعلم .....

توقيع المعلم .....

التاريخ .....

إسم الباحث المشارك .....

توقيع الباحث المشارك .....

التاريخ .....

APPENDIX I

PERCENTILES OF THE DIFFERENT SUBSCALES OF THE ADAPTED CONNERS-3 PARENT RATING SVALE AND CONNERS-3 TEACHER RATING SCALE BY GENDER AND AGE

Table 20

Percentiles for Males and Females for different age groups for the adapted Conners-3 parent rating scale- Inattention Subscale

	Age groups							
	6-8		9-11		12-14		15-18	
Percentiles	Male	Female	Male	Female	Male	Female	Male	Female
5	2.00	1.00	1.75	2.00	2.00	.00	.00	.55
10	2.60	2.00	2.00	2.00	3.00	1.40	.90	1.10
15	3.00	3.10	2.00	2.00	4.00	2.00	1.85	2.00
20	4.00	4.00	2.00	3.00	5.00	3.00	2.00	2.20
25	5.00	4.00	3.00	4.00	5.00	3.00	3.00	3.00
30	5.00	5.00	4.00	4.00	6.00	4.00	3.70	3.00
35	6.00	5.00	5.00	5.00	6.00	4.00	4.00	3.00
40	7.00	6.00	6.00	6.00	8.00	5.00	4.00	3.40
45	8.20	6.00	6.00	6.00	8.00	5.00	5.00	4.00
50	10.00	6.00	7.00	7.00	9.00	6.00	5.00	5.00
55	11.00	6.00	7.00	8.00	10.00	6.00	6.45	5.00
60	11.00	7.00	8.00	8.00	11.00	7.00	7.00	5.00
65	11.40	8.00	8.75	10.00	12.25	7.00	7.00	7.15
70	12.00	8.00	10.00	10.00	13.00	8.00	8.00	9.40
75	14.00	11.00	10.00	11.00	13.00	8.50	8.00	10.00
80	14.00	11.00	11.00	12.60	15.00	10.00	8.20	10.00
85	18.00	16.40	14.25	14.00	16.00	10.00	10.00	10.00
90	20.00	18.00	17.00	16.80	20.00	12.20	10.10	10.00
95	20.20	20.00	22.75	17.00	21.50	15.00	18.10	14.00

Table 21

Percentiles for Males and Females for different age groups for the adapted Conners-3 parent rating scale- Hyperactivity/ Impulsivity Subscale

	Age groups							
	6-8		9-11		12-14		15-18	
Percentiles	Male	Female	Male	Female	Male	Female	Male	Female
5	5.00	4.00	3.00	1.00	3.00	.00	.00	.00
10	7.00	5.00	4.00	2.00	3.60	.80	.90	.00
15	9.00	5.00	5.25	3.00	5.90	2.00	1.85	.00
20	10.00	7.00	6.00	5.00	9.00	3.00	2.00	.40
25	10.00	8.00	9.00	6.50	10.00	6.00	2.75	2.00
30	11.00	10.00	10.00	7.00	11.80	7.00	5.70	2.00
35	12.00	10.00	10.25	8.70	13.00	8.00	6.65	3.70
40	13.00	10.00	13.00	9.00	14.00	8.00	7.00	4.40
45	14.00	11.00	13.00	10.00	14.70	10.00	7.00	6.90
50	14.00	11.00	14.00	11.00	16.00	10.00	8.00	7.00
55	16.00	13.00	15.00	11.00	17.30	11.70	8.45	8.10
60	19.00	14.00	17.00	12.00	20.00	12.00	9.40	10.00
65	19.00	14.00	17.00	13.00	20.00	14.00	10.00	10.00
70	21.00	18.00	19.50	14.00	21.00	14.00	11.00	10.00
75	23.00	19.00	22.00	17.00	22.00	15.50	12.00	12.00
80	28.00	21.00	22.00	20.20	23.00	17.00	14.20	15.00
85	31.00	21.00	23.00	22.70	26.10	20.90	20.30	16.75
90	33.00	23.00	24.00	26.80	27.40	23.00	25.20	29.00
95	38.00	34.00	26.25	34.80	32.70	27.20	28.10	35.45

Table 22

Percentiles for Males and Females for different age groups for the adapted Conners-3 parent rating scale- Learning Problems Subscale

	Age groups							
	6-8		9-11		12-14		15-18	
Percentiles	Male	Female	Male	Female	Male	Female	Male	Female
5	.00	.00	.00	.00	.00	.00	.00	.00
10	.00	.00	1.00	.00	1.00	.00	.00	.00
15	.85	.00	1.95	1.00	2.00	.00	.00	.00
20	1.00	.00	2.00	1.20	3.00	1.00	.00	1.00
25	1.00	1.00	2.00	2.00	3.75	1.00	.00	1.75
30	2.70	1.00	3.00	3.00	4.90	1.90	1.70	2.00
35	3.00	1.00	4.00	3.00	6.00	2.00	2.00	2.85
40	4.00	3.00	4.00	4.00	6.00	2.00	2.00	3.40
45	4.55	3.00	4.00	4.00	7.00	3.85	2.00	4.00
50	5.00	3.00	5.00	5.00	8.00	4.00	3.00	4.00
55	6.00	3.25	6.00	6.00	8.00	4.00	3.00	5.00
60	6.00	6.00	6.00	6.00	9.00	5.00	3.00	5.00
65	7.00	7.00	7.00	6.00	9.00	5.00	4.00	5.00
70	7.30	7.00	8.00	7.70	10.00	6.00	4.00	5.70
75	9.00	8.25	8.00	9.50	10.25	7.75	5.25	7.25
80	10.00	9.00	10.00	10.80	12.00	8.40	6.20	8.00
85	11.75	9.75	11.00	11.00	14.55	11.00	7.15	8.35
90	17.00	11.50	14.00	12.90	16.00	12.00	9.00	9.90
95	19.05	19.00	18.00	14.00	19.85	14.00	11.00	11.45

Table 23

Percentiles for Males and Females for different age groups for the adapted Conners-3 parent rating scale- Executive functioning Subscale

	Age groups							
	6-8		9-11		12-14		15-18	
Percentiles	Male	Female	Male	Female	Male	Female	Male	Female
5	1.00	.00	.00	.00	.25	.00	.00	.00
10	2.00	1.00	.00	.20	2.00	1.00	.00	.10
15	2.00	1.00	2.00	1.00	2.75	1.00	.85	1.00
20	2.00	2.00	2.00	1.40	3.00	1.00	1.00	1.20
25	3.25	2.00	2.75	2.00	4.00	1.50	2.75	2.00
30	4.00	2.00	3.50	3.00	4.00	2.00	3.00	2.00
35	4.00	3.00	4.25	3.00	4.75	2.00	3.00	2.85
40	5.00	4.00	5.00	3.00	5.00	3.00	3.00	4.00
45	5.00	4.00	5.00	3.00	6.00	4.00	3.55	4.00
50	6.00	4.00	6.00	4.00	7.50	4.00	4.00	4.00
55	7.00	7.40	6.00	5.00	8.00	4.00	4.00	4.00
60	9.00	8.00	7.00	6.00	9.00	5.40	4.40	4.00
65	10.00	9.00	7.00	7.00	10.00	7.00	5.00	5.15
70	10.90	9.00	7.50	7.00	10.00	7.00	5.00	6.70
75	11.00	10.00	9.00	9.00	11.00	8.00	7.00	7.00
80	11.00	10.20	9.00	9.00	13.00	8.00	7.20	7.00
85	11.90	11.00	10.00	10.70	15.00	9.00	8.00	7.35
90	15.00	15.00	14.50	13.80	15.00	10.00	8.10	8.90
95	15.15	16.00	18.25	14.90	16.75	13.30	9.05	14.45

Table 24

Percentiles for Males and Females for different age groups for the adapted Conners-3 parent rating scale Aggression Subscale

	Age groups							
	6-8		9-11		12-14		15-18	
Percentiles	Male	Female	Male	Female	Male	Female	Male	Female
5	.00	.00	.00	.00	.00	.00	.00	.00
10	.00	1.00	.00	.00	1.00	1.00	.00	.10
15	1.00	1.00	1.00	.00	1.00	1.00	.00	1.00
20	1.00	1.00	1.00	1.00	2.00	1.00	.80	1.20
25	3.00	2.00	2.00	1.00	2.50	1.00	1.00	2.00
30	3.00	3.00	2.00	2.00	3.00	1.60	1.00	2.00
35	3.00	3.00	3.00	2.00	3.00	2.00	1.00	2.85
40	3.00	3.00	3.00	2.00	4.00	2.00	1.00	4.00
45	4.00	4.75	3.00	3.00	4.00	3.00	2.00	4.00
50	5.00	5.00	4.00	3.00	4.00	3.00	2.00	4.00
55	5.00	6.00	4.00	3.55	4.30	3.00	3.00	4.00
60	6.00	6.00	5.00	4.00	5.00	4.00	3.40	4.00
65	7.00	6.00	5.00	5.00	6.00	4.80	4.00	5.15
70	7.00	7.00	6.00	5.00	7.00	6.00	4.00	6.70
75	8.00	7.25	6.25	6.00	8.00	7.00	5.00	7.00
80	8.00	8.00	9.00	6.80	9.00	7.00	7.00	7.00
85	13.00	8.00	9.75	7.00	13.10	8.00	7.00	7.35
90	17.00	9.00	14.00	13.50	14.00	9.00	7.10	8.90
95	23.00	14.00	14.00	16.00	17.00	14.80	8.25	14.45

Table 25

Percentiles for Males and Females for different age groups for the adapted Conners-3 parent rating scale – Peer Relation Subscale

	Age groups							
	6-8		9-11		12-14		15-18	
Percentiles	Male	Female	Male	Female	Male	Female	Male	Female
5	.00	.00	.00	.00	.00	.00	.00	.00
10	.00	.00	.00	.00	.00	.00	.00	.00
15	.00	.00	.00	.00	1.00	.80	.00	.00
20	.00	.00	.00	1.00	1.60	1.00	.00	1.00
25	.50	.50	.00	1.00	2.00	1.00	.00	1.00
30	1.00	1.00	1.20	2.00	2.00	1.60	1.00	1.00
35	1.00	1.00	2.00	2.00	3.00	2.00	1.00	1.00
40	2.20	1.00	2.00	2.00	3.00	2.80	1.60	1.00
45	3.00	2.30	3.00	2.00	3.00	3.00	2.00	1.00
50	3.00	3.00	3.00	3.00	4.00	3.00	2.00	2.00
55	3.90	4.00	3.70	3.00	5.00	3.00	3.00	3.00
60	5.00	5.00	4.00	3.00	5.00	4.00	3.00	3.00
65	5.00	5.00	5.00	3.65	6.00	4.00	3.35	3.00
70	5.60	5.00	6.00	4.00	6.00	5.00	4.00	3.70
75	6.00	5.00	6.00	5.00	7.00	5.00	4.00	4.00
80	7.00	6.20	7.00	6.00	7.00	6.00	5.00	4.80
85	7.30	8.00	7.00	7.00	8.55	7.00	5.15	6.00
90	8.00	8.00	8.60	7.00	9.00	7.80	7.10	7.80
95	12.10	9.00	9.30	9.95	10.00	12.00	9.00	8.00

Table 26

Percentiles for Males and Females for different age groups for the adapted Conners-3 parent rating scale – Conners-3 AI ADHD index Subscale

	Age groups							
	6-8		9-11		12-14		15-18	
Percentiles	Male	Female	Male	Female	Male	Female	Male	Female
5	11.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00
10	11.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00
15	11.00	11.00	19.10	11.00	11.00	11.00	11.00	11.00
20	11.00	11.00	29.00	29.00	11.00	11.00	11.00	11.00
25	20.00	29.00	41.00	29.00	41.00	11.00	11.00	11.00
30	29.00	29.00	41.00	37.40	41.00	11.00	11.00	11.00
35	35.60	29.00	51.00	51.00	51.00	29.00	11.00	11.00
40	51.00	29.00	51.00	51.00	51.00	33.80	11.00	23.00
45	51.00	29.00	51.00	51.00	54.25	48.00	11.00	50.50
50	56.00	51.00	51.00	56.00	60.00	51.00	20.00	51.00
55	56.00	51.00	56.00	56.00	64.00	51.00	29.60	51.00
60	69.60	53.00	62.40	56.00	66.60	56.00	41.00	51.00
65	71.00	64.00	64.00	64.00	77.00	56.00	51.00	51.75
70	77.00	64.00	64.70	71.00	77.00	57.60	51.00	56.00
75	82.00	74.00	71.00	71.00	77.00	64.00	52.25	59.75
80	87.00	77.00	77.00	78.00	82.00	69.60	56.00	71.00
85	91.00	87.00	82.00	82.00	82.00	71.60	56.70	73.10
90	99.00	91.00	82.00	82.00	94.00	77.00	63.40	81.50
95	99.00	99.00	86.25	94.00	99.00	90.40	67.15	95.80

Table 27

Percentiles for Males and Females for different age groups for the adapted Conners-3 parent rating scale – DSM-IV TR- inattentive Subscale

	Age groups							
	6-8		9-11		12-14		15-18	
Percentiles	Male	Female	Male	Female	Male	Female	Male	Female
5	2.00	1.40	.75	.00	2.00	.00	.00	.00
10	2.00	2.00	2.00	1.00	3.00	1.00	.00	.10
15	3.00	3.00	3.00	3.00	4.00	2.00	1.00	1.00
20	3.60	3.00	4.00	3.00	5.00	3.00	2.00	2.00
25	5.00	3.00	4.00	3.00	6.00	3.00	3.00	2.00
30	6.00	4.00	4.00	4.00	6.00	3.60	3.00	2.00
35	6.00	5.00	5.00	5.00	6.75	4.00	3.00	2.85
40	7.00	5.00	5.00	6.00	7.00	4.00	3.60	3.00
45	7.00	5.30	5.00	7.00	7.25	4.40	4.00	3.95
50	7.00	6.00	6.50	7.00	8.50	6.00	4.00	4.00
55	8.90	7.00	7.00	8.00	9.00	6.60	4.45	4.05
60	9.80	7.00	8.00	8.00	9.00	7.00	5.00	5.60
65	11.00	8.00	9.00	8.00	9.25	7.00	6.00	6.15
70	13.00	8.80	9.50	9.00	11.00	8.00	6.00	7.00
75	13.00	9.00	10.25	10.75	11.75	8.00	6.25	7.00
80	13.00	10.00	11.00	11.00	14.00	8.60	7.00	7.00
85	15.00	10.90	12.75	13.85	15.25	10.00	7.30	8.35
90	16.00	15.00	15.00	16.00	19.00	10.80	9.20	9.00
95	22.20	22.00	20.75	17.00	21.50	15.40	12.00	17.45

Table 28

Percentiles for Males and Females for different age groups for the adapted Conners-3 parent rating scale – DSM-IV TR- Hyperactivity/ Impulsivity Subscale

	Age groups							
	6-8		9-11		12-14		15-18	
Percentiles	Male	Female	Male	Female	Male	Female	Male	Female
5	3.00	3.00	2.00	.05	1.30	.00	.00	.00
10	6.00	4.00	2.50	2.00	3.00	.00	.00	.00
15	7.00	4.50	5.00	4.00	3.90	1.80	1.85	.00
20	8.00	6.00	6.00	4.00	6.20	3.00	2.80	.40
25	8.00	6.75	6.00	6.00	8.50	4.00	3.00	2.00
30	9.00	7.50	8.00	6.00	9.00	4.00	4.70	3.00
35	9.00	8.00	9.00	6.00	9.00	5.00	5.00	3.85
40	10.00	8.00	9.00	7.00	10.80	6.00	5.60	4.00
45	10.00	8.75	11.00	7.45	12.00	6.40	6.00	4.00
50	13.00	9.00	12.00	8.00	13.00	8.00	6.00	5.50
55	13.00	10.00	12.25	9.00	15.00	8.60	6.00	6.00
60	14.00	10.00	14.00	9.00	15.00	10.20	7.00	6.00
65	14.00	11.00	14.00	10.65	15.00	11.00	8.00	6.15
70	17.00	12.50	15.00	12.70	16.00	12.00	9.00	7.00
75	17.00	15.00	17.00	14.00	17.50	14.00	9.50	9.50
80	22.00	15.00	17.00	16.60	18.80	15.00	11.00	11.00
85	23.00	18.00	17.00	19.85	22.10	17.20	17.00	11.35
90	26.00	19.00	19.00	21.90	24.00	20.00	18.20	23.70
95	29.00	28.25	22.50	27.00	25.00	23.20	20.20	29.25

Table 29

Percentiles for Males and Females for different age groups for the adapted Conners-3 parent rating scale – DSM-IV TR- Conduct Disorder Subscale

	Age groups							
	6-8		9-11		12-14		15-18	
Percentiles	Male	Female	Male	Female	Male	Female	Male	Female
5	.00	.00	.00	.00	.00	.00	.00	.00
10	.00	.00	.00	.00	.00	.00	.00	.00
15	.00	.00	.00	.00	.60	.00	.00	.00
20	.00	1.00	1.00	.00	1.00	.00	.00	.00
25	.00	1.00	1.00	.00	1.00	.00	.00	.00
30	1.00	1.00	1.00	.00	2.00	.00	.00	.00
35	1.00	1.00	1.00	.00	2.00	1.00	.00	.00
40	1.00	2.00	2.00	1.00	2.00	1.00	1.00	.00
45	2.00	2.00	2.00	1.00	2.00	1.00	1.00	.00
50	2.00	2.00	2.00	1.00	3.00	1.00	1.00	.00
55	3.00	2.15	2.00	2.00	3.00	2.00	1.00	.50
60	4.00	3.00	3.00	2.00	3.00	2.00	1.00	1.00
65	4.00	3.00	3.00	2.00	3.00	2.00	1.35	2.00
70	4.00	3.00	3.00	3.00	4.00	3.00	2.00	2.00
75	6.00	3.75	4.00	3.00	4.00	3.00	2.00	2.00
80	7.60	4.00	4.00	3.00	5.20	3.00	2.00	3.00
85	8.00	5.05	4.00	4.00	7.40	5.20	2.15	7.00
90	9.00	6.00	6.00	6.00	8.00	6.00	3.20	8.00
95	13.00	9.05	12.00	7.00	12.20	9.60	6.10	8.00

Table 30

Percentiles for Males and Females for different age groups for the adapted Conners-3 parent rating scale – DSM-IV TR-Oppositional Defiant Disorder Subscale

	Age groups							
	6-8		9-11		12-14		15-18	
Percentiles	Male	Female	Male	Female	Male	Female	Male	Female
5	.00	1.00	.00	.00	1.00	.00	.00	.00
10	1.00	1.50	1.00	1.00	1.60	.20	.00	.00
15	1.00	2.00	2.25	2.00	2.90	1.00	.00	.00
20	3.00	4.00	3.00	2.00	3.00	1.40	.00	.00
25	3.00	4.00	3.00	3.00	4.00	2.00	1.00	.75
30	4.00	4.00	3.00	3.00	4.00	2.60	1.00	1.00
35	4.00	4.00	3.25	3.00	4.00	3.00	2.00	1.85
40	5.00	4.00	4.00	3.00	5.00	3.00	2.00	2.00
45	5.00	4.75	5.00	4.00	5.00	3.40	2.00	2.00
50	7.00	7.00	5.00	4.00	5.00	4.00	4.00	3.50
55	8.00	7.00	6.00	4.00	6.00	4.00	4.00	4.00
60	9.00	7.00	6.00	5.00	6.60	5.00	4.40	4.00
65	9.00	8.00	6.00	5.00	8.00	5.80	5.00	4.15
70	9.00	8.50	7.00	6.00	9.00	6.00	6.00	5.70
75	10.00	9.00	7.25	7.00	10.00	7.00	6.25	7.00
80	11.00	9.00	8.00	8.00	10.80	8.00	7.00	7.00
85	11.00	10.00	11.00	9.00	11.00	8.20	7.15	7.35
90	13.00	10.00	13.00	12.00	11.00	10.60	8.00	8.00
95	14.00	11.00	14.00	15.00	12.70	12.80	10.25	12.80

Table 31

Percentiles for Males and Females for different age groups for the adapted Conners-3 parent rating scale Conners-3GI Total Subscale

	Age groups							
	6-8		9-11		12-14		15-18	
Percentiles	Male	Female	Male	Female	Male	Female	Male	Female
5	2.00	2.00	2.00	1.05	2.00	.00	.00	.00
10	3.00	4.00	2.00	2.10	3.00	1.00	.00	.20
15	4.00	5.00	3.00	3.00	5.50	2.00	2.00	2.00
20	5.00	5.00	4.00	3.20	7.00	3.00	2.00	2.20
25	5.00	6.00	4.00	4.00	8.00	3.00	2.75	3.00
30	6.40	6.00	5.00	5.00	8.00	3.00	3.00	3.00
35	7.00	7.00	7.00	5.00	9.00	4.20	3.00	3.00
40	8.00	9.00	7.00	5.00	10.00	5.00	3.00	4.00
45	10.00	9.00	8.00	6.00	10.00	5.00	4.00	4.00
50	10.00	9.00	8.00	7.00	10.50	6.00	4.50	5.00
55	11.00	10.00	9.00	7.55	11.00	7.00	5.00	5.05
60	13.80	10.00	11.00	8.00	11.00	8.00	5.00	6.60
65	14.00	10.10	11.00	8.00	11.00	8.00	5.35	8.00
70	14.00	12.00	12.00	9.00	11.50	8.40	6.00	8.70
75	16.00	12.50	12.00	10.00	12.00	11.00	7.00	9.00
80	16.40	13.00	13.00	11.00	14.00	11.00	8.00	9.80
85	18.60	14.00	14.00	14.00	16.00	12.00	9.15	13.00
90	20.40	14.00	14.00	16.00	17.00	13.80	11.20	13.00
95	23.40	22.00	17.50	17.00	20.00	16.40	14.00	16.45

Table 32

Percentiles for Males and Females for different age groups for the adapted Conners-3 parent rating scale Restless Impulsive Subscale

	Age groups							
	6-8		9-11		12-14		15-18	
Percentiles	Male	Female	Male	Female	Male	Female	Male	Female
5	2.00	2.00	1.00	.00	1.00	.00	.00	.00
10	2.00	2.00	1.00	1.00	2.00	1.00	.00	.10
15	2.00	2.00	2.00	1.00	3.00	1.00	1.00	1.00
20	2.00	2.00	2.00	2.00	4.00	1.40	1.00	1.00
25	3.00	3.00	3.00	2.00	4.00	2.00	1.00	1.75
30	3.00	3.00	3.00	3.00	5.00	3.00	1.70	2.00
35	4.00	4.00	4.00	3.00	5.40	3.00	2.00	2.85
40	4.40	4.00	4.00	3.00	6.00	3.00	3.00	3.00
45	5.00	4.85	5.00	3.00	6.00	3.40	3.00	3.00
50	6.00	6.00	5.00	4.00	6.00	4.00	3.00	3.00
55	7.00	6.00	6.00	4.00	7.20	5.00	3.00	4.00
60	8.00	6.00	6.00	5.00	8.00	5.00	3.40	4.60
65	8.00	6.00	7.00	5.00	8.00	6.00	4.00	5.00
70	8.00	7.00	7.00	5.00	8.00	6.00	4.00	5.00
75	8.25	8.00	9.00	6.00	9.00	6.00	4.25	5.75
80	11.00	8.00	9.00	7.00	10.00	7.00	5.00	8.00
85	11.00	8.00	9.35	9.00	10.00	8.20	6.00	9.00
90	11.00	9.00	10.90	11.00	11.00	9.80	7.20	9.00
95	14.45	14.00	11.45	12.00	14.80	11.40	11.00	11.45

Table 33

Percentiles for Males and Females for different age groups for the adapted Conners-3 parent rating scale Emotional Liability Subscale

	Age groups							
	6-8		9-11		12-14		15-18	
Percentiles	Male	Female	Male	Female	Male	Female	Male	Female
5	.65	2.00	.00	.00	.00	.00	.00	.00
10	1.00	2.00	.10	1.00	1.00	.00	.00	.00
15	1.95	2.00	1.00	1.00	1.00	.00	.00	.00
20	2.00	2.00	1.00	1.00	1.00	.00	.00	.00
25	2.00	2.50	1.00	1.00	2.00	1.00	.00	.00
30	2.00	3.00	2.00	2.00	2.00	1.00	.00	1.00
35	2.00	3.00	2.00	2.00	2.00	1.00	1.00	1.00
40	2.20	3.00	2.00	2.00	3.00	1.80	1.00	1.40
45	3.00	4.00	2.00	3.00	3.00	2.00	1.00	2.00
50	4.00	4.00	2.00	3.00	3.00	2.00	2.00	2.00
55	4.00	4.00	2.05	3.00	3.00	2.00	2.00	2.05
60	4.80	5.00	3.00	4.00	4.00	3.00	2.00	3.00
65	5.00	5.00	3.00	5.00	4.00	3.00	2.00	3.00
70	5.00	5.00	3.00	5.00	5.00	4.00	2.30	3.70
75	5.00	5.00	4.00	5.00	5.00	5.00	3.00	4.00
80	6.00	6.00	5.00	5.00	6.00	5.00	3.00	4.00
85	6.00	6.00	5.00	6.00	6.00	5.20	3.15	4.00
90	6.00	7.20	6.90	7.00	6.70	6.00	4.00	4.90
95	8.35	9.00	9.45	9.00	7.85	7.00	7.10	5.90

Table 34

Percentiles for Males and Females for different age groups for the adapted Conners-3 teacher rating scale Inattention Subscale

	Age groups							
	6-8		9-11		12-14		15-18	
Percentiles	Male	Female	Male	Female	Male	Female	Male	Female
5	1.00	1.70	.00	.00	2.00	.00	.00	.00
10	2.00	3.00	1.40	2.00	3.00	1.50	.70	.00
15	3.00	3.10	3.00	3.00	4.05	2.00	1.55	.55
20	3.40	4.80	6.00	3.00	6.80	3.00	2.40	1.00
25	6.00	6.50	6.00	4.00	8.00	3.75	3.00	1.00
30	7.00	7.00	7.40	6.10	9.00	4.50	8.10	1.00
35	9.00	8.00	9.00	7.00	9.00	6.00	9.00	1.00
40	9.00	9.00	9.60	9.80	9.00	7.00	9.80	1.80
45	10.30	12.30	12.00	10.00	10.00	8.75	10.65	2.65
50	11.00	14.00	15.00	12.00	11.00	9.50	12.00	3.50
55	13.05	15.70	15.70	13.00	14.85	10.25	13.75	5.35
60	16.00	16.40	17.00	16.00	17.00	11.00	18.00	6.00
65	17.00	18.00	18.00	17.10	17.85	11.00	20.00	8.00
70	17.00	18.80	19.00	18.00	19.00	11.50	20.90	8.00
75	19.00	19.00	20.00	20.25	20.00	12.75	22.00	10.50
80	20.00	21.00	21.00	22.00	21.00	16.00	23.80	14.80
85	22.45	21.90	22.00	23.95	22.00	17.75	25.45	17.00
90	24.30	22.00	24.60	25.30	24.00	18.50	26.00	17.30
95	26.15	25.00	27.00	26.00	26.00	23.00	27.30	26.00

Table 35

Percentiles for Males and Females for different age groups for the adapted Conners-3 teacher rating scale Hyperactivity/ Impulsivity Subscale

	Age groups							
	6-8		9-11		12-14		15-18	
Percentiles	Male	Female	Male	Female	Male	Female	Male	Female
5	1.00	1.00	1.70	2.00	1.00	1.00	.00	.00
10	2.00	2.00	5.00	2.00	2.80	2.00	.70	.00
15	3.80	3.20	9.00	2.00	4.35	2.00	1.55	.00
20	6.20	6.60	10.80	2.80	5.00	2.00	2.00	.40
25	12.00	9.00	15.50	4.00	10.00	3.00	3.25	2.00
30	16.40	11.00	18.00	5.10	13.10	4.50	5.30	2.10
35	18.00	13.00	18.90	9.00	17.15	5.00	9.90	3.00
40	18.00	16.20	24.00	10.60	18.00	5.00	11.00	5.00
45	19.00	18.00	24.00	15.30	18.00	8.75	15.90	6.65
50	21.00	19.00	24.00	18.00	19.00	12.00	19.00	7.50
55	23.00	20.70	26.00	21.40	23.00	14.25	22.50	8.00
60	25.20	22.80	27.00	23.00	24.00	15.00	31.00	9.20
65	26.40	26.00	31.20	27.00	25.70	17.25	36.00	10.05
70	29.40	27.00	36.00	29.00	28.30	21.00	39.60	12.80
75	33.00	34.00	38.00	35.25	30.00	23.00	42.00	14.50
80	38.00	36.00	42.00	39.60	35.20	26.00	42.00	18.40
85	45.20	37.90	47.70	41.00	37.65	33.00	42.00	22.45
90	50.00	40.80	51.00	42.30	42.90	38.00	49.90	38.20
95	51.20	44.00	52.00	51.00	52.00	42.50	52.00	45.20

Table 36

Percentiles for Males and Females for different age groups for the adapted Conners-3 teacher rating scale Learning Problems/ Executive Function Subscale

	Age groups							
	6-8		9-11		12-14		15-18	
Percentiles	Male	Female	Male	Female	Male	Female	Male	Female
5	3.00	1.60	3.00	1.00	5.00	1.00	.00	.85
10	5.00	3.00	6.00	2.00	6.00	3.00	1.00	1.00
15	6.00	4.80	8.00	2.45	7.20	3.25	1.50	1.00
20	6.00	5.80	8.00	7.00	9.80	5.00	4.00	1.00
25	8.00	8.00	11.00	8.00	11.00	5.00	4.75	1.00
30	11.00	10.80	12.00	12.00	12.40	5.50	13.00	2.00
35	12.00	13.00	12.00	13.05	14.80	8.25	14.25	2.95
40	14.60	17.00	15.00	17.00	17.00	10.00	17.00	3.80
45	15.00	20.40	17.00	17.00	17.00	11.00	17.00	4.00
50	18.00	22.00	19.00	20.50	18.00	13.50	18.50	5.00
55	19.00	26.00	25.50	23.00	19.80	18.00	19.50	8.35
60	21.00	27.00	27.00	26.60	21.80	21.00	22.00	10.00
65	22.00	28.00	27.50	27.95	22.40	22.00	26.25	10.25
70	24.60	28.00	29.00	32.00	26.60	23.00	28.00	15.00
75	27.50	31.00	32.00	33.00	32.00	25.75	30.00	17.00
80	32.00	31.00	33.00	37.00	33.00	28.00	33.00	21.20
85	34.90	32.20	34.00	38.00	33.80	31.00	33.00	23.90
90	40.20	34.00	34.00	38.00	34.80	31.00	41.50	27.50
95	45.00	41.40	39.50	41.55	40.40	33.25	42.00	38.65

Table 37

Percentiles for Males and Females for different age groups for the adapted Conners-3 teacher rating scale Aggression Subscale

	Age groups							
	6-8		9-11		12-14		15-18	
Percentiles	Male	Female	Male	Female	Male	Female	Male	Female
5	.00	.00	.00	.00	.00	.00	.00	.00
10	.30	.40	.00	.00	.00	.00	.00	.00
15	1.00	1.00	1.00	1.00	1.00	.10	.00	.00
20	1.00	1.00	1.00	1.00	1.00	1.00	1.00	.00
25	2.00	1.00	2.00	1.00	2.00	1.00	1.00	.25
30	2.00	2.20	3.00	3.00	3.00	2.00	1.00	1.00
35	3.55	3.00	4.00	3.00	3.80	2.00	2.25	1.00
40	5.00	3.00	5.00	6.00	5.00	2.00	3.00	1.00
45	5.00	4.30	8.00	6.00	5.00	2.00	4.75	2.00
50	8.00	6.00	10.00	7.00	7.00	3.00	6.00	2.00
55	8.15	8.00	16.20	7.20	8.00	3.00	9.75	2.00
60	11.80	10.80	21.00	12.20	9.60	5.00	17.00	2.00
65	19.35	14.00	25.00	17.60	11.80	6.10	20.00	2.00
70	21.40	17.00	29.40	20.40	15.60	7.00	29.00	4.70
75	27.00	21.50	32.00	24.00	20.00	12.50	31.75	5.75
80	32.40	26.00	32.00	26.00	20.40	20.20	40.00	9.40
85	37.05	29.70	39.00	33.00	29.00	21.90	41.50	15.05
90	40.00	32.60	44.60	39.00	35.00	30.20	44.00	20.60
95	43.00	36.70	45.00	49.20	45.00	36.00	52.00	35.35

Table 38

Percentiles for Males and Females for different age groups for the adapted Conners-3 teacher rating scale Peer Relation Subscale

	Age groups							
	6-8		9-11		12-14		15-18	
Percentiles	Male	Female	Male	Female	Male	Female	Male	Female
5	1.00	.55	.00	.00	.00	.00	.00	.00
10	1.00	1.00	1.00	.30	1.00	.00	1.00	.00
15	2.00	1.00	1.00	1.00	2.00	.10	1.00	.00
20	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00
25	3.50	2.00	2.00	2.00	3.00	1.50	1.00	1.00
30	5.00	2.00	2.90	2.00	3.70	2.00	1.00	1.00
35	5.00	3.00	4.00	2.00	5.00	3.80	1.90	1.00
40	5.60	4.00	5.00	4.00	5.00	4.00	2.60	1.00
45	6.00	4.95	5.00	4.00	6.00	5.00	4.00	1.00
50	7.00	5.00	6.00	5.00	6.00	6.00	5.00	1.00
55	7.00	6.00	7.15	5.00	7.00	6.00	5.70	1.00
60	8.00	6.00	8.00	5.00	7.00	6.00	6.40	1.00
65	9.00	7.00	9.00	6.00	8.00	7.00	7.10	2.40
70	10.00	8.00	9.00	7.10	9.00	7.80	8.00	4.00
75	11.00	8.00	10.00	8.00	9.00	8.00	8.00	4.00
80	12.00	8.80	10.00	8.00	10.20	10.40	11.20	5.00
85	12.00	10.00	11.00	10.55	11.65	12.00	12.00	6.60
90	13.60	11.00	12.00	11.00	12.20	14.00	15.00	10.40
95	17.00	12.00	15.00	13.85	16.20	14.30	18.30	14.20

Table 39

Percentiles for Males and Females for different age groups for the adapted Conners-3 teacher rating scale Conners-3 AI ADHD index Subscale

	Age groups							
	6-8		9-11		12-14		15-18	
Percentiles	Male	Female	Male	Female	Male	Female	Male	Female
5	19.00	19.00	19.00	19.00	19.00	19.00	19.00	19.00
10	19.00	19.00	19.00	19.00	19.00	19.00	19.00	19.00
15	19.00	19.00	39.00	19.00	19.00	19.00	19.00	19.00
20	39.00	35.00	39.00	19.00	19.00	19.00	19.00	19.00
25	39.00	39.00	39.00	19.00	19.00	19.00	19.00	19.00
30	39.00	39.00	39.00	19.00	27.00	19.00	19.00	19.00
35	42.00	49.80	58.00	39.00	39.00	19.00	19.00	19.00
40	64.00	51.60	58.00	39.00	39.00	19.00	27.00	19.00
45	69.00	58.00	64.00	39.00	58.00	19.00	39.00	19.00
50	69.00	64.00	69.00	39.00	69.00	29.00	51.00	19.00
55	77.00	64.00	77.00	58.00	69.00	42.00	75.00	19.00
60	77.00	74.60	77.00	74.60	77.00	51.00	82.80	19.00
65	81.00	81.00	80.20	81.00	81.00	51.00	89.80	20.60
70	81.00	81.00	84.00	85.80	82.80	66.50	91.00	51.00
75	84.75	82.50	89.00	87.00	89.00	71.00	91.00	56.25
80	91.00	89.00	92.00	91.20	92.00	77.00	92.00	58.00
85	92.00	92.00	92.00	95.00	92.00	81.00	94.20	64.00
90	95.00	93.00	93.00	96.60	93.40	81.00	96.80	67.90
95	99.00	95.00	98.00	99.00	95.60	95.25	99.00	96.45

Table 40

Percentiles for Males and Females for different age groups for the adapted Conners-3 teacher rating scale DSM-IV TR inattentive Subscale

	Age groups							
	6-8		9-11		12-14		15-18	
Percentiles	Male	Female	Male	Female	Male	Female	Male	Female
5	3.00	1.00	3.00	1.00	1.90	.00	.00	.00
10	3.00	3.00	3.30	1.00	3.00	.00	.00	.00
15	3.40	3.00	4.95	2.90	4.00	1.25	1.00	.00
20	4.00	4.00	6.00	3.00	4.00	2.00	1.40	.00
25	4.00	4.00	7.00	3.00	5.00	2.75	3.25	1.00
30	5.00	7.00	8.00	5.60	6.00	3.00	4.30	1.00
35	5.00	8.00	8.00	8.00	7.15	3.25	7.00	1.00
40	6.00	8.80	8.00	8.00	8.00	5.00	9.00	1.00
45	8.00	11.00	9.85	8.00	9.00	5.75	9.00	2.00
50	9.00	11.00	13.00	9.00	9.00	8.00	11.50	3.00
55	13.00	12.60	15.30	11.00	11.90	8.25	13.00	5.05
60	13.00	16.00	18.00	13.20	13.80	9.00	15.40	7.00
65	16.00	17.00	18.00	17.00	16.70	10.00	19.10	7.00
70	17.20	17.40	20.00	17.00	19.30	10.00	21.00	8.80
75	19.00	19.00	21.00	19.00	20.00	10.25	22.00	10.75
80	21.00	20.00	22.00	21.60	23.00	13.00	23.60	13.20
85	22.60	20.00	22.05	22.00	23.00	16.25	25.00	15.00
90	25.40	22.00	24.00	24.00	24.00	18.00	27.90	16.00
95	28.40	22.40	28.35	30.00	28.20	22.50	30.00	24.90

Table 41

Percentiles for Males and Females for different age groups for the adapted Conners-3 teacher rating scale DSM-IV TR Hyperactivity/ Impulsivity Subscale

	Age groups							
	6-8		9-11		12-14		15-18	
Percentiles	Male	Female	Male	Female	Male	Female	Male	Female
5	.00	.00	.00	1.00	.00	.00	.00	.00
10	.70	1.00	2.00	1.00	.00	.00	.00	.00
15	1.00	2.00	5.00	1.00	2.00	1.00	.00	.00
20	4.40	2.80	6.80	2.00	4.00	1.00	.00	.40
25	7.25	4.00	9.00	2.00	7.00	1.00	1.00	1.00
30	9.00	5.00	9.00	4.00	8.70	1.00	4.00	2.00
35	9.00	8.90	11.80	5.00	9.15	2.00	5.90	2.00
40	10.00	9.00	15.00	5.80	10.00	2.00	7.00	4.00
45	12.00	9.30	16.00	9.00	11.00	3.50	9.30	4.00
50	14.50	12.00	16.00	9.00	12.00	6.50	11.00	4.00
55	16.00	14.00	16.70	13.85	15.00	9.00	14.10	4.00
60	17.00	14.00	18.00	14.20	16.00	9.00	19.40	4.20
65	17.05	15.10	23.00	17.55	16.85	9.75	21.00	6.05
70	18.00	17.60	23.00	18.00	18.00	13.50	24.60	7.90
75	21.00	20.50	26.20	21.25	19.00	16.00	25.75	9.00
80	24.00	23.00	29.80	23.00	20.20	17.00	26.60	10.80
85	27.00	23.00	32.00	24.00	22.65	20.25	27.45	13.90
90	31.30	23.60	32.00	27.60	28.40	21.50	29.20	22.30
95	32.00	28.60	90.00	32.00	32.00	25.00	32.00	28.75

Table 42

Percentiles for Males and Females for different age groups for the adapted Conners-3 teacher rating scale DSM-IV TR Conduct Disorder Subscale

	Age groups							
	6-8		9-11		12-14		15-18	
Percentiles	Male	Female	Male	Female	Male	Female	Male	Female
5	.00	.00	.00	.00	.00	.00	.00	.00
10	.00	.00	.00	.00	.00	.00	.00	.00
15	.00	.00	.00	.00	.00	.00	.00	.00
20	.00	.00	.00	.00	.00	.00	.00	.00
25	.00	.00	.00	.00	.00	.00	.00	.00
30	.00	1.00	1.00	.00	1.00	.00	.00	.00
35	.00	1.00	1.20	.80	1.00	.00	.85	.00
40	1.00	1.00	2.00	1.00	2.40	1.00	1.00	.60
45	1.00	1.00	4.40	1.00	3.45	1.00	1.00	1.00
50	2.00	1.00	5.00	1.00	4.00	1.00	1.50	1.00
55	4.00	2.00	6.60	3.40	4.55	1.00	2.10	1.00
60	4.00	2.00	9.20	4.80	5.00	1.60	4.00	1.00
65	5.00	2.10	11.00	8.00	5.65	2.15	5.00	1.00
70	11.00	3.80	12.40	10.00	6.70	3.70	7.10	1.00
75	13.00	5.50	13.00	11.00	7.75	5.50	9.75	1.00
80	16.00	10.60	15.60	15.40	11.00	10.80	15.80	3.00
85	20.00	15.90	18.00	16.80	14.70	16.00	23.00	3.00
90	21.00	16.00	20.00	19.40	19.60	16.90	23.00	10.60
95	22.00	19.00	24.20	21.00	26.70	23.50	25.00	20.60

Table 43

Percentiles for Males and Females for different age groups for the adapted Conners-3 teacher rating scale DSM-IV TR Oppositional Defiant Disorder Subscale

	Age groups							
	6-8		9-11		12-14		15-18	
Percentiles	Male	Female	Male	Female	Male	Female	Male	Female
5	.00	.00	.00	.00	.00	.00	.00	.00
10	1.00	.00	.00	.00	.80	.00	.00	.00
15	1.00	1.00	1.00	1.00	1.00	.00	.40	.00
20	1.00	1.00	1.00	1.00	1.60	.00	1.00	.00
25	1.00	1.00	2.00	1.00	2.00	.75	1.00	.00
30	3.00	2.00	3.00	1.00	3.00	1.00	2.80	1.00
35	3.00	3.00	3.20	2.00	3.00	1.00	3.60	1.00
40	4.00	3.00	6.00	2.60	3.20	2.00	4.00	1.00
45	4.00	4.00	6.00	3.00	4.60	3.00	4.20	1.00
50	5.00	4.00	9.00	3.00	5.00	3.00	6.00	1.00
55	6.00	4.70	9.00	6.40	6.00	4.00	8.40	2.00
60	8.00	6.00	10.20	8.00	6.80	4.00	11.20	2.00
65	10.00	7.10	14.00	9.00	9.00	4.75	14.00	2.05
70	11.80	8.80	15.00	12.00	9.00	6.50	16.40	3.90
75	13.50	11.00	16.00	15.00	10.00	8.00	19.00	5.00
80	16.00	13.20	16.60	16.00	12.80	9.00	19.80	6.60
85	17.00	16.00	19.20	17.00	14.00	9.75	20.60	8.45
90	19.00	17.00	21.00	19.00	18.20	16.00	21.80	10.20
95	22.00	17.90	21.00	23.00	21.00	17.00	23.20	16.15

Table 44

Percentiles for Males and Females for different age groups for the adapted Conners-3 teacher rating scale Conners-3 GI Total Subscale

	Age groups							
	6-8		9-11		12-14		15-18	
Percentiles	Male	Female	Male	Female	Male	Female	Male	Female
5	2.00	.70	1.00	.00	1.40	.00	.00	.00
10	2.00	2.00	2.00	1.00	2.00	.00	.00	.00
15	3.00	2.00	4.00	2.00	3.00	1.00	.40	.00
20	3.00	3.00	4.00	2.00	3.00	1.00	1.00	.00
25	3.25	4.00	4.00	2.00	4.00	2.00	2.00	.25
30	4.20	4.00	7.00	2.00	5.00	3.00	2.80	1.00
35	7.00	4.00	7.00	3.00	5.80	3.25	3.60	1.00
40	10.60	6.00	8.00	4.00	7.00	4.00	4.40	1.00
45	11.00	7.00	8.00	4.00	7.60	4.75	5.40	1.65
50	11.00	8.00	11.00	7.00	8.00	5.00	10.00	2.50
55	13.00	9.70	13.00	8.85	11.00	5.25	10.80	3.00
60	13.00	11.00	13.40	13.00	12.60	6.00	14.80	3.20
65	13.05	13.00	14.10	14.00	13.00	6.75	17.20	4.10
70	16.90	13.80	17.00	15.80	13.00	11.00	20.20	6.00
75	20.00	14.00	17.50	16.25	16.00	13.00	21.00	7.00
80	22.60	15.40	19.00	18.60	17.80	14.00	21.00	9.20
85	24.45	18.00	22.00	22.00	20.00	16.25	23.00	13.45
90	30.00	22.00	24.60	26.00	24.20	18.00	26.20	14.90
95	69.60	22.00	27.90	30.00	53.00	19.75	30.00	20.20

Table 45

Percentiles for Males and Females for different age groups for the adapted Conners-3 teacher rating scale Restless Impulsive Subscale

	Age groups							
	6-8		9-11		12-14		15-18	
Percentiles	Male	Female	Male	Female	Male	Female	Male	Female
5	.00	.00	.00	.00	.35	.00	.00	.00
10	1.00	.00	1.00	.00	1.00	.00	.00	.00
15	1.00	1.00	2.00	.00	2.00	.00	.00	.00
20	2.00	2.00	2.80	1.00	2.00	.00	.00	.00
25	2.00	2.00	4.00	1.00	2.75	.00	1.00	.00
30	2.00	3.00	4.00	1.50	3.10	.50	2.00	.00
35	4.00	4.00	5.00	2.00	4.00	1.25	2.00	.00
40	5.00	4.00	6.00	3.00	4.00	2.00	3.00	.00
45	6.00	4.00	6.00	3.00	5.00	2.75	4.00	1.00
50	6.00	6.00	6.00	4.00	6.00	3.00	5.50	1.50
55	7.50	6.00	7.95	5.00	6.00	3.00	6.70	2.00
60	8.00	7.00	9.00	6.00	7.20	5.00	12.00	2.00
65	9.00	8.00	9.00	8.00	8.55	5.00	12.00	2.05
70	10.00	9.00	10.00	9.00	9.90	6.00	12.00	3.90
75	10.50	9.00	10.75	11.00	10.00	8.25	13.75	4.75
80	13.00	11.00	12.00	12.00	12.00	10.00	14.60	6.00
85	14.50	11.40	13.00	13.00	12.00	10.75	15.45	7.45
90	16.00	13.00	15.10	15.00	14.60	11.00	16.60	10.30
95	18.00	14.00	17.00	18.00	16.65	13.25	18.00	14.60

Table 46

Percentiles for Males and Females for different age groups for the adapted Conners-3 teacher rating scale Emotional Liability Subscale

	Age groups							
	6-8		9-11		12-14		15-18	
Percentiles	Male	Female	Male	Female	Male	Female	Male	Female
5	.00	.00	.00	.00	.00	.00	.00	.00
10	.00	.00	.00	.00	.00	.00	.00	.00
15	.00	.00	1.00	.00	.60	.00	.00	.00
20	1.00	.00	1.00	.00	1.00	.80	.00	.00
25	2.00	1.00	1.00	1.00	1.00	1.00	.75	.00
30	2.00	1.00	2.00	1.00	1.00	1.00	1.00	.80
35	3.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00
40	3.00	2.00	3.00	1.00	1.60	1.00	2.00	1.00
45	3.00	2.85	3.00	2.00	2.00	2.00	3.50	1.00
50	4.00	3.00	3.00	2.00	3.00	2.00	4.00	1.00
55	5.00	4.00	5.00	2.00	3.00	2.70	4.25	1.00
60	5.00	4.00	6.00	3.00	3.40	3.00	6.00	2.00
65	5.00	5.00	6.00	5.00	4.00	3.10	6.75	2.00
70	5.00	5.10	7.00	5.10	5.00	4.80	7.00	2.00
75	6.00	6.00	8.00	7.00	5.00	5.00	8.00	4.00
80	7.00	7.00	8.00	8.00	6.20	5.00	8.00	4.80
85	8.00	7.05	8.00	8.00	8.00	5.90	9.00	5.00
90	9.00	8.00	10.00	8.70	8.00	6.60	9.50	6.00
95	11.55	9.00	17.60	9.00	9.00	7.60	12.00	7.40

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PERCENTILES OF THE DIFFERENT SUBSCALES OF THE ADAPTED CONNERS-3 PARENT RATING SVALE AND CONNERS-3 TEACHER RATING SCALE BY AGE

Table 47

Percentiles for different age groups for the adapted Conners-3 parent and teacher rating scales- Inattention Subscale

	Age groups							
	6-8		9-11		12-14		15-18	
Percentiles	Parent	Teacher	Parent	Teacher	Parent	Teacher	Parent	Teacher
5	2.00	1.00	2.00	.00	1.00	1.15	.00	.00
10	2.00	3.00	2.00	2.00	2.00	2.00	1.00	.00
15	3.00	3.00	2.00	3.00	3.00	3.00	2.00	1.00
20	4.00	4.00	3.00	4.00	3.60	4.00	2.00	1.00
25	4.25	6.00	3.00	6.00	4.00	6.00	3.00	1.00
30	5.00	7.00	4.00	7.00	5.00	7.00	3.00	2.00
35	6.00	9.00	5.00	9.00	5.00	9.00	4.00	3.00
40	6.00	9.00	6.00	10.00	6.00	9.00	4.00	4.20
45	6.00	11.00	6.00	11.00	6.00	9.35	5.00	6.00
50	7.00	12.00	7.00	13.00	7.00	10.00	5.00	8.00
55	8.00	15.00	7.80	15.00	8.00	11.00	5.00	9.00
60	9.40	16.00	8.00	16.00	8.00	11.80	7.00	10.80
65	11.00	17.00	9.00	18.00	10.00	15.00	7.00	12.00
70	11.00	18.00	10.00	19.00	10.00	17.00	8.00	17.00
75	11.75	19.00	10.00	20.00	11.00	18.00	8.00	17.75
80	14.00	20.00	11.80	21.00	13.00	19.00	10.00	20.00
85	17.65	22.00	14.00	23.00	14.00	21.00	10.00	22.00
90	19.10	24.00	17.00	25.00	15.20	22.00	10.00	25.70
95	20.00	26.00	18.00	26.00	20.00	25.70	14.00	26.00

Table 48

Percentiles for different age groups for the adapted Conners-3 parent and teacher rating scales- Hyperactivity/ Impulsivity Subscale

	Age groups							
	6-8		9-11		12-14		15-18	
Percentiles	Parent	Teacher	Parent	Teacher	Parent	Teacher	Parent	Teacher
5	5.00	1.00	1.80	2.00	.95	1.00	.00	.00
10	5.00	2.00	3.00	2.00	2.90	2.00	.00	.00
15	7.00	3.70	5.00	4.00	3.85	3.00	1.00	.95
20	8.80	6.80	6.00	5.00	6.80	4.00	2.00	2.00
25	10.00	9.25	7.00	9.00	8.00	5.00	2.00	2.00
30	10.00	13.00	9.00	11.00	8.70	5.00	3.70	3.00
35	11.00	17.00	9.60	17.00	10.00	10.05	5.15	5.00
40	11.00	18.00	10.00	18.00	11.00	14.00	7.00	7.20
45	12.00	18.05	11.00	22.00	12.00	15.00	7.00	8.00
50	13.00	20.00	12.00	24.00	13.50	18.00	7.50	10.00
55	14.00	22.95	13.00	24.00	14.00	18.00	8.00	11.15
60	14.40	24.00	14.00	26.00	15.40	22.20	10.00	14.60
65	18.10	26.00	15.40	29.00	17.00	23.00	10.00	19.00
70	19.00	29.00	17.00	35.00	20.00	24.20	10.30	22.10
75	21.00	33.00	19.00	38.00	20.25	27.25	11.75	33.75
80	23.00	36.00	22.00	40.00	22.00	30.00	15.00	38.20
85	27.50	39.65	23.00	42.00	23.00	35.55	18.25	42.00
90	32.60	44.00	26.00	50.00	26.10	40.70	25.20	42.00
95	37.30	50.00	31.20	52.00	30.10	49.95	30.00	52.00

Table 49

Percentiles for different age groups for the adapted Conners-3 teacher rating scales-Learning problems/ Executive Functioning Subscale

	Age groups			
	6-8	9-11	12-14	15-18
Percentiles	Teacher	Teacher	Teacher	Teacher
5	3.00	2.00	3.00	.55
10	4.50	3.00	5.00	1.00
15	5.00	7.00	5.00	1.00
20	6.00	8.00	6.00	1.00
25	8.00	8.00	8.00	2.75
30	11.00	12.00	11.00	4.00
35	12.75	13.00	11.70	4.00
40	15.00	15.00	13.80	6.20
45	17.00	17.00	16.80	10.00
50	19.00	20.00	17.00	13.50
55	21.75	24.20	19.20	15.10
60	22.00	27.00	21.20	17.00
65	26.00	27.80	22.00	19.00
70	28.00	31.00	24.40	21.70
75	29.75	32.00	28.00	24.25
80	32.00	34.00	31.00	27.00
85	34.00	34.60	32.00	30.35
90	37.50	38.00	33.80	33.00
95	44.25	39.80	37.90	42.00

Table 50

Percentiles for different age groups for the adapted Conners-3 parent rating scales-Learning Problems Subscale

	Age groups			
	6-8	9-11	12-14	15-18
Percentiles	Parent	Parent	Parent	Parent
5	.00	.00	.00	.00
10	.00	.30	.00	.00
15	.00	1.00	1.00	.00
20	1.00	2.00	1.00	.00
25	1.00	2.00	2.00	1.00
30	1.00	3.00	3.00	2.00
35	3.00	4.00	4.00	2.00
40	3.00	4.00	4.00	2.00
45	3.00	4.00	5.00	3.00
50	4.00	5.00	6.00	3.00
55	5.15	6.00	6.00	4.00
60	6.00	6.00	7.00	4.00
65	7.00	6.00	8.00	4.85
70	7.00	8.00	9.00	5.00
75	8.75	8.00	10.00	6.00
80	9.00	10.00	11.00	7.00
85	10.00	11.00	12.00	8.00
90	16.00	13.00	14.00	9.00
95	19.00	16.70	17.50	11.00

Table 51

Percentiles for different age groups for the adapted Conners-3 parent rating scales-Executive Functioning Subscale

	Age groups			
	6-8	9-11	12-14	15-18
Percentiles	Parent	Parent	Parent	Parent
5	.50	.00	.00	.00
10	1.00	.00	1.00	.00
15	2.00	1.00	1.70	1.00
20	2.00	2.00	2.00	1.00
25	2.00	2.00	3.00	2.00
30	3.00	3.00	3.40	3.00
35	4.00	3.00	4.00	3.00
40	4.00	4.00	4.00	3.00
45	4.50	5.00	4.10	4.00
50	5.00	5.00	6.00	4.00
55	7.00	6.00	6.90	4.00
60	9.00	6.00	7.00	4.00
65	9.00	7.00	8.00	5.00
70	10.00	7.00	9.00	5.30
75	10.50	9.00	9.50	7.00
80	11.00	9.00	10.00	7.00
85	11.00	10.00	11.60	8.00
90	15.00	13.40	14.00	8.10
95	15.50	17.00	15.00	9.55

Table 52

Percentiles for different age groups for the adapted Conners-3 parent and teacher rating scales- Aggression Subscale

	Age groups							
	6-8		9-11		12-14		15-18	
Percentiles	Parent	Teacher	Parent	Teacher	Parent	Teacher	Parent	Teacher
5	.00	.00	.00	.00	.00	.00	.00	.00
10	.40	.60	.00	.00	1.00	.00	.00	.00
15	1.00	1.00	.00	1.00	1.00	1.00	1.00	.00
20	1.00	1.00	1.00	1.00	1.00	1.00	1.00	.00
25	3.00	1.50	2.00	2.00	2.00	2.00	1.00	1.00
30	3.00	2.00	2.00	3.00	2.00	2.00	1.00	1.00
35	3.00	3.00	2.00	4.00	3.00	2.35	1.00	1.00
40	3.00	4.00	3.00	6.00	3.00	3.00	1.00	2.00
45	4.00	5.00	3.00	7.00	3.00	4.45	2.00	2.00
50	5.00	7.00	3.00	8.00	4.00	5.00	2.00	2.00
55	5.70	8.00	4.00	10.00	4.00	6.55	2.95	3.05
60	6.00	11.60	4.00	17.00	5.00	7.60	3.40	5.00
65	7.00	15.80	5.00	21.00	6.00	8.00	4.00	6.15
70	7.00	21.00	5.50	24.50	6.00	13.80	4.30	11.00
75	8.00	25.50	6.00	29.00	7.00	17.00	6.75	20.00
80	8.00	27.00	7.00	32.00	8.00	20.00	7.00	21.60
85	8.90	33.00	9.00	33.00	9.00	21.85	7.00	32.05
90	13.00	37.40	14.00	41.50	14.00	32.90	8.00	40.00
95	17.00	43.00	14.50	45.25	16.15	42.80	8.55	44.35

Table 53

Percentiles for different age groups for the adapted Conners-3 parent and teacher rating scales- Peer Relation Subscale

	Age groups							
	6-8		9-11		12-14		15-18	
Percentiles	Parent	Teacher	Parent	Teacher	Parent	Teacher	Parent	Teacher
5	.00	1.00	.00	.00	.00	.00	.00	.00
10	.00	1.00	.00	1.00	.00	.20	.00	.00
15	.00	1.00	.00	1.00	1.00	1.00	.00	1.00
20	.00	2.00	.00	2.00	1.00	2.00	.00	1.00
25	.75	2.00	1.00	2.00	2.00	2.00	1.00	1.00
30	1.00	3.00	2.00	2.00	2.00	3.00	1.00	1.00
35	1.00	5.00	2.00	3.00	2.90	4.00	1.00	1.00
40	1.40	5.00	2.00	4.00	3.00	5.00	1.00	1.00
45	3.00	5.00	3.00	5.00	3.00	5.00	2.00	1.00
50	3.00	6.00	3.00	5.00	3.00	6.00	2.00	2.00
55	4.00	7.00	3.00	6.00	4.00	6.00	3.00	3.00
60	5.00	7.00	3.40	7.00	5.00	7.00	3.00	4.00
65	5.00	8.00	4.00	8.00	5.00	7.30	3.00	5.00
70	5.00	8.00	5.00	8.00	6.00	8.00	4.00	6.00
75	6.00	10.00	6.00	9.00	6.00	9.00	4.00	7.00
80	7.00	11.00	7.00	10.00	7.00	10.00	5.00	8.00
85	8.00	11.40	7.00	11.00	7.00	12.00	5.65	10.65
90	8.00	12.00	8.00	12.00	9.00	13.60	7.10	12.20
95	9.00	14.80	9.30	14.25	10.60	14.00	8.00	15.00

Table 54

Percentiles for different age groups for the adapted Conners-3 parent and teacher rating scales- Conners-3 AI ADHD Index Subscale

	Age groups							
	6-8		9-11		12-14		15-18	
Percentiles	Parent	Teacher	Parent	Teacher	Parent	Teacher	Parent	Teacher
5	11.00	19.00	11.00	19.00	11.00	19.00	11.00	19.00
10	11.00	19.00	11.00	19.00	11.00	19.00	11.00	19.00
15	11.00	19.00	11.00	19.00	11.00	19.00	11.00	19.00
20	11.00	39.00	11.00	19.00	11.00	19.00	11.00	19.00
25	29.00	39.00	29.00	39.00	29.00	19.00	11.00	19.00
30	29.00	39.00	29.00	39.00	29.00	19.00	11.00	19.00
35	29.00	48.60	41.00	39.00	41.00	19.00	11.00	19.00
40	29.00	58.00	51.00	39.00	51.00	39.00	11.00	19.00
45	51.00	64.00	51.00	58.00	51.00	39.00	11.90	19.00
50	51.00	69.00	51.00	64.00	56.00	51.00	41.00	19.00
55	56.00	73.00	56.00	69.00	56.00	58.60	51.00	39.00
60	61.60	77.00	56.00	77.00	56.00	69.00	51.00	51.00
65	64.00	81.00	64.00	81.00	64.00	71.40	51.00	56.60
70	71.00	81.00	67.50	84.00	71.00	77.00	56.00	64.00
75	77.00	84.00	71.00	87.50	77.00	81.00	56.00	81.00
80	86.00	89.80	77.00	92.00	77.00	82.80	56.40	90.20
85	88.40	92.00	82.00	92.00	82.00	91.70	68.55	91.20
90	97.30	93.40	82.00	95.00	82.00	92.80	71.60	94.60
95	99.00	96.00	94.00	99.00	94.00	95.00	91.00	98.40

Table 55

Percentiles for different age groups for the adapted Conners-3 parent and teacher rating scales- DSM-IV TR -Inattention Subscale

	Age groups							
	6-8		9-11		12-14		15-18	
Percentiles	Parent	Teacher	Parent	Teacher	Parent	Teacher	Parent	Teacher
5	2.00	2.35	.00	1.00	.00	.00	.00	.00
10	2.00	3.00	2.00	3.00	2.00	2.00	.00	.00
15	3.00	3.00	3.00	3.00	3.00	3.00	1.00	.00
20	3.00	4.00	3.00	4.00	4.00	3.00	2.00	1.00
25	4.00	4.00	4.00	6.00	4.00	4.00	2.00	1.00
30	5.00	5.00	4.00	7.00	5.00	4.90	3.00	1.00
35	5.00	6.00	5.00	8.00	5.60	6.00	3.00	2.55
40	6.00	8.00	5.00	8.00	6.00	7.20	3.00	4.00
45	7.00	8.15	6.00	9.00	7.00	8.00	4.00	7.00
50	7.00	11.00	7.00	10.00	7.00	9.00	4.00	7.00
55	7.00	13.00	7.25	13.00	7.80	9.00	4.00	9.00
60	8.00	13.20	8.00	17.00	8.00	10.00	5.00	9.80
65	9.00	16.00	9.00	17.70	9.00	11.95	6.00	12.45
70	10.00	17.00	9.00	19.00	9.00	14.10	6.00	14.10
75	11.00	19.00	10.25	20.00	10.00	17.00	7.00	15.75
80	13.00	20.00	11.00	22.00	11.00	19.40	7.00	19.80
85	15.00	22.00	13.00	22.00	13.60	22.00	7.65	22.05
90	15.00	23.00	15.50	24.00	15.40	23.00	9.00	24.70
95	22.00	28.00	17.00	30.00	20.00	24.00	12.00	30.00

Table 56

Percentiles for different age groups for the adapted Conners-3 parent and teacher rating scales- DSM-IV TR -Hyperactivity/ Impulsivity Subscale

	Age groups							
	6-8		9-11		12-14		15-18	
Percentiles	Parent	Teacher	Parent	Teacher	Parent	Teacher	Parent	Teacher
5	3.00	.00	1.00	1.00	.00	.00	.00	.00
10	4.40	1.00	2.00	1.00	2.00	.00	.00	.00
15	6.00	2.00	4.00	2.00	3.00	1.00	.35	.00
20	7.00	4.00	5.00	4.00	4.00	1.00	2.00	.00
25	8.00	5.00	6.00	5.00	5.25	2.00	3.00	1.00
30	8.00	8.00	6.00	7.00	6.00	4.00	3.70	2.00
35	8.00	9.00	7.00	9.00	7.95	7.00	4.00	4.00
40	9.00	10.00	8.00	9.00	9.00	9.00	5.00	4.00
45	10.00	12.00	9.00	14.00	9.00	9.00	6.00	4.00
50	10.00	13.00	9.00	15.00	11.00	10.00	6.00	6.00
55	10.00	14.00	11.00	16.00	12.00	11.00	6.00	7.15
60	13.00	16.00	12.00	17.00	13.00	14.40	6.00	9.00
65	14.00	17.00	13.00	18.00	15.00	15.95	7.00	11.00
70	14.80	18.00	14.00	21.00	15.00	16.10	8.30	13.20
75	17.00	21.00	15.00	23.00	15.75	18.00	9.00	20.50
80	18.00	23.00	17.00	24.00	17.60	19.00	11.00	22.40
85	21.70	24.00	17.00	27.00	19.45	21.00	11.65	26.00
90	24.60	28.00	20.00	32.00	22.30	23.70	18.20	27.70
95	29.00	32.00	24.25	32.00	25.00	31.40	24.55	32.00

Table 57

Percentiles for different age groups for the adapted Conners-3 parent and teacher rating scales- DSM-IV TR -Conduct Disorder Subscale

	Age groups							
	6-8		9-11		12-14		15-18	
Percentiles	Parent	Teacher	Parent	Teacher	Parent	Teacher	Parent	Teacher
5	.00	.00	.00	.00	.00	.00	.00	.00
10	.00	.00	.00	.00	.00	.00	.00	.00
15	.00	.00	.00	.00	.00	.00	.00	.00
20	.00	.00	.00	.00	.00	.00	.00	.00
25	1.00	.00	.00	.00	1.00	.00	.00	.00
30	1.00	.00	1.00	.00	1.00	.00	.00	.00
35	1.00	1.00	1.00	1.00	1.00	1.00	.00	.00
40	1.60	1.00	1.00	1.00	2.00	1.00	.00	1.00
45	2.00	1.00	1.00	2.00	2.00	1.00	.60	1.00
50	2.00	1.00	2.00	4.00	2.00	2.00	1.00	1.00
55	3.00	2.00	2.00	5.00	2.00	3.05	1.00	1.00
60	3.00	3.80	2.00	7.40	3.00	4.00	1.00	1.00
65	3.00	4.00	3.00	10.00	3.00	5.00	2.00	1.60
70	4.00	5.10	3.00	11.00	3.00	5.70	2.00	3.00
75	4.00	11.00	3.00	13.00	4.00	7.25	2.00	4.00
80	5.20	15.00	4.00	15.20	5.00	11.00	2.00	5.60
85	6.40	16.00	4.00	17.15	6.00	15.35	3.00	15.00
90	8.00	19.70	6.00	20.00	8.00	16.90	6.00	20.60
95	11.00	21.00	7.70	21.00	9.75	23.70	8.00	24.60

Table 58

Percentiles for different age groups for the adapted Conners-3 parent and teacher rating scales- DSM-IV TR -Oppositional Defiant Disorder Subscale

	Age groups							
	6-8		9-11		12-14		15-18	
Percentiles	Parent	Teacher	Parent	Teacher	Parent	Teacher	Parent	Teacher
5	1.00	.00	.00	.00	.00	.00	.00	.00
10	1.00	.70	1.00	.00	1.00	.00	.00	.00
15	2.00	1.00	2.00	1.00	2.00	.30	.00	.00
20	3.00	1.00	3.00	1.00	2.00	1.00	.00	.00
25	4.00	1.00	3.00	1.00	3.00	1.00	1.00	1.00
30	4.00	2.10	3.00	2.00	3.00	2.00	1.00	1.00
35	4.00	3.00	3.00	3.00	4.00	3.00	2.00	1.00
40	4.00	3.00	4.00	3.00	4.00	3.00	2.00	1.80
45	5.00	4.00	4.00	4.00	4.00	3.00	2.00	2.00
50	7.00	4.50	4.50	6.00	5.00	4.00	4.00	3.00
55	7.00	5.85	5.00	8.00	5.00	5.00	4.00	4.00
60	8.00	7.00	5.00	9.00	6.00	6.00	4.00	5.00
65	9.00	8.55	6.00	12.00	6.00	7.00	5.00	6.00
70	9.00	10.00	6.00	14.00	8.00	8.40	6.00	8.40
75	9.00	12.00	7.00	15.00	8.75	9.00	6.75	10.00
80	10.00	15.60	8.00	16.00	9.00	10.00	7.00	14.00
85	10.00	16.00	10.75	18.00	11.00	14.00	7.00	17.20
90	11.00	17.00	13.00	20.00	11.00	16.00	8.00	19.80
95	13.30	20.00	14.25	21.00	12.15	18.90	10.55	21.80

Table 59

Percentiles for different age groups for the adapted Conners-3 parent and teacher rating scales- Conners-3 GI Total Subscale

	Age groups							
	6-8		9-11		12-14		15-18	
Percentiles	Parent	Teacher	Parent	Teacher	Parent	Teacher	Parent	Teacher
5	2.00	1.00	2.00	1.00	.00	.00	.00	.00
10	3.10	2.00	2.00	2.00	2.00	1.00	.00	.00
15	4.65	2.50	3.00	2.00	3.00	2.00	2.00	.00
20	5.00	3.00	4.00	2.00	4.00	3.00	2.00	.40
25	5.75	4.00	4.00	4.00	5.00	3.00	3.00	1.00
30	6.00	4.00	5.00	4.00	6.00	4.00	3.00	1.00
35	7.00	6.00	5.00	4.00	7.00	4.70	3.00	2.00
40	9.00	7.00	6.00	7.00	8.00	5.00	3.60	2.80
45	9.00	9.00	7.00	7.00	8.00	6.00	4.00	3.00
50	10.00	11.00	8.00	8.00	9.00	7.00	5.00	4.00
55	10.00	11.00	8.00	11.00	10.00	8.00	5.00	5.00
60	11.00	13.00	9.00	13.00	10.60	11.00	5.00	7.00
65	12.00	13.00	9.75	14.00	11.00	11.60	6.00	9.60
70	13.00	14.00	11.00	16.00	11.00	13.00	7.00	11.80
75	14.00	17.00	12.00	17.00	11.00	13.50	8.00	14.00
80	14.00	18.00	13.00	19.00	12.00	16.00	9.00	18.20
85	16.00	22.00	14.00	22.00	14.00	18.00	10.00	21.00
90	20.00	24.00	16.00	25.00	16.00	20.00	13.00	22.60
95	22.45	41.00	17.00	30.00	17.60	24.90	14.00	27.40

Table 60

Percentiles for different age groups for the adapted Conners-3 parent and teacher rating scales- Restless Impulsive Subscale

	Age groups							
	6-8		9-11		12-14		15-18	
Percentiles	Parent	Teacher	Parent	Teacher	Parent	Teacher	Parent	Teacher
5	1.15	.00	1.00	.00	.00	.00	.00	.00
10	2.00	1.00	1.00	.00	1.00	.00	.00	.00
15	2.00	1.00	1.50	1.00	2.00	.15	1.00	.00
20	2.00	2.00	2.00	1.00	3.00	1.00	1.00	.00
25	3.00	2.00	2.00	2.00	3.00	2.00	1.00	.00
30	3.00	3.00	3.00	3.00	3.50	2.00	2.00	.00
35	4.00	4.00	3.00	3.00	4.00	3.00	2.15	1.00
40	4.00	4.00	3.00	4.00	5.00	3.00	3.00	2.00
45	5.00	5.00	4.00	5.00	5.00	4.00	3.00	2.00
50	6.00	6.00	5.00	6.00	6.00	5.00	3.00	2.00
55	6.00	6.55	5.00	6.00	6.00	5.00	3.00	3.15
60	6.00	8.00	5.00	8.00	6.00	6.00	4.00	4.00
65	7.00	9.00	6.00	9.00	7.00	7.00	4.00	6.00
70	8.00	9.00	7.00	9.10	8.00	8.70	5.00	7.10
75	8.00	10.00	7.00	11.00	8.00	10.00	5.00	10.75
80	8.00	11.00	9.00	12.00	9.00	10.00	5.20	12.00
85	9.00	13.00	9.00	13.00	10.00	11.85	7.65	14.00
90	11.00	14.00	11.00	15.00	10.50	12.90	9.00	15.00
95	14.00	16.95	12.00	18.00	12.25	15.90	11.00	18.00

Table 61

Percentiles for different age groups for the adapted Conners-3 parent and teacher rating scales- Emotional Liability Subscale

	Age groups							
	6-8		9-11		12-14		15-18	
Percentiles	Parent	Teacher	Parent	Teacher	Parent	Teacher	Parent	Teacher
5	1.00	.00	.00	.00	.00	.00	.00	.00
10	2.00	.00	1.00	.00	.00	.00	.00	.00
15	2.00	.00	1.00	.00	.10	.00	.00	.00
20	2.00	1.00	1.00	1.00	1.00	1.00	.00	.00
25	2.00	1.00	1.00	1.00	1.00	1.00	.00	.00
30	2.00	2.00	2.00	1.00	1.20	1.00	.70	1.00
35	3.00	2.00	2.00	1.55	2.00	1.00	1.00	1.00
40	3.00	3.00	2.00	2.00	2.00	1.00	1.00	1.00
45	3.70	3.00	2.00	2.00	2.00	2.00	2.00	1.00
50	4.00	3.00	3.00	3.00	3.00	2.50	2.00	2.00
55	4.00	4.00	3.00	3.00	3.00	3.00	2.00	2.00
60	5.00	5.00	3.00	5.00	3.00	3.00	2.00	4.00
65	5.00	5.00	4.00	6.00	4.00	4.00	2.85	4.00
70	5.00	5.00	5.00	6.10	5.00	5.00	3.00	5.00
75	5.00	6.00	5.00	7.00	5.00	5.00	3.00	6.00
80	6.00	7.00	5.00	8.00	5.00	5.60	4.00	7.00
85	6.00	8.00	5.00	8.00	6.00	6.45	4.00	7.50
90	6.00	8.90	7.00	9.00	6.00	8.00	4.00	9.00
95	8.70	9.00	9.00	12.00	7.00	9.00	6.10	9.50

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