The Construction and Validation of the Arabic Children’s Depression Inventory

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There is a great need to develop Arabic scales of personality and psychopathology. The present research was undertaken to construct and validate the Arabic Children’s Depression Inventory (ACDI). Its final form contains 27 items, in which they have to be responded through three alternatives, i.e., Rarely, Sometimes, and Often. The scale has good face validity, internal consistency, stability, and concurrent validity. Seven factors have been extracted for the ACDI—feeling unhappy, sleep problems, loneliness, sadness, pessimism, weak concentration, and weakness. The inventory has been administered to 1783 Egyptian boys and girls. Their age ranged from 11 to 15 yrs. Girls attained higher and statistically significant mean scores than their male counterparts. The correlation between the Arabic and the English versions was 0.87. The scale correlated positively with neuroticism, while negatively with extraversion.

Introduction

Depression has been recognized since antiquity. It is perhaps the oldest recorded psychiatric disorder. Depression has been considered throughout history as perhaps the most pervasive of all the psychopathologies, as one of the most common disorders which occur in all cultures, and at times as the most devastating affliction visited upon man. The literature on depression has an old and noble lineage. In defining it by specific symptoms, as stated by Angst (1983, p. 2), it is certain that depression is not solely a human privilege, but it can be observed in numerous other mammals as well.

In the 1950s it was claimed that we were in the “Age of Anxiety.” More recently it has been called the “Age of Depression” (Costello, 1976, p. 1). The present era is characterized by the hectic pace at which life is lived, by political and military conflicts and economic problems (inflation in particular) (Ross & Huber 1985), by increasing materialism, by a disregard for emotional factors, disinterest in personal relationships, extreme individuality, and decrease of values.

Prevalence rates of depression were determined in different surveys. Sartorious (1986) states that there are at least one hundred million people in the world who suffer from depressive disorders amenable to treatment. Social damage caused by depression has assumed enormous proportions: depression is a major public health problem. Williams (1992, p. 3 f.) pointed out that at any one time, 4–5% of a population meet the criteria for clinical depression. On the other hand, Boyd and Weissman (1982) stated that the point prevalence of depressive symptoms seems to be in the range of 13 to 20% of the population. The point prevalence of nonbipolar depression in industrialized nations, using the new diagnostic techniques, is 3% for men and 5 to 9% for women. The annual incidence of nonbipolar depression is 0.08 to 0.2% for men, and 0.2 to 7.8% for women. Alessi (1987) pointed out that, in childhood and adolescence, the prevalence rate of depression, including depressive disorders, has varied from 0.14 to 1.9% in the general population. Moreover, the published prevalence rates of depressive disorders have steadily increased during the last twenty years (Gastpar, 1986).

In Egypt, affective disorders represent 24.5% of all attendances at the psychiatric outpatient clinic of Ain-Shams University at Cairo, distributed as follows: 10.7% reactive depressive, 8.6% manic depressive psychosis, and 5.2% involutional melancholy (Okasha, 1977).

The last three decades have witnessed an intensification of research on depression. One of the reasons for this is, no doubt, the fact that since it has quite a high mortality, depression can certainly be regarded as one of the so-called “serious” disorders.

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The vast majority of the fatalities occurring in cases of depression are due to suicide (Poldinger, 1972). There is a strong relation between depression and suicide (see Rutter & Garmezy, 1983, p.810; Soubrier, 1976; Vieta, Nieto, Gasto & Cirera, 1992). Depression in young people heightens suicide risk, especially for those between the ages of 15 to 19 (Davison & Neale, 1990, p.431). The last 20 years have witnessed, in all advanced countries, an increase not only in the number of attempted suicides but, to some extent, also in the number of successful suicides. Around 50% of all subjects who attempt or commit suicide suffer from depression (Kielholz, 1972). Ghaziuddin, Tsai, Naylor & Ghaziuddin (1992) demonstrated the occurrence of depression in self-cutting behavior.

The term "depression" covers a wide range of phenomena, ranging from normal sadness, through grief and depressive symptoms, to the severe forms of depressive psychosis. It is also used to designate different reactions to stress, and is linked to suicide. Depression, in its different meanings, applies both for adults and children.

The interest in disorders of early life has developed historically, later and in lesser detail than interest in the disorders of adulthood (Suinn, 1975, p.459), in spite of the fact that children with clinically significant dysphoria have been described in the literature for almost a century (Petti, 1989). Until the 1980's, however, clinicians generally assumed that young children were incapable of severe depression (Comer, 1992, p.601). The last decade has witnessed a major increase of interest in childhood depression (Alexi, 1987; Anthony, 1977; Carlson & Cantwell, 1979; Kashani & Simonds, 1979; Kashani et al., 1981; Philips, 1979). Within the last 10 years, no other area in clinical child psychology has received more attention than depression in children (Ollendick, 1990). The rapidly increasing research interest in prepubertal depression indicates that it has become a recognized disorder (Kashani, et al., 1981, as well as an important area of research (Campbell, 1989). Studies conducted throughout the 1980s indicated that many children do in fact experience a constellation of depressive symptoms that are severe and not attributable to other problems (Comer, 1992, p.602).

There are, however, different and manifold research problems in this area. Among these problems the following are salient: a) the lack of precision in terminology. Depression has several different meanings as a symptom, disorder, or as a syndrome (Cantwell & Carlson, 1979), b) the competing viewpoints about the similarity between childhood and adulthood depression (Bürgin, 1986; Cantwell & Carlson, 1979; Kovacs & Beck, 1977; Philip, 1979; Rutter & Garmezy, 1983, p.811), c) the controversy about the nosology of affective disorders and the lack of reliable diagnostic criteria (American Psychiatric Association, 1987; Bürgin, 1986; Cytryn & Mcknew, 1972; Cytryn, Mcknew & Bunney, 1980; McConville, Boag & Purohit, 1973), and d) the sparsity of standardized clinical assessment tools (Beitchman & Raman, 1979). Bürgin (1986) pointed out that the field of child psychiatry has lacked standardized research assessment instruments suitable for the systematic evaluation of depression. The study of depression in children is hampered by the lack of specific diagnostic criteria (Carlson & Cantwell, 1979). More recently, Ollendick (1990) stated that one of the major obstacles to systematic investigations in this area has been the absence of acceptable self-report instruments.

Recently, however, a limited number of psychometric instruments have been developed for children (cf. Kovacs, 1980/1981, 1992; Kovacs & Beck, 1977; Kazdin, 1981, 1990; Kazdin & Petitt, 1982). Kovacs (1980/1981) stated that "Depression rating scales represent an application of psychometrics to a clinical area. Their increased acceptance mirrors the recognition that quantification of a clinical phenomenon is necessary to scientific inquiry...[The scales] need to be evaluated against some of the standards of psychometric research" (p.305).

Egypt as a developing country has few psychometric instruments for using both in research and practice. There has been, however, a growing interest in cross-cultural comparisons in the noncognitive field (see, for example, Abdel-Khalak, 1988, 1989, Abdel-Khalak & Eysenck, 1983). Unfortunately, there has been a very limited number of scales devoted to children. Nevertheless, the Kovacs' (1992) CDI has been available in Arabic (El-Tayeb, 1983).

It is the contention of the present writer that there is a great need to construct and validate psychometric tests in Arabic by Arabic-speaking psychologists, instead of translating American or British tests. Therefore, the present study was undertaken by the present writer to construct and validate the Arabic Children's Depression Inventory (ACDI). This aim has been fulfilled through the following procedures: generation of items, evaluation of its face validity, computation of the items -- total score correlations, factor analysis of the final number of items, determination of its reliability and concurrent validity, and its relationship with other personality scales. In addition, the comparison was carried out between the 5-point scale for Yes/No format. Last to establish normative children, and the scale.

**Method**

**The Generation**

Based on both the pre- and post-test statements, the item pool was developed, and was based on standard Arabic. The variables of the data were: the others were negative.

**The Face Validity**

Five staff members were requested to examine which of them measured the depression vis-à-vis the criterion classified as acceptable. Any item that the referrers defined as unacceptable included the referrers had to revise it. Suitable items were retained. An item was eliminated on the basis of the total number of items
terms as optimistic.

**The Item Total Score**

The 46 items, with a total score in a 5-point scale for boys and 81 girls, governmental prep.; Egypt. Their ages Pearson's product-moment correlation was computed for the score. An item had a total score significance among boys, girls, and the girls. Depending o
The Arabic Children's Depression Inventory

ried out between three modes of responses, that is, the 5-point scale format, three options, and the Yes/No format. Last but not least, the objective was to establish norm-like information for Egyptian schoolchildren, and to adapt an English version of the scale.

Method

The Generation of Items

Based on both the psychological and psychiatric literature, the item pool was constructed. Fifty one statements were devised by the present writer. The statements were brief and written in modern standard Arabic. The vast majority of them were positive indicators of depression (e.g., I am sad), while the others were negative (e.g., I am happy).

The Face Validity

Five staff members of the psychology department were requested to review each item and to determine which of them were suitable for the accurate measurement of the phenomenon of juvenile depression vis-à-vis the irrelevant items. They qualitatively classified the items as acceptable or not acceptable. Any item was deleted if two out of the five referees defined it as not acceptable. Meanwhile, the referees had to determine the adequacy of phrasing. Suitable revisions and corrections were carried out. Five items were deleted; forty six items were retained. An individual interview with two children was executed to assure the clarity of phrasing, and to ascertain their comprehension of such terms as optimistic, pessimistic, and miserable.

The Item-Total Score Correlation

The 46 items, with suitable and simple instructions in a 5-point scale format, was administered to 83 boys and 81 girls. They were pupils in the governmental preparatory schools in Alexandria, Egypt. Their ages ranged between 12-15 years. Pearson's product-moment correlation coefficients were computed between each item and the total score. An item had to be excluded if its correlation with the total score does not reach the 0.01 level of significance among any one or the three groups, i.e. boys, girls, and the combined group of boys and girls. Depending on this criterion, sixteen items were deleted, and thirty items were retained. The item-total score correlation of the thirty items ranged between 0.24 and 0.67 (N = 83 boy, and 81 girl).

Factor Analysis

The intercorrelations between the thirty items (N = 164 boys and girls) were subjected to Hotelling's principal components factor analysis. Unities were inserted in the principal diagonal cell of the matrix. Guttman's lower bound criterion, i.e. eigenvalue ≥ 1.0 was followed to determine the number of factors to be retained. Then, the Varimax orthogonal rotation method of Kaiser (1958) was applied (Nie et al., 1975). The salient saturation was determined as ≥ 0.35 (Overall & Klett, 1972, p. 109).

Eight factors were extracted. They accounted for 61.8% of the total variance. The last factor was excluded since its loadings were low. Therefore, only seven factors were retained. They accounted for 58.5%. Three items were deleted because of their weak saturations. So, the final form of the ACDI consisted of 27 items.

Results

The present paper reports 7 experiments as follows:

Experiment 1

- **Purpose:** To define the factorial structure of the ACDI.
- **Subjects:** 164 boys and girls enrolled in the governmental preparatory schools in Alexandria, Egypt. Their age ranged between 11 and 15 yrs.
- **Procedure:** The ACDI was administered to pupils through group testing sessions in their classrooms. The intercorrelations between the individual 27 items were subjected to principal components factor analysis followed by Varimax orthogonal rotation.
- **Results:** Table 1 presents the factor loadings of the seven factors. The first five factors are bipolar, while the remainder are unipolar. (The appendix contains the final 27 items of the ACDI).

Factor 1, which accounted for 29.5% of the variance, was labeled "feeling unhappy" and had the highest saturations with items 1 ("I feel happy"
Table 1. The saturations of the Arabic Children’s Depression Inventory.

<table>
<thead>
<tr>
<th>Item No.*</th>
<th>F1</th>
<th>F2</th>
<th>F3</th>
<th>F4</th>
<th>F5</th>
<th>F7</th>
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*The appendix presents the items of the scale.

Experiment II

- **Purpose:** To define the appropriate response format to the items of the ACDI.
- **Subjects:** 56 boys and 46 girls. Their age ranged from 11 to 14 yrs.
- **Procedure:** The same items of the ACDI were administered under two different response alternatives, that is, Yes/No versus five-point scale: No, Sometimes, Average, Often, and Always. The two versions, printed separately in two pages, were administered successively in a small group testing situation in a counterbalanced order. Two combinations of the “Yes/No” and the five-point scale options were presented to the subjects, They were randomly assigned to one of the following sequences: 1) Yes/No, 5-point scale; 2) 5-point scale, Yes/No.
- **Results:** Pearson’s product-moment correlation coefficients between the two forms were as follows: 0.85, 0.83, and 0.84 for boys, girls, and the combined group of both boys and girls respectively. These coefficients may be considered as evidence of the equivalence of the two forms of the response format.

On the other hand, this same procedure was applied to two formats, that is, the five-point scale alternative and the three option as follows: “Rarely, Sometimes, and Often”. The correlations between these two formats reached: 0.86, 0.90, and 0.87 for boys, girls, and the combined group respectively.

According to the results of experiment II, it can be seen that the three response formats are interchangeable. Depending on the reliability coefficients, however, it was point scale response that results depended on.

Experiment III

- **Purpose:** To define ACDI.
- **Subjects:** 30 boys and 30 girls (the internal consistencies were not different).
- **Procedure:** The ACDI was administered to the students. A test/retest was conducted within a 1-week period.
- **Results:** Table 2 presents the reliability coefficients and stability coefficients denoting the stability of the ACDI scores over time.

Table 2. Reliability coeffecients

<table>
<thead>
<tr>
<th>Sample</th>
<th>Boys</th>
<th>Girls</th>
<th>Boys and Girls</th>
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</table>

*Corrected by Spearman
**Re-test after 1 week.
The Arabic Children’s Depression Inventory

We refer to the appropriate re-
terms of the ACDI.

Experiment III

- **Purpose:** To define the reliability estimates of the ACDI.
- **Subjects:** 30 boys and 30 girls were used to test out the internal consistency, that is, split-half (odd vs even). Besides, 33 boys and 36 girls were used to define the test-retest reliability. Their ages ranged between 11 and 14 yrs.
- **Procedure:** The ACDI was administered in group sessions. A retest was carried out after one week of the first testing. The internal consistency coefficient was corrected by the Spearman-Brown prophecy formula.
- **Results:** Table 2 shows the internal consistency and stability coefficients of the ACDI. All of the coefficients denote high reliability.

<table>
<thead>
<tr>
<th>Sample</th>
<th>Split-half*</th>
<th>Test-retest**</th>
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<tr>
<td></td>
<td>r_{II}</td>
<td>n</td>
</tr>
<tr>
<td>Boys</td>
<td>.89</td>
<td>30</td>
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<tr>
<td>Girls</td>
<td>.90</td>
<td>30</td>
</tr>
<tr>
<td>Boys and Girls</td>
<td>.93</td>
<td>60</td>
</tr>
</tbody>
</table>

*Corrected by Spearman-Brown Prophecy Formula. **Retest after 1 week.

Experiment IV

- **Purpose:** To test the concurrent validity of the ACDI.
- **Subjects:** 112 boys and 112 girls aged 11 to 15.
- **Procedure:** The ACDI was administered, in group sessions, along with the Arabic version (El-Tayeb, 1983) of the Kovacs’ (1992) CDI, and the Hopelessness Scale for Children (HSC; Kazdin, Rodgers & Colbus, 1986) in its Arabic form (Dowidar, 1990).
- **Results:** The correlation between the ACDI and the Kovacs’ CDI was 0.65 and 0.75, and between the ACDI and the HSC was 0.64 and 0.56 for boys and girls respectively. These coefficients denote concurrent validity of the ACDI.

Experiment V

- **Purpose:** To determine the correlation between the ACDI and personality.
- **Subjects:** 83 male and 108 female schoolchildren. Their ages ranged between 12 and 15 yrs.
- **Procedure:** The ACDI was administered in group testing sessions along with Neuroticism (N) and Extraversion (E) subscales of the Junior Eysenck Personality Questionnaire (JEPO; Eysenck & Eysenck, 1975) in its Arabic adaptation (Eysenck & Abdel Khalek, 1989).
- **Results:** The correlation between the ACDI and N was 0.70 and 0.72; and between the ACDI and E, it was -0.36 and -0.26 for boys and girls respectively. All of the correlations were significant ($P < .01$) except the last one ($P < .02$). The aforementioned correlations add a lot to the construct validity of the ACDI (Anastasi, 1988, p.154).

The present result pertaining to the JEPO deserves a comment. It is the present writer’s experience with the Arabic-speaking children that the N scale of the JEPO is a valid measure of general neurotic predisposition. On the other hand, the correlation between the scales of psychopathological traits and extraversion represents a problem, inasmuch as it is statistically significant in some samples, and insignificant in other almost similar samples for no apparent reason.

Experiment VI

- **Purpose:** To define the Arabic norms of the ACDI.
- **Subjects:** 1783 male and female schoolchildren. They were pupils enrolled in the governmental preparatory schools in Alexandria, Egypt. Their age ranged between 11 and 15 yrs., with a mean of 13.8 ± 2.1 for boys, and 13.6 ± 2.3 for girls.
- **Procedure:** The ACDI was administered to the sample through group testing sessions in their classrooms.
- **Results:** Reference to Table 3 shows a significant sex-related difference, that is, girls attained a higher mean depression score than boys.

<table>
<thead>
<tr>
<th>Sample</th>
<th>n</th>
<th>M</th>
<th>SD</th>
<th>r</th>
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<tbody>
<tr>
<td>Boys</td>
<td>933</td>
<td>44.78</td>
<td>8.03</td>
<td>5.21*</td>
</tr>
<tr>
<td>Girls</td>
<td>850</td>
<td>46.92</td>
<td>9.31</td>
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</tbody>
</table>

* $P < 0.001$
Experiment VII

- **Purpose:** To set up an English version of the ACDI.
- **Material and Results:** The 27 items of the Arabic version of the scale were translated into English (the target language) by the present writer. Then, this English preliminary translation was carefully evaluated and thoroughly scrutinized by three separate Arab psychologists to check on the comparability of meaning. They were requested to review each English item and compare it with the corresponding original Arabic item. At the same time, the referees had to define the adequacy of the translation as good, moderate, or weak. Suitable revisions and corrections were carried out.

The second stage in the development of the English form of the ACDI, was the back translation of the scale from the English to Arabic as a check on the adequacy of the Arabic to English translation. The preliminary English translation of the ACDI 27 items was given to an Arabic professor of English linguistics who is knowledgeable in both languages, to translate them back into Arabic. Then, the original Arabic version of the ACDI was compared with the back translation for similarity. A number of cycles of translation and back translation were attempted for a number of items.

Nevertheless, there are reasons why the back translation technique can give a false sense of security (Brislin, 1980). Spielberger and Sharma (1976) considered the empirical demonstration of cross-language equivalence of test items translated into another language as an essential step. To test out the cross-language equivalence of the ACDI, bilingual children were used.

The Arabic and the English ACDI versions were administered to 34 Egyptian boys and girls in the Egyptian Girls College, in which most of the curriculum is taught in English, while some of it is taught in Arabic. Their mean age was 14.28 ± 0.57 yrs. The two forms of the scale were given in a counterbalanced order. Two combinations of the scale were presented to those bilingual children. They were randomly assigned to one of the two following sequences:

- a. Arabic ACDI, English ACDI.
- b. English ACDI, Arabic ACDI.

The coefficient of equivalence for the Arabic and English ACDI was 0.87, which may be considered as evidence of the cross-language equivalence of the two forms.

Furthermore, another criterion of equivalence was used. It was defined as obtaining similar scores on the two versions of the test, whether presented in English or in Arabic. Therefore, means, standard deviations and t-test for the two forms were computed for the bilingual children. Regarding the Arabic form, M = 47.8 ± 9.9, while for the English form, M = 47.3 ± 9.4, t value = 0.21 (n.s.), indicating that the two forms of the ACDI functioned as equivalent stimuli, and were answered quite similarly by bilingual schoolchildren. The alpha coefficient of the English version was 0.85, which is considered high. (The appendix presents the final English form.)

Discussion

The Arabic Children’s Depression Inventory has shown to have good face validity, internal consistency, and stability over time. Factor analysis yielded seven factors. They were labelled as follows: feeling unhappy, sleep problems, loneliness, sadness, pessimism, weak concentration, and weakness. All of these factors are obviously meaningful and highly relevant to the phenomenon of juvenile depression. The significant, positive and high correlations between the ACDI and both Kovacs’ CDI and Kazdin et al.’s Hopelessness Scale support the concurrent validity of the ACDI. Therefore, it may be safe to conclude that the psychometric properties of the ACDI appear to be sound.

By and large, the present results of the ACDI in reliability and validity are comparable to expectations derived from previous work (cf. Kovacs, 1980/1981, 1992; Kazdin, 1981). The psychometric parameters of the ACDI are not less than its counterparts. Besides, the ACDI has the advantages of brevity of the scale, and shortness of the items.

Meanwhile, the correlations of the ACDI with neuroticism, namely 0.70 for boys and 0.72 for girls, are supportive of its construct validity. The aforementioned correlations were anticipated since the ACDI and N are measures of neurotic predisposition. These correlations between neurotic predisposition instruments (+ve) are higher than that between the ACDI and extraversion scale (-ve). It is the experience of the relation of extraversion pathology, especially among the Arab children (Khalil, 1986). It appears while it is absent in other relation between the unexpected (see also).

Girls attained a high boys. This finding is consistent with (see: Kashani, Cantwell, Larson, 1987; Smuck Green, 1986; Waters & p. 5 f). However, the paired findings (compare: K Howson, 1983; Rutter & Garme Sullivan, Penick & Do is it the empirical observation in the Arab-speaking and females have it of psychopathology in Khalek, 1989; Eysenck, 1983. The high correlation Arabic and the English 0.87, denotes equivalence. The English form reached the English version of the ACDI for a trial in the English version.

Nevertheless, the weaknesses which may affect the results. Among these are salient: a) The ACDI below 11 years, and b) include rural or illiterate sample does not represent.

As regards future research, the psychometric following ways: a) development of new age group of children with different tests of fear and; b) derivative age groups. On the item of the ACDI needs further speaking children. This speaks of the cross-cultural pression.
is the experience of the present writer that the correlation of extraversion with other scales of psychopathology, especially neuroticism, represent a problem among the Arabic-speaking subjects (Abdel-Khalek, 1986). It appears in some Arabic studies, while it is absent in others. Thus, the negative correlation between the ACIDI and the E scale is not unexpected (see also Gilbert, 1991).

Girls attained a higher mean score in ACIDI than boys. This finding is congruent with previous results (see: Kashani, Cantwell & Shekim, 1982; Petti & Larson, 1987; Smucker, Craighead, Craighead & Green, 1986; Waters & Victor, 1985; Williams, 1992, p.51). However, the present result contradicts other findings (compare: Kashani, McGee & Clarkson, 1983; Rutter & Garmezy, 1983; Weinberg, Rutman, Sullivan, Penick & Deitz, 1973). On the other hand, it is the empirical observation of the present writer in the Arabic-speaking countries (Egyptians mainly) that females have higher mean scores in scales of psychopathology and vice versa (see Abdel-Khalek, 1989; Eysenck & Abdel-Khalek, 1989).

The high correlation coefficient between the Arabic and the English version of the scale, namely 0.87, denotes equivalence. Cronbach's alpha for the English form reached 0.85. For different reasons, the English version of the ACIDI is recommended for a trial in the English-speaking countries.

Nevertheless, the present research has specific weaknesses which may qualify the generalization of the results. Among these weaknesses, the following are salient: a) The ACIDI does not cover the ages below 11 years, and b) the reported sample does not include rural or illiterate children. So, the present sample does not represent Egyptian children in general.

As regards future research, it is recommended to improve the psychometric status of the ACIDI in the following ways: a) calculating reliabilities for each age group of children; b) computing correlations with different tests of psychopathology, e.g. anxiety and fear; and c) deriving Arabic norms for different age groups. On the other hand, the English version of the ACIDI needs further research among English-speaking children. This proposed research may enrich the cross-cultural comparisons of juvenile depression.

References


The Arabic Children's...


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Appendix

The Arabic Children’s Depression Inventory Items*

Instructions: The following are statements which boys and girls use to describe themselves. Read each statement, and put a circle around only one of the following: “rarely, sometimes, and often”. Please choose the answer which seems to describe you best. There are no right or wrong answers. Do not spend too much time on any one statement.

1. I feel happy
   Rarely  Sometimes  Often
2. I feel lazy
   Rarely  Sometimes  Often
3. I sleep well
   Rarely  Sometimes  Often
4. I find difficulty in concentrating on my studies
   Rarely  Sometimes  Often
5. I feel worthless
   Rarely  Sometimes  Often
6. I have bad dreams
   Rarely  Sometimes  Often
7. I am sad
   Rarely  Sometimes  Often
8. I am self-confident
   Rarely  Sometimes  Often
9. I feel tired
   Rarely  Sometimes  Often
10. My concentration is weak
    Rarely  Sometimes  Often
11. I am restless in my sleep
    Rarely  Sometimes  Often
12. I have a lot of friends
    Rarely  Sometimes  Often
13. I feel upset
    Rarely  Sometimes  Often
14. I am distracted
    Rarely  Sometimes  Often
15. I feel lonely
    Rarely  Sometimes  Often
16. I feel miserable
    Rarely  Sometimes  Often
17. Life is rosy
    Rarely  Sometimes  Often
18. I feel I am a failure
    Rarely  Sometimes  Often
19. I am bored
    Rarely  Sometimes  Often
20. I feel angry
    Rarely  Sometimes  Often
21. I am satisfied with my life
    Rarely  Sometimes  Often
22. There are a lot of things which annoy me
    Rarely  Sometimes  Often
23. I am pessimistic
    Rarely  Sometimes  Often
24. Bad things will happen to me
    Rarely  Sometimes  Often
25. A lot of people like me
    Rarely  Sometimes  Often
26. I hate myself
    Rarely  Sometimes  Often
27. I am optimistic
    Rarely  Sometimes  Often

*8 items (number: 1, 3, 8, 12, 17, 21, 25, and 27) scored as follows: Rarely = 3, Sometimes = 2, and Often = 1. The rest of the items (19 item) scored as follows: Rarely = 1, Sometimes = 2, and Often = 3.