

AN APPROACH TO THE CHILD DEPRESSION BY MEANS OF CDS APPLIED FOR PUBESCENT CHILDREN

(depression/puberty/psychological test)

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CDS was applied for 13 children, in-patients at neighboring psychiatric wards and 60 children attending a neighboring junior high school. Both groups were roughly matched in terms of sex and age. In treating CDS scores, a special process was introduced by the author in our research, in which D-scores and P-scores were separately counted and analysed. This process was prompted by the view that the so-called 'inability to experience pleasure' is the critical point in distinguishing the morbid depressive mood of patients from the ordinary gloomy mood of non-patients. The results indicated that the new procedure in CDS scoring was apparently more effective for rating depressiveness with CDS.

Depression, a major affective disorder in man may be most simply described as a condition where the patient always feels sad, and is never happy in any situation even where the non-patient may be joyful. Such 'Inability to experience pleasure' Sandler & Joffe (1) has been observed by a number of researchers as the critical point which distinguishes the morbid depressive mood in patients from the ordinary gloomy mood in non-patients. It may be said that from this position the patient's loss of pleasure manifestation must be carefully observed as well as his gloomy complaints at the time of clinical diagnosis of the depression. Regrettably, however, most of the

psycho-metric measures in current use contain no scales for manifestation of pleasure. One of the few exceptions, however, the CDS - Children's Depression Scale which has been under development by Lang, M. and Tisher, M. 1978 - includes a number of question items about pleasurable moods although they are only a small portion of the total number of questions.

Since 1979, the author has been using CDS in our research on depression in childhood. In this paper, the results of the CDS application in our recent research will be reported.

Table I. STRUCTURE OF THE CDS

Scale	Number of Items	Range of Scores
Total D items	48	48 - 240
Affective Response	8	8 - 40
Social Problems	8	8 - 40
Self-esteem	8	8 - 40
Sickness	7	7 - 40
Guilt	8	8 - 40
Miscellaneous D-items	9	9 - 45
Total P-items	18	18 - 90
Pleasure & Enjoyment	8	8 - 40
Miscellaneous P-items	10	10 - 50

MATERIALS AND METHODS

CDS consists of 66 question items - 48 items of sadness and 18 items of pleasure. These items are classified and divided into several sub-scales as presented on Table I.

CDS is intended for use with children aged 9 - 16 years old, who are normally capable of comprehending the questions. All questions concern children's daily experiences at home or school so that they will be able to answer without strain. Each question with a brief sentence is printed on a small separate card; the cards are presented one by one to the children who are asked to put each card into any one of five paper boxes with a slit in the top which are set up in a row in front of the child. The boxes are labelled 'Very Wrong --', 'Wrong -', 'Don't Know/Not Sure ?', 'Right +' and 'Very Right ++'. The CDS manual comments about the efficacy of such card-sorting procedure as follows; "... the use of the boxes and cards is important for a few reasons. ... the respondent focuses attention on one item at a time so that the children are not unduly influenced by earlier items; ... to manipulate each item separately (means that the child) takes an active role whilst doing the CDS.... using boxes and cards has a

Table II. STRUCTURE OF THE SAMPLES

Group	Number	Range of Age	Mean of Age
Sample in Hospital (Experimental Group)	13(7)	12:11 - 14:10	14:00
Sample in School (Control Group)	60(30)	12:00 - 14:11	13:02

Parenthesized numerals in samples indicate girls.

Table III. MEANS OF CDS SCORES IN THE ORIGINAL AND APPLIED SAMPLES

scale	Lang & Tisher's Sample (1978) N=37(15), age X=13:01		Kodaki's Sample (1980) N=60(30), age X=13:02		t-value	p<
	mean	SD	mean	SD		
Total D-items	116.89	35.78	114.20	25.77	0.43	N.S.
Affective Response	17.43	6.09	15.96	5.81	1.19	N.S.
Social Problems	17.38	7.00	18.05	6.08	0.50	N.S.
Self-esteem	21.19	7.29	21.48	6.11	0.21	N.S.
Sickness	16.08	5.04	14.55	5.25	1.42	N.S.
Guilt	20.43	7.12	20.45	4.32	0.02	N.S.
Total P-items	41.54	9.07	59.85	8.04	10.32	0.01
Pleasure & Enjoyment	16.00	4.90	28.33	3.63	14.08	0.01

Parenthesized numerals in samples indicate girls.

game-like quality which the children enjoy more than writing or talking about." (2) Finally the cards are taken out of the boxes and are scored from 1 to 5 points according to the labelling 'Very Wrong --' to 'Very Right ++' respectively.

Our experimental group - the Sample in Hospital mostly consists of severe cases of school refusal (school phobia). A few cases of neurosis are included. All cases are in-patients at neighboring psychiatric wards. The control group - Sample in School consists of children who have been regularly attending a neighbouring junior high school. Both groups were roughly matched in terms of age and sex. The breakdown of the samples is presented on Table II.

RESULTS

At first, the CDS scores of our 'Sample in School' were examined for the purpose of setting the standard of evaluation. The results were compared with those of the Lang & Tisher's sample. No significant difference in the mean scores on each

Table IV. SEX DIFFERENCE ON THE CDS SCORES

scale	Girls (N=30)		Boys (N=30)		t-value	p<
	mean	SD	mean	SD		
Total D-items	116.23	(27.52)	112.17	(23.90)	0.61	N.S.
Affective Response	16.97	(6.79)	14.97	(4.62)	1.33	N.S.
Social Problems	18.77	(6.42)	17.33	(5.37)	0.92	N.S.
Self-esteem	22.10	(6.35)	20.87	(5.88)	0.78	N.S.
Sickness	14.03	(6.27)	15.07	(4.00)	0.77	N.S.
Guilt	20.07	(3.49)	20.83	(5.02)	0.68	N.S.
Total P-items	59.30	(8.24)	60.50	(7.93)	0.62	N.S.
Pleasure & Enjoyment	26.80	(5.47)	28.83	(5.18)	1.48	N.S.

scale of D-items was detected statistically between the two samples, but on each scale of P-item, our sample got significantly higher scores than Tisher's sample did. It may be an interesting task to find whether the difference of scores between the Australian sample and the Japanese one was ethnic or cultural, but it would be necessary to do further analyses between other matched groups in order to arrive at a proper conclusion. The results are presented on Table III.

In our sample, boys got scores a little higher than did girls on each of the P-scales, and on the contrary, lower scores on the total D-scale, but the difference values were so small that they were not significant statistically. The results are presented on Table IV.

From the viewpoint that the growth of the self-conscious is accelerated at the pubertal stage, the age differences within the sample could not be neglected. Needless to say, the onset of pubertal acceleration in growth has a time lag between boys and girls, but our control sample consists of the same number of both sexes at each age level so that the sample can be treated in the gross at each level. Mostly no significant differences were found between the 12 and 13 years old groups, but the remarkable fall of scores on each of the P-scales and a significant rise of scores on the scale of negative 'Self-esteem' were found between 13 - 14 years old levels, which implies a linkage between negative self-esteem and decrease of cheerfulness at the level of 14 years old. The results are presented on Table V.

In order to confirm the position that the 'inability to experience pleasure' is one of the important symptoms of depression, the connection between scores on the CDS scales were examined. The correlation matrix between each CDS scale

Table V. AGE DIFFERENCE ON THE CDS SCORES

scale	Age			t(12-13)	p <	t(13-14)	p <
	12 -	13 -	14 -				
	mean	mean	mean				
Total D-items	112.75 (27.03)	112.40 (24.10)	120.95 (26.94)	0.06	N.S.	1.38	N.S.
Affective Response	15.55 (6.20)	15.20 (6.22)	16.70 (5.37)	0.06	N.S.	1.13	N.S.
Social Problems	18.30 (4.99)	15.85 (5.60)	20.00 (6.65)	0.25	N.S.	1.43	N.S.
Self-esteem	20.80 (6.70)	20.00 (4.93)	23.65 (6.28)	0.64	N.S.	2.82	0.01
Sickness	15.05 (5.47)	13.80 (4.07)	15.00 (4.06)	2.01	N.S.	1.29	N.S.
Guilt	20.00 (5.47)	22.55 (4.93)	21.25 (4.59)	1.97	N.S.	1.19	N.S.
Total P-items	61.85 (6.99)	62.15 (7.75)	55.55 (7.83)	0.18	N.S.	3.69	0.01
Pleasure & Enjoyment	30.30 (5.35)	29.45 (4.60)	25.75 (5.07)	0.73	N.S.	3.33	0.01

Table VI. CORRELATIONS BETWEEN CDS SCALES

	Total D. Affect.	Social Self-	Sick Guilt	Total P. Pleasure
Total D-items	1.000	.827	.512	.840
Affective Response		1.000	.747	.602
Social Problems			1.000	.794
Self-esteem				1.000
Sickness				1.000
Guilt				1.000
Total P-items				1.000
Pleasure & Enjoyment				1.000

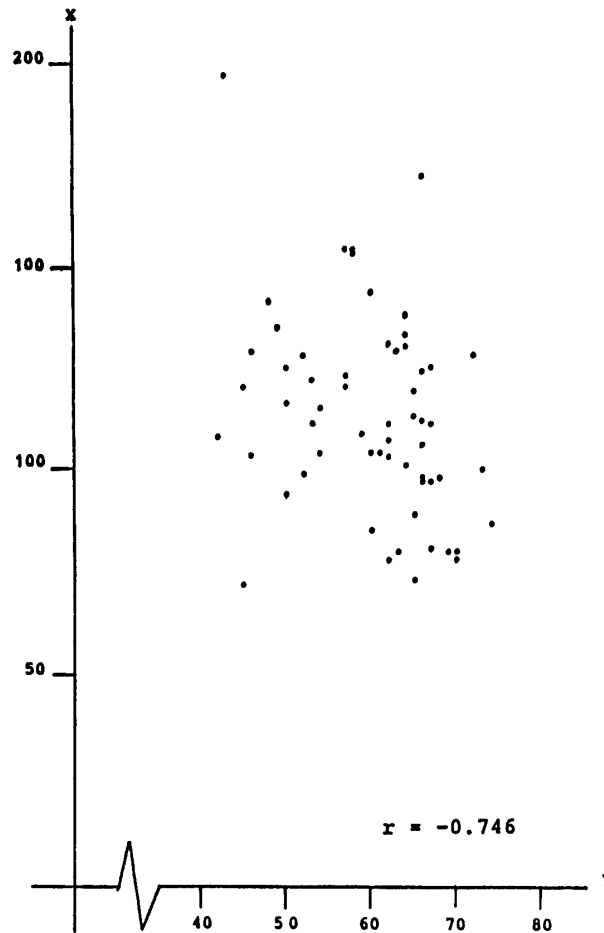


Fig.1. Correlation diagram between total D-items and total P-items on CDS of children in school.

Table VII. CORRELATIONS BETWEEN SCHOOL ACHIEVEMENT AND CDS SCORES

School Achievement: Mean=5.37, SD=1.58			
scale	coefficient	scale	coefficient
Total D-items	0.006	Sickness	0.115
Affective Response	0.368	Guilt	-0.031
Social Problems	0.074	Total P-items	-0.085
Self-esteem	0.096	Pleasure & Enjoyment	-0.070

indicated that all D-scores were independent of all P scores, moreover, D-scores and P-scores correlate rather negatively, which seemed to support the above position. The results are presented on Table VI and in Fig. 1.

The children of the Sample in School had been assessed by school teachers previously in terms of school achievement. The

decile scores of the general comments on the children's achievements in each school grade did not correlate significantly with most scores on the CDS scales. The only exception was a slight correlation with scores on the scale of 'Affective Response', which implied that the children in school tend to respond somewhat emotionally toward their school achievements. The results failed to meet our assumption that the children (in Japan especially,) might be so anxious about their own school achievements that their CDS scores might be greatly influenced by their general comments on achievements. However, the results do not always deny our assumption completely, but only imply that some other factors might weaken the influence of school achievements upon the children's mood. The results are presented on Table VII.

The CDS contains several questions about the children's moods at school - in total 5 items on the D-scales and 2 items on the P-scales. In order to look for the influences of school achievements upon the children's moods more closely, the connection was examined between the achievement decile scores and the total scores on the questions about school matters on D-scales and P-scales respectively. However, no significant correlations were found on the D-scales ($r=-0.026$). Only a slight correlation was detected on the P-scales ($r=0.285$).

For reference, the questions about school matters on CDS were as follows;

Item Number	Question
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D-scales:

- 7. "Often school makes me miserable"
- 27. "I feel like crying often when I am at school."
- 28. "when I am at school I often feel lonely and lost."
- 42. "Often my school work makes me miserable."
- 48. "I feel tired most of the time when I am at school."
- 53. "When I fail at school I feel that I am a nobody."

P-scales:

- 8. "I'm always keen to do lots of things when I am at school."
- 24. "Often I enjoy myself at school."

Secondly, the scores on each CDS scale were compared with those of the experimental group - the 'Sample in Hospital'. Scores on most D-scales were higher in the experimental group, but no significant differences were noticed between the two groups' mean scores on the scales of negative 'Self-esteem' and

Table VIII. MEANS OF CDS SCORES OF CHILDREN IN SCHOOL AND HOSPITAL

scale	Sample in School N=60(30)		Sample in Hospital N=13(7)		t-value	p<
	mean	SD	mean	SD		
Total D-items	114.20	25.77	135.92	35.59	2.550	0.02
Affective Response	15.96	5.81	21.15	6.77	2.819	0.01
Social Problems	18.05	6.08	22.08	8.31	2.011	0.05
Self-esteem	21.48	6.11	24.77	7.63	1.672	N.S.
Sickness	14.55	5.25	19.23	4.48	2.962	0.05
Guilt	20.45	4.33	22.15	6.78	1.000	N.S.
Total P-items	59.85	8.11	50.85	9.51	3.495	0.01
Pleasure & Enjoyment	28.33	5.08	22.31	8.96	3.310	0.01

Parentthesized numerals in samples indicate girls.

'Guilt', both of which ranked as sub-scales of D-items. It may be said that self-denial feelings are common among pubescents, but, under hospitalization, their dysphoric feelings rise. At the same time, the remarkable fall of P-scale scores in the sample in hospital needs no explanation. The results are presented on Table VIII.

According to the classification of childhood depression by McConville *et al.* (3), 'Negative Self-esteem Depression' and 'Guilt Depression' in the unit represented a big majority in the sample in school - 53/60 or 88.33%, while, in the sample in hospital it was 8/13 or 61.54%, where the 'Affective Depression' and other dysphoric complaints were increased, which may be connected with the results on Table VIII.

Concerning the concepts of 'Depression' and 'Mania', a number of children were picked up from both samples. The children whose CDS scores corresponded to the range of 'the combined scores - more than the mean plus 1SD on the scale of the 'Total D' ($\geq 114.20 + 25.77 = 140$) was in combination less than the mean minus 1SD on the scale of 'Total P' ($\leq 59.85 - 8.11 = 51$) - were labelled 'Depressive-type'. Likewise, the children whose CDS scores were equal to or less than the mean minus 1SD on the scale of 'Total D', at the same time, equal to or more than the mean plus 1SD on the scale of 'Total P', were labelled 'Manic-type'. The values were $D \leq 114.20 - 25.77 = 88$, and $P \geq 59.85 + 8.11 = 68$ respectively. Three children, two of them girls, were picked up as 'Depressive-type' from the sample in school, while five children, one of them a girl, were picked up from the sample in hospital. Ratios were 5.00% and 38.46% respectively. Moreover, three children, two of which were girls, were picked up as 'Manic-type' from the sample in school, but none from the sample in hospital. Not a few children were excluded from either the 'Depressive Type' or the 'Manic Type'. They might have been rashly rated as either depressive or manic, had it not been for

the D-P score combination. Thus, the screening of morbid types in terms of Manic-Depressive Disorder in our research might become more reliable by means of the D-P score combination.

DISCUSSION

Concerning the 'inability to experience pleasure', Klein (4) suggested that the so-called 'pessimist' usually anticipates few lucky opportunities, but he may be pleased in a situation where he can anticipate a sure opportunity; while the depressive patient is never be pleased in the same situation, because of his inability to feel pleasant. Thus the morbid depressive mood differs fundamentally from ordinary pessimism-the decline of the ability to anticipate opportunities. Klein presumed that such inability to feel pleasant might be caused by hypothalamic dysfunction. It is beyond the boundary of our task to comment on Klein's presumption, but his observation was very suggestive for us. Actually our CDS studies were stimulated by his observation. The results of the CDS application for our samples did support Klein's view to some extent; however, the correlation matrix revealed that the P-scale scores were not fully independent of the D-scale scores; therefore, 'inability to experience pleasure' should not be regarded as a wholly independent condition but as an important symptom of depression which must not be ignored and which confirms the patients' depressive complaints.

Concerning both dysphoric mood and self-deprecatory ideation, Ling (5), Weinberg *et al.* (6) examined 72 children aged 6:6-12:8, and found that the children had a number of symptoms similar to those of adults in addition to some unique signs. Also, Cytryn *et al.* (7) presented a point-by-point comparison between the diagnostic criteria of Cytryn and Mcknew, Weinberg, Kovac's CDI, and DSM-III, and concluded that childhood and adult diagnostic criteria for affective disorders were very similar. Krakowski (8) and many other researchers arrived at a similar conclusion. However, as Connell (9) noted in his pilot study, psychosomatic or behavioral complaints among children often masked underlying affective disturbances; the concept of the 'Masked Depression' by Kral (10) should be reconsidered in approaching child patients. That was the reason why a number of cases of school refusal were used as the experimental group in our study on depression in puberty. The fact that the mean of the

CDS scores on D-scales was significantly higher, and the distribution of the 'Depressive-type' was overwhelmingly larger than those of the control group has supported our anticipation. Thus, in our CDS application, a trial of a newly introduced procedure on P-scales, which had been omitted in the original CDS, proved, as expected, more effective for understanding depression among pubescents. In the original CDS, so-called P-scales were included in the trial, but the P-items were limited to a small number, moreover, some ambiguities in the treatment of the P-scales were seen on some pages of the CDS manual, although it was a research edition. In order to refine the CDS so that it can be an efficient psychodiagnostic measure for depression in childhood, a more systematic inclusion of P-items is, more than anything, essential.

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