

**Feelings Scale**  
Kindergarten / Year 1  
Fast Track Project Technical Report  
Shari Miller-Johnson and Anne Maumary-Gremaud  
3/22/95

**Table of Contents**

- I. Scale Description
- II. Scale Derivation
- III. Missing Data
- IV. Subscales Means, SD's and Reliability Coefficients
- V. Recommendations for use

**I. Scale Description**

The Feelings Scale (Center for Epidemiologic Studies Depression; CES-D) is a 20-item self-report measure designed to measure depressive symptoms in the general population (Radloff, 1977). The scale was developed to assess current levels of symptomatology, with emphasis on the affective component, namely, depressed mood. As compared with other depression scales that are used primarily for diagnosis, the CES-D is interpreted in terms of the level of symptoms and the association between depressive symptoms and other variables. The scale has been used extensively in other studies (e.g., Myers & Weissman, 1980; Roberts & Vernon, 1983) and is a useful tool to assess depressive symptoms in large samples.

**II. Scale Derivation**

Original Scale Derivation. In the original study (Radloff, 1977), a principal component factor analysis with varimax rotation was conducted in three large samples (N= 2494,1056,1418). Results across all groups showed the presence of four factors with eigenvalues greater than 1.0. Four factors were derived, including 17 of the 20 items with loadings greater than .40: *Depressed affect, positive affect, somatic/retarded activity and interpersonal*. However, the author recommended the use of a total score as an estimate of the degree of depressive symptomatology due to the high internal consistency of the complete scale (range from .84 - .90 across the four samples). Internal consistencies of the factors were not reported in the original report (Radloff, 1977). The scale demonstrated adequate discriminant validity, as shown by comparison of psychiatric inpatient and general samples and among levels of severity within patient groups.

Scale derivation utilizing Fast Track data. A principal component factor analysis with varimax rotation was conducted in the Normative sample for Cohort I, Year 1 subjects. Results showed the presence of three factors with eigenvalues greater than 1.0. Examination of the rotated factor structure indicated a strong first factor that included 14 of the 20 items. The second factor consisted of the four positively-worded items and the third factor consisted of two items (15,19) measuring feelings of social rejection.

Analyses were repeated in the high-risk sample. Four factors with eigenvalues greater than 1.0 were shown. Examination of the rotated factor structure indicated that the additional factor (as compared with the three-factor solution in the normative sample) consisted primarily of items that double loaded on other factors.

Findings, therefore, do not support the four-factor solution shown in the original sample. However, the internal consistency of the total scale was very high (.88 in both the normative and high-risk samples).

### III. Missing Data

There was a small number of missing data in 4 subjects, as follows:

Nashville site: 2 subjects; missing 1 item on the scale

Pennsylvania site: 1 subject; missing 1 item on the scale

Washington site: 1 subject; missing 2 items on the scale

As per guidelines for handling missing data, a new value was created for these subjects, by computing the mean of the remaining items in the scale.

IV. Subscale Means, SD's and Reliability Coefficients Cohort 1 Year 1:

Feelings Scale Mean Score

All Groups Combined

Analysis Variable : PIDFESCR Feelings scale mean score

N	Mean	Std Dev	Cronbach Alpha
618	0.7153678	0.4870159	0.883290

All Groups Combined by Site

Analysis Variable : PIDFESCR Feelings scale mean score

SITE	Obs	N	Mean	Std Dev
DURH	164	164	0.7292683	0.5011001
NASH	146	146	0.8937275	0.5019330
PENN	164	164	0.6553594	0.4485685
WASH	144	144	0.5870426	0.4460119

High-Risk Sample by Control/Intervention Group

Analysis Variable : PIDFESCR Feelings scale mean score

HR	Obs	N	Mean	Std Dev	Cronbach Alpha
C	155	155	0.8735484	0.5142865	0.882383
I	155	155	0.7687097	0.4962243	0.882371
HR					0.883014

High-Risk Sample by Site and Control/Intervention Group

Analysis Variable : PIDFESCR Feelings scale mean score

SITE	HR	Obs	N	Mean	Std Dev
DURH	C	39	39	0.8512821	0.5589566
	I	39	39	0.8641026	0.5227645
NASH	C	40	40	1.0537500	0.4247756
	I	41	41	0.8341463	0.4600868
PENN	C	40	40	0.8525000	0.5257412
	I	40	40	0.7225000	0.4908065
WASH	C	36	36	0.7208333	0.5033282
	I	35	35	0.6385714	0.4989822

Normative Sample

Analysis Variable : PIDFESCR Feelings scale mean score

N	Mean	Std Dev	Cronbach Alpha
387	0.6691144	0.4740606	0.880478

Normative Sample by Site

Analysis Variable

PIDFESCR Feelings scale mean score

SITE	NORM	N	Mean	Std Dev
DURH	N	100	0.6560000	0.4840006
NASH	N	100	0.9173421	0.5267011
PENN	N	98	0.5543770	0.3565146
WASH	N	89	0.5312824	0.4073601

## V. Recommendations for use

Results provide good support for a reliable, unidimensional measure of depression. Therefore, it is recommended that the summed mean score of the 20 CES-D items be used. In addition, a subscale measuring parents' feelings of social rejection can be derived from two items (15,19) if there are specific questions relating to this construct. However, it is noted that the reliability of the subscale is somewhat low (0.58).

## References

Myer, J.K. & Weissman, M.M. (1980). Use of a self-report symptom scale to detect depression in a community sample. American Journal of Psychiatry. 137, 1081-1084.

Radloff, L.S. (1977). The CES-D scale: A self-report depression scale for research in the general population. Applied Psychological Measurement. 1, 385-401.

Roberts, R.E. & Vemon, S.W. (1983). The Center for Epidemiologic Studies Depression Scale: Its use in a community sample. American Journal of Psychiatry. 140, 41-46.