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A Brief Questionnaire for Measuring Self-Efficacy in Youths

Peter Muris¹

The current study examined the reliability and validity of the Self-Efficacy Questionnaire for Children (SEQ-C) in a sample of young adolescents ($N = 330$). Factor analysis of the SEQ-C revealed three factors that were in keeping with the intended subscales: social self-efficacy, academic self-efficacy, and emotional self-efficacy. Furthermore, results showed that the SEQ-C has satisfactory internal consistency. Finally, SEQ-C scores correlated in a theoretically meaningful way with a measure of depression. That is, the lower children's SEQ-C scores, the higher their level of depression. Possible applications of the SEQ-C are briefly discussed.

KEY WORDS: self-efficacy; questionnaire; children; depression.

Bandura (1997) argued that people with problems generally know exactly what actions are needed to do the things they want to do. Yet, knowing what to do is not enough. People also need to be confident about their ability to carry out the desired behavior. This perceived ability to produce a desired action is what Bandura terms *self-efficacy*. According to Bandura (1997), self-efficacy plays a key role in the etiology and maintenance of affective disorders or both. As it is assumed that these disorders frequently have their onset during youth (e.g., Bernstein, Borchardt, & Perwien, 1996; Birmaher et al., 1996), it seems obvious to study self-efficacy in relation to child and adolescent psychopathology. So far, most research in this area has focussed on the role of self-efficacy in early-onset depression. Cross-sectional studies (e.g., Comunian, 1989; Ehrenberg, Cox, & Koopman, 1991) have reported a negative correlation between self-efficacy and depression. That is, the lower children's self-efficacy, the higher their level of depression. Recently, Bandura, Pastorelli, Barbaranelli, and Caprara (1999) tested the connection between self-efficacy and childhood depression prospectively. In that study, the relationship between social and academic self-efficacy and depression at 1 and 2 years follow-up was examined. Results indicated that low levels of self-efficacy were predictive of long-term depression.

The assessment of self-efficacy in children and adolescents is generally confined to adult scales that have been adapted for the use with children (e.g., Comunian, 1989) and to measures that tap self-efficacy in specific areas of functioning such as mathematics (Junge & Dretzke, 1995), smoking (Lawrance & Rubinson, 1986), diabetes (Havermans & Eiser, 1991), and peer relationships (Connolly, 1989). Bandura et al. (1999) developed a measure intended to assess children's general level of self-efficacy. The scale taps three main areas of self-efficacy: social self-efficacy that pertains to children's capability to deal with social challenges; academic self-efficacy that refers to children's perceived capability to master academic affairs; and self-regulatory efficacy that has to do with children's capability to resist peer pressure to engage in high-risk activities (e.g., use of drugs and alcohol, transgressive behavior). Although social and academic self-efficacy are certainly relevant for the study of affective disorders, self-regulatory efficacy seems to have less bearing on this type of psychopathology. In the case of affective disorders, emotional self-efficacy might be more important. Bandura et al. (1999) stress the relevance of including emotional self-efficacy in the study of affective disorders. Although their study primarily focussed on the role of academic and social self-efficacy in childhood depression, they remark in the discussion that "Broadening the self-efficacy analysis to affect regulation may account for additional variance" (p. 265).

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With these issues in mind, a brief questionnaire² was constructed that intended to measure three domains of children's self-efficacy that seem to be relevant for the study of affective disorders: social self-efficacy, academic self-efficacy, and emotional self-efficacy. The current study examined the reliability and validity of this Self-Efficacy Questionnaire for Children (SEQ-C) in a sample of young adolescents. More specifically, the internal consistency and the factor structure of the SEQ-C and its relationship to depression were investigated. With regard to the relationship between SEQ-C and depression, negative correlations were expected. That is, in agreement with previous research (Bandura et al., 1999; Comunian, 1989; Ehrenberg et al., 1991), low levels of self-efficacy should be accompanied by high levels of depression.

METHOD

Children and Procedure

Three hundred and thirty children (140 boys and 190 girls) were recruited from a regular secondary school. Ages of the children varied between 14 and 17 years, with a mean of 15.3 years ($SD = 1.0$). Children were asked to complete the SEQ-C and a measure of depression (see ahead) in their classrooms. The teacher and a research assistant were always available to help children if necessary and to ensure confidential and independent responding.

Questionnaires

The *SEQ-C* contains 24 items that are hypothesized to represent three domains of self-efficacy: (1) *social self-efficacy* that has to do with the perceived capability for peer relationships and assertiveness; (2) *academic self-efficacy* that is concerned with the perceived capability to manage one's own learning behavior, to master academic subjects, and to fulfill academic expectations; and (3) *emotional self-efficacy* that pertains to the perceived capability of coping with negative emotions (all SEQ-C items are shown in Table I). Each item has to be scored on a 5-point scale with 1 = *not at all* and 5 = *very well*.

The *Children's Depression Inventory* (CDI; Kovacs, 1981) is a self-report measure of depression symptoms in children and adolescents. The scale has 27 items dealing with sadness, self-blame, loss of appetite, insomnia, interpersonal relationships, and school adjustment. In the present study, a dichotomous version of the CDI was used.

That is, children were asked to indicate whether items were "true" or "not true" for them. CDI total scores varied between 0 (no depression symptoms) and 27 (all depression symptoms present).

Data Analysis

The Statistical Package for Social Sciences (SPSS) was used for computing descriptive statistics, correlations, reliability coefficients (Cronbach's α), and carrying out *t* tests, analyses of variance, and exploratory factor analyses. For the exploratory factor analysis, a principal components extraction method with oblimin rotation was performed. Oblimin rotation was preferred over varimax rotation as it was expected that the various components of self-efficacy would be intercorrelated (see, e.g., Bandura et al., 1999).

RESULTS

Factor Structure of the SEQ-C

An exploratory factor analysis was carried out on the SEQ-C data. Four components with eigenvalues > 1.0 were found, but the scree test clearly indicated three factors (eigenvalues: 7.2, 3.3, and 2.3), which accounted together for 53.3% of the variance. Inspection of this three-factor solution revealed that the majority of items loaded convincingly (i.e., > 0.40) on their intended factor. There were three exceptions: item 1 ("How well can you get teachers to help you when you get stuck on school-work?"), item 18 ("How well can you tell a friend that you don't feel well?"), and item 23 ("How well do you succeed in preventing quarrels with other children?") did not load substantially on their hypothesized factors (see Table I).

A final factor analysis was performed on the 21 items, which demonstrated conceptually consistent factor loadings. The scree test again pointed in the direction of three factors (eigenvalues: 6.5, 3.2, and 2.2), which accounted for 56.7% of the variance. As can be seen in Table I, all items loaded substantially on their hypothesized factor.

Descriptive Statistics

Table II presents descriptive statistics for the final SEQ-C scales and the CDI. As can be seen, the internal consistency reliability of the SEQ-C appeared to be satisfactory: Cronbach's α were .88 for the total self-efficacy score and between .85 and .88 for subscale scores. The internal consistency of the CDI was also sufficient: $\alpha = .79$.

²Three items of the questionnaire were taken from Bandura et al. (1999).

Table I. Loadings of SEQ-C Items on Their Intended Factor as Obtained by Means of Exploratory Factor Analysis (Principal Components, Oblimin Rotated)

	Initial factor analysis	Final factor analysis
<i>Academic self-efficacy</i>		
How well can you get teachers to help you when you get stuck on schoolwork? (1)	0.35	—
How well can you study when there are other interesting things to do? (4)	0.75	0.75
How well can you study a chapter for a test? (7)	0.73	0.73
How well do you succeed in finishing all your homework every day? (10)	0.78	0.78
How well can you pay attention during every class? (13)	0.73	0.73
How well do you succeed in passing all subjects? (16)	0.76	0.78
How well do you succeed in satisfying your parents with your schoolwork? (19)	0.80	0.80
How well do you succeed in passing a test? (22)	0.75	0.76
<i>Social self-efficacy</i>		
How well can you express your opinions when other classmates disagree with you? (2)	0.70	0.74
How well can you become friends with other children? (6)	0.77	0.79
How well can you have a chat with an unfamiliar person? (8)	0.67	0.68
How well can you work in harmony with your classmates? (11)	0.71	0.70
How well can you tell other children that they are doing something that you don't like? (14)	0.71	0.74
How well can you tell a funny event to a group of children? (17)	0.67	0.68
How well do you succeed in staying friends with other children? (20)	0.75	0.74
How well do you succeed in preventing quarrels with other children? (23)	0.32	—
<i>Emotional self-efficacy</i>		
How well do you succeed in cheering yourself up when an unpleasant event has happened? (3)	0.79	0.79
How well do you succeed in becoming calm again when you are very scared? (5)	0.70	0.71
How well can you prevent to become nervous? (9)	0.58	0.58
How well can you control your feelings? (12)	0.66	0.66
How well can you give yourself a pep talk when you feel low? (15)	0.84	0.84
How well can you tell a friend that you don't feel well? (18)	0.30	—
How well do you succeed in suppressing unpleasant thoughts? (21)	0.76	0.78
How well do you succeed in not worrying about things that might happen? (24)	0.80	0.79

Notes. *N* = 330. SEQ-C = Self-Efficacy Questionnaire for Children. Item numbers are given in parentheses.

Furthermore, significant gender differences were found for SEQ-C total score [$t(328) = 2.9, p < .005$], emotional self-efficacy [$t(328) = 4.6, p < .001$], and CDI [$t(308.3, \text{adjusted } df) = 2.2, p < .05$]: girls reported lower levels of self-efficacy, in particular emotional self-efficacy, and higher levels of depression than did boys.

Table II. Descriptive Statistics (Mean, Standard Deviations, Gender Differences, and Cronbach's α) of the SEQ-C and the CDI

	Total group (<i>N</i> = 330)	Boys (<i>n</i> = 140)	Girls (<i>n</i> = 190)	α
SEQ-C				
Total self-efficacy	76.8 (11.2)	78.9 (10.6)	75.3 (11.4) ^a	.88
Social self-efficacy	28.2 (4.3)	28.5 (4.1)	28.0 (4.3)	.85
Academic self-efficacy	23.6 (5.8)	23.9 (5.7)	23.3 (5.9)	.88
Emotional self-efficacy	25.0 (5.0)	26.5 (4.5)	24.0 (5.0) ^a	.86
CDI	1.7 (2.5)	1.3 (2.4)	1.9 (2.5) ^a	.79

Notes. SEQ-C = Self-Efficacy Questionnaire for Children; CDI = Children's Depression Inventory.

^aSignificant gender difference at $p < .05$.

Finally, it should be noted that SEQ-C subscales were significantly intercorrelated. That is, emotional self-efficacy correlated .40 ($p < .001$) with social self-efficacy and .41 ($p < .001$) with academic self-efficacy. The correlation between social and academic self-efficacy was considerably lower: .17 ($p < .005$). These results indicate that children's sense of self-efficacy to some extent covaries across the three domains that are tapped by the SEQ-C.

Relationship Between Self-Efficacy and Depression

Pearson product-moment correlations between SEQ-C scales and CDI are displayed in Table III. Results indicated that self-efficacy, and in particular academic and emotional self-efficacy, were significantly negatively related to depression. More precisely, the lower children's self-efficacy, the higher their levels of depressive symptoms. Note also that self-efficacy and depression were more convincingly associated in girls than in boys.

Table III. Pearson Product–Moment Correlations Between SEQ-C and CDI Scores

	Correlation with CDI		
	Total group	Boys	Girls
SEQ-C			
Total self-efficacy	-.40*	-.25*	-.48*
Social self-efficacy	-.10	-.01	-.17
Academic self-efficacy	-.30*	-.21	-.36*
Emotional self-efficacy	-.47*	-.34*	-.53*

Notes. SEQ-C = Self-Efficacy Questionnaire for Children; CDI = Children's Depression Inventory.

* $p < .05/12$ (i.e., Bonferroni correction).

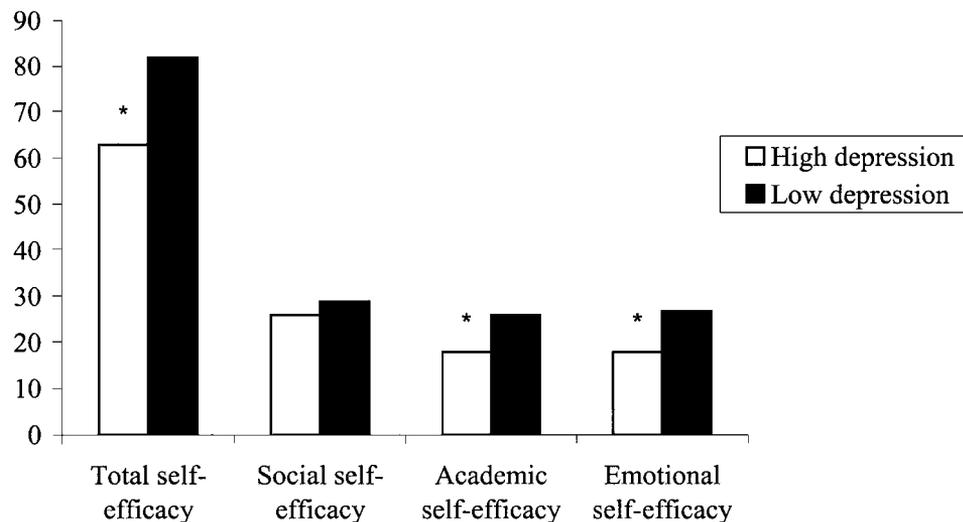
CDI depression scores were extremely skewed and this might have affected the correlations between self-efficacy and depression. Therefore, an additional analysis was carried out. Self-efficacy scores of children in the top 5% of depression scores ($n = 17$; 5 boys and 12 girls; mean age = 15.4 years; mean CDI score = 9.5) were compared to those of randomly chosen gender- and age-matched classmates who scored extremely low on depression (mean CDI score = 0.0). An analysis of variance revealed that children in the high depression group displayed significantly lower total self-efficacy scores than children in the low depression group [$F(1, 32) = 33.1, p < .001$], see Fig. 1. A multivariate analysis of variance confirmed this result [$F_{\text{hotellings}}(3, 30) = 12.4, p < .001$] and revealed that high depression children particularly had

lower academic [$F(1, 32) = 18.5, p < .001$] and emotional [$F(1, 32) = 29.8.1, p < .001$] self-efficacy scores compared to their low depression counterparts.

DISCUSSION

The current study was a first attempt to examine the reliability and validity of a brief questionnaire for measuring self-efficacy in children, the SEQ-C. The main results can be catalogued as follows. (1) Factor analysis of the SEQ-C revealed three factors that were in keeping with the intended subscales: social self-efficacy, academic self-efficacy, and emotional self-efficacy. It should be noted that 3 items had unsatisfactory loadings on their hypothesized factor. It seems most appropriate to simply remove these items from the questionnaire, as they do not exclusively refer to one specific domain of self-efficacy. (2) The internal consistency reliability of the SEQ-C was satisfactory. (3) SEQ-C scores correlated in a theoretically meaningful way with a measure of depression. That is, the lower children's SEQ-C scores, the higher their level of depression.

In line with previous research (Bandura et al., 1999; Comunian, 1989; Ehrenberg et al., 1991), the present study found a negative association between self-efficacy and depression. Furthermore, the data showed that this connection was carried by emotional and academic self-efficacy. Social self-efficacy was not significantly related



Note. SEQ-C = Self-Efficacy Questionnaire for Children.

Fig. 1. Mean SEQ-C scores of children with high and low depression scores.

to depression. In Bandura et al.'s (Bandura et al., 1999) study, the correlation between social self-efficacy and depression was also considerably smaller than that between academic self-efficacy and depression. Altogether these findings seem to suggest that social self-efficacy plays a less important role in depression. Yet, it may well be the case that this type of self-efficacy is more relevant to other psychopathological conditions such as anxiety disorders (social phobia) and disruptive disorders. Clearly, this issue should be addressed in future studies.

Some gender differences were observed in the present study. First, girls reported lower levels of emotional self-efficacy than boys did. Furthermore, the connection between self-efficacy and depression was stronger in girls than in boys. Both findings may have to do with the fact that girls more frequently rely on ineffective emotion-focussed coping strategies (Ptacek, Smith, & Zanas, 1992). An example of such an emotion-focused coping style is rumination, which involves directing attention inwardly toward negative feelings and thoughts. Rumination enhances pessimistic thinking and in its wake undermines children's sense of self-efficacy, ultimately increasing the risk for developing depression (Nolen-Hoeksema, 1998).

Several limitations of the present study should be acknowledged. First of all, the current study only tested the internal consistency of the SEQ-C. Further research should examine the test-retest stability of this questionnaire. Second, the present study relied on a sample of normal children. It is important to test the psychometric properties of SEQ-C in samples of clinically referred children.

What is the value of an instrument that measures self-efficacy in youths? One could argue that a low sense of self-efficacy is merely an epiphenomenon of having an affective disorder. However, the longitudinal study by Bandura et al. (1999) indicates that self-efficacy should be taken as a vulnerability factor that has predictive value for the development of depression. Future research should examine whether this is also the case for other types of psychopathology, notably the anxiety disorders. Furthermore, the SEQ-C could be used as a treatment evaluation measure. It is a well-known fact that children with affective disorders have difficulties in dealing effectively

with negative emotions, and that the acquirement of effective coping skills is one of the main targets for cognitive-behavioral interventions (e.g., Kendall, 1994; Lewinsohn, Clarke, Hops, & Andrews, 1990). The SEQ-C could provide information on the extent to which treatment was actually successful in accomplishing this target.

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