Psychometric Properties of the 20-Item Toronto Alexithymia Scale and Prevalence of Alexithymia in a Finnish Adolescent Population

Päivi Säkkinen, M.D., Riittakerttu Kaltiala-Heino, M.D., Dr.Med.Sci.
Klaus Ranta, M.D., M.Sc., Riina Haataja, M.Sc.
Matti Joukamaa, M.D., Dr.Med.Sci.

The authors assessed, in an adolescent population sample, the internal consistency, test–retest stability, and factor structure of the Toronto Alexithymia Scale (TAS–20) and established the frequency of alexithymia in this age-group. Pupils (N = 882; age-groups: 14-, 15-, and 16-year-olds) from two secondary schools completed the TAS–20 questionnaire twice, with a 5-week interval, in a classroom survey setting. TAS total and subscale scores and proportion of subjects exceeding the cut-point for alexithymia are reported for boys and girls. In confirmatory factor analysis, all estimates except one item were statistically significant; there was no gender difference. The authors conclude that the TAS–20 has good psychometric properties in adolescent samples. Alexithymia rate decreases from early to middle adolescence and remains essentially on a level similar to that among adults. (Psychosomatics 2007; 48:154–161)

The term "alexithymia" was originally introduced by Sifneos in the 1970s, when he described the emotional deficits among psychosomatic patients.[1] Since then, more than 1,000 scientific articles have been published on the topic, dealing mainly with somatic diseases and mental disorders in a variety of clinical populations.[2] Alexithymia is a normally-distributed dimensional phenomenon, but cut-off points for classifying subjects as alexithymic and non-alexithymic have been published for some measures of alexithymia, providing an opportunity to study rates of alexithymia in different populations. However, only a few studies have been published on the rate of alexithymia in the general population.

A population-based study by Salminen et al.,[3] with a sample of 1,285 working-age subjects, showed the rate of alexithymia to be 12.8%: 16.6% among men and 9.6% among women. Kokkonen et al.[4] examined the rate of alexithymia in a population cohort of 5,028 young adults and found a rate of 9.4% in men and 5.2% in women. In a study by Honkalampi et al.,[5] the rate of alexithymia was 10.3% in the whole sample (N = 2,018): 12.8% in men and 8.2% in women. Among public high school students age 14–17, 23.5% were classified as alexithymic in the study of Horton et al.[6] Girls were alexithymic more commonly than boys (29% versus 18% in the whole sample; 27% versus 18% among 16- to 17-year-olds).

Over the years of alexithymia research, there have been a variety of attempts to develop instruments for assessing the construct.[7] Nowadays, most of the earlier methods are not considered valid.[8–11] The Toronto Alexithymia Scale (TAS) was the first alexithymia measure validated

according to the principles of modern psychometric research, and its 20-item version (TAS–20), especially, is internationally accepted as a sound method.[12–15] In recent years, other valid and reliable alexithymia measures have also been developed, such as the California Q-Set Alexithymia Prototype,[16] the Observer Alexithymia Scale,[17] and the Bermond-Vorst Alexithymia Questionnaire.[18] So far, however, the vast majority of all alexithymia studies have been done with the TAS–20.

In children, emotional distress commonly emerges as psychosomatic symptoms, because children's cognitive level does not allow the abstraction and self-reflection necessary to recognize and verbalize their own emotions and their associations with external stressors.[19] During adolescence, cognitive capacities rapidly increase toward adult-type ability for abstraction and reflection on one's own bodily and emotional sensations.[20] The capacity to recognize and label emotions and understand dimensions of emotions also increase from childhood to adolescence.[21] Thus, it can be assumed that as adolescent development advances, the rate of alexithymic features should decrease. On the other hand, if this does not occur, it is likely to be reflected in less mature emotional expression in an adolescent as compared with same-age peers, and it is also likely to be significant for the treatment of psychiatric disorders. Horton et al.[6] distinguished a core group of severely alexithymic adolescents and found that they had significantly less ability to use psychological methods of self-comforting (such as memories or interaction with another person) than did the normal, nonalexithymic control subjects. Rieffe et al.[22] also supported the idea that alexithymia has a meaning and can be measured in childhood and adolescence, in their study in which alexithymia in 11- to 13-year-olds was associated with somatic complaints and negative mood, and inversely associated with positive mood state. It is, however, not known how well the existing measures of alexithymia function in adolescent samples. The aim of this study is to evaluate the psychometric properties of the TAS–20 in a population sample of 12- to 17-year-old adolescents and to assess the rate of alexithymia.

METHOD

Subjects

The sample of the present study was drawn from secondary-school pupils from a large Finnish town and a municipality. The pupils were asked to participate in a psychometric study assessing the properties of the TAS–20

and another scale not reported in the present article. The study was accepted by the ethical committee of Tampere University Hospital. A total of 1,075 pupils were registered as students of the schools. Of the subjects, 882 (82.0%) completed the TAS–20 questionnaire, and 921 (85.7%) completed at least the items of one of the TAS factors. Data were collected in January and February 2000. The subjects were born between 1983 and 1987 (mainly 1984–1986), so they were age 12 to 17 years, the mean age (standard deviation [SD]) being 14.6 (0.904) years. After a 5-week interval, the subjects completed the questionnaire again. In all, 769 pupils (71.5%) fully completed both the first and second measures.

The Toronto Alexithymia Scale (TAS)

The TAS–20 was used as the measure of alexithymia, since, of the various methods for measuring alexithymia, it is the most widely used and presumably the most extensively validated one. Its internal consistency, test–retest reliability, convergent, discriminant, and concurrent validity have all been demonstrated to be good.[12–15] The psychometric properties of the Finnish version of the TAS–20 have been shown to be satisfactory.[23] The scale comprises 20 statements describing behaviors, thoughts, and preferences. The items are rated on a 5-point scale ranging from "totally disagree" to "totally agree." Five of the items are negatively keyed. The TAS–20 consists of three subscales, or factors, which reflect the three main facets of the alexithymia concept: TAS Factor 1 assesses difficulties in identifying feelings (DIF) (e.g., "I have feelings that I cannot quite identify."); TAS Factor 2 concerns itself with difficulty in describing feelings (DDF) (e.g., "It is difficult for me to find the right words for my feelings."); and TAS Factor 3 reflects concrete, externally-oriented thinking or a preoccupation with the details of external events (EOT) (e.g., "I prefer talking to people about their daily activities rather than their feelings."). According to the recommendation by the developers of the scale, the cutpoint for alexithymia was also used: TAS–20 total scores >60 are defined as alexithymic cases.[24]

Statistical Analysis

The subjects were divided into three groups according to age: 12–13 years/14 years/15–17 years. The basis for choosing these categories was to create groups of similar sizes, in order to ensure sufficient data for all analyses, stratified for age. Of the subjects, 39.2% were in the oldest

age-group, 30.7% in the second, and 30.0% in the youngest group.

The comparisons of TAS total score and subscale scores between boys and girls were estimated by use of Student t-test and between the three age-groups by one-way analysis of variance (ANOVA). The Bonferroni test was used as a post-hoc test for the ANOVA. The Pearson χ^2 test was used to test differences in the rate of alexithymia between groups, and the Pearson χ^2 test with Bonferroni correction was used as a post-hoc test. Internal consistency was evaluated by computing Cronbach α. Test–retest reliability between the two measurements for the whole sample, as well as for different subgroups, was studied with the Bland-Altman method[25] because the correlation coefficient measures the strength of the relationship between two variables, not the agreement between them. The measurement has good repeatability if the mean difference between the two measurements is 0 and 95% of the differences are less than two SDs.[25] To be able to compare our results with previous studies, we also computed the Spearman correlation coefficients. Confirmatory factor analysis (maximum likelihood estimation, with an oblique method) was done for the TAS–20.

We considered five alternative models that have been proposed in the literature by Müller et al.[26] We tested 1) Model A: a one-factor model; 2) Model B: a two-factor solution, with "Difficulty identifying and describing feelings" (Items 1, 2, 3, 4, 6, 7, 9, 11, 12, 13, 14, 17), and "Externally-oriented thinking" (Items 5, 8, 10, 15, 16, 18, 19, 20); 3) Model C: a common three-factor solution, with "Difficulty identifying feelings" (Items 1, 3, 6, 7, 9, 13, 14), "Difficulty describing feelings" (Items 2, 4, 11, 12, 17) and "Externally-oriented thinking" (Items 5, 8, 10, 15, 16, 18, 19, 20); 4) Model D: another three-factor solution, with "Difficulty identifying and describing feelings" (Items 1, 2, 3, 4, 6, 7, 9, 11, 12, 13, 14, 17), "Pragmatic thinking" (Items 5, 8, 20), and "Lack of subjective significance or importance of emotions" (Items 10, 15, 16, 18, 19); and 5) Model E: a four-factor solution, with "Difficulty identifying feelings" (Items 1, 3, 6, 7, 9, 13, 14), "Difficulty describing feelings" (Items 2, 4, 11, 12, 17), "Pragmatic thinking" (Items 5, 8, 20), and "Lack of subjective significance or importance of emotions" (Items 10, 15, 16, 18, 19).

The goodness of fit was evaluated by the following criteria: chi-square goodness-of-fit (a nonsignificant chi-square score), the goodness-of-fit index (GFI; a score ≥ 0.85), the adjusted goodness-of-fit index (AGFI; a score ≥ 0.80), the root-mean-square residual (RMS; a score ≤ 0.10), and Steiger's root-mean-square error of approximation (RMSEA; a score ≤ 0.08). The ratio of the chi-square to its degrees of freedom (χ^2/df ratio) was also used,[15] with a value < 5, and preferably < 2, being the criterion of validity. A p value < 0.05 was considered statistically significant. Confirmatory factor analysis was performed with SAS/Windows (Version 9.1), and other statistical analysis was performed with SPSS/Windows (Version 9.0).

RESULTS

Validity of the TAS–20

Cronbach αs for boys and girls and in different age-groups are presented in Table 1. The Cronbach α for TAS–20 in the whole sample was 0.73 (N = 882), for the DIF subscale: 0.78 (N = 912); for the DDF subscale: 0.64 (N = 905); and for the EOT subscale: 0.57 (N = 901). The internal consistencies were better for girls than boys, except on the DIF subscale. Between age-groups, the internal consistencies were best for the oldest group.

Confirmatory Factorial Analysis

The goodness-of-fit statistics for five different factor models is presented in Table 2. The chi-square goodness-of-fit was significant; the chi-square/df ratio was > 5 for all models, but the GFI, the AGFI, the RMS, and RMSEA estimates showed a good fit with the data for models B–D. The one-factor Model A showed a poor fit. The RMS was the only goodness-of-fit statistic that met the criteria for Model A. The best fit emerged from the common three-factor solution (Model C). Using the chi-square test values to count chi-square differences in test statistics, Model C revealed a significant advantage over the other models (differences ranged from 131.9 to 557.08; p < 0.001).

We used the common three-factor solution (Model C) for a more specific analysis, which is presented in Table 3. Except for one item (Item 8) in the whole population, one item (Item 20) for boys, two items (Items 5 and 8) in the youngest age-group, four items (Items 8, 15, 16, 20) in the middle age-group, and one item (Item 8) in oldest age-group, all estimates were statistically significant (p < 0.05). The GFI, the AGFI, and the RMS showed a good fit with the data for all the different subgroup models. RMSEA criteria were met in all the other subgroups except the oldest age-group. The parameter estimates for the relationships among the three factors are also presented in Table 3. For the whole sample, the estimate between Factors 1

and 2 was 0.79 (p <0.05), between Factors 1 and 3, −0.27 (p <0.05), and between Factors 2 and 3, 0.06 (not significant). For girls, the estimate between Factors 1 and 3 was not significant; all other estimates for different subgroups were significant.

Test–Retest Reliability of the TAS–20

The mean difference of the TAS–20 total score was −0.33 (SD: 6.22) for the whole sample; for boys, −0.09 (SD: 6.45), and for girls, −0.60 (SD: 5.95). Of the whole population, 4.9% exceeded the limit of ±2 SDs, with boys and girls 5.1% and 5.8%, respectively. In the youngest and middle age-groups, fewer than 5% of the differences were more than two SDs. All results are displayed in detail in Table 4.

Alexithymia in Adolescents

The mean total score on the TAS–20 was 51.1 (SD: 9.1). The mean score for boys was 50.9 (SD: 9.0), and the mean score for girls 51.3 (SD: 9.3), with no difference between the sexes. The difference of the mean scores between the age-groups was statistically significant (p <0.05) between the youngest and the oldest group as well as between the youngest and the middle group. The mean scores

of the three TAS factors were the following: DIF: 16.1 (SD: 5.5); DDF: 12.3 (SD: 3.7); and EOT: 22.8 (SD: 4.5). The differences were statistically significant between sexes for DIF and EOT factors and between age-groups for all three factors. Of the whole sample, 15.9% (14.6% of boys and 17.3% of girls; p = 0.277) were alexithymic. In the youngest age-group, the rate of alexithymia was 21.1% (boys: 21.8%, and girls: 20.3%), and in the middle and oldest groups, 14.8% (boys: 12.0%, and girls: 17.8%) and 12.7% (boys: 11.1%, and girls: 14.6%), respectively. The difference between the youngest and the oldest group was significant (p = 0.015). No significant differences emerged between the sexes in the different age-groups. Descriptive statistics of the TAS–20 total score and the three factors are presented in Table 5.

DISCUSSION

The main finding of the present study was that the Finnish TAS–20 works well with adolescent subjects. Another interesting finding was that the rate of alexithymia in this age-group was essentially at the same level as in adult population samples, but, in contrast to adult population samples, no gender differences in rate of alexithymia were detected among 14-, 15-, and 16-year-olds. The TAS–20

TABLE 1. Internal Consistency (Cronbach's α) for TAS–20 and the Different Subscales in the Whole Sample and in Boys and Girls and in Different Age-Groups for the First Measurement

	Total Score		DIF		DDF		EOT	
	N	α	N	α	N	α	N	α
All subjects	882	0.73	912	0.78	905	0.64	901	0.57
Boys	478	0.72	489	0.80	488	0.58	486	0.42
Girls	404	0.76	423	0.71	417	0.70	415	0.60
12- to 13-year-olds	265	0.70	272	0.77	270	0.63	270	0.54
14-year-olds	271	0.67	288	0.74	282	0.64	278	0.47
15- to 17-year-olds	346	0.76	352	0.81	353	0.64	353	0.61

DIF: Difficulties Identifying Feelings; DDF: Difficulties Describing Feelings; EOT: Externally-Oriented Thinking.

TABLE 2. Goodness-of-Fit Indices of the Confirmatory Factor Analysis (N = 882) for Different Models

	Model A	Model B	Model C	Model D	Model E
Chi-square test (df)	1,447.61 (170)	1,024.33 (169)	890.53 (167)	1,022.43 (167)	1,240.44 (164)
Chi-square test/df	8.52	6.06	5.33	6.12	7.56
Goodness-of-fit (GFI)	0.823	0.884[a]	0.903[a]	0.885[a]	0.853[a]
Adjusted goodness-of-fit (AGFI)	0.782	0.856[a]	0.878[a]	0.855[a]	0.811[a]
Root-mean-square residual (RMS)	0.092[a]	0.080[a]	0.076[a]	0.080[a]	0.094[a]
Root-mean-square error of approximation (RMSEA)	0.093	0.076[a]	0.070[a]	0.076[a]	0.086
RMSEA 95% confidence interval	0.087–0.098	0.071–0.081	0.065–0.076[a]	0.071–0.082	0.081–0.092

[a] accepted value.

TABLE 3. Confirmatory Factor Analysis (Model C): Parameter Estimates for the Relationships Among the Three Factors of the TAS–20 and the Goodness-of-Fit Indices

TAS Items	All (N=882)	Boys (N=478)	Girls (N=404)	12–13 years (N=265)	14 years (N=271)	15–17 years (N=346)
Factor 1 vs. Factor 2	0.79*	0.94*	0.68*	0.77*	0.87*	0.72*
Factor 1 vs. Factor 3	−0.27*	−0.40*	0.05	−0.18*	−0.44*	−0.22*
Factor 2 vs. Factor 3	0.06	−0.20*	0.32*	0.21*	−0.26*	0.26*
Measures of fit						
Chi-square test (df: 167)	890.53	564.23	405.87	295.05	375.18	563.86
Chi-square test/df	5.33	3.38	2.43	1.77	2.25	3.38
Goodness-of-fit (GFI)	0.903[a]	0.884[a]	0.907[a]	0.901[a]	0.877[a]	0.850[a]
Adjusted goodness-of-fit (AGFI)	0.878[a]	0.854[a]	0.883[a]	0.876[a]	0.845[a]	0.811[a]
Root-mean-square residual (RMS)	0.076[a]	0.085[a]	0.066[a]	0.072[a]	0.078[a]	0.093[a]
Root-mean-square error of approximation (RMSEA)	0.070[a]	0.071[a]	0.060[a]	0.054[a]	0.068[a]	0.083
RMSEA 95% confidence interval	0.065–0.076[a]	0.063–0.078[a]	0.051–0.068[a]	0.042–0.066[a]	0.057–0.079[a]	0.074–0.092

TAS: Toronto Alexithymia Scale.
[a]accepted value.
*$p < 0.05$.

TABLE 4. Test–Retest Reliability of the TAS–20 in the Whole Study Sample and in Different Subgroups

	Difference: Test–Retest			
Sample	Mean	Standard Deviation	Difference[a] (%)	Spearman ρ
All subjects	−0.33	6.22	4.9	0.758
Boys	−0.09	6.45	5.1	0.734
Girls	−0.60	5.95	5.8	0.782
12- to 13-year-olds	−0.09	6.03	3.9	0.694
14-year-olds	−0.37	6.30	4.6	0.733
15- to 17-year-olds	−0.49	6.32	6.0	0.777

TAS: Toronto Alexithymia Scale.
[a] The proportion (%) of cases differing by more than two standard deviations.

TABLE 5. Descriptive Statistics of the Total TAS–20 Score and the Three TAS Factors (DIF: Difficulties Identifying Feelings, DDF: Difficulties Describing Feelings, EOT: Externally-Oriented Thinking) for the Whole Sample and Boys and Girls and Different Age-Groups

	TAS Total Score				TAS F-1: DIF				TAS F-2: DDF				TAS F-3: EOT			
Sample	N	Mean	SD	p	N	Mean	SD	p	N	Mean	SD	p	N	Mean	SD	p
All subjects	882	51.1	9.1		912	16.1	5.5		905	12.3	3.7		901	22.8	4.5	
Gender				NS				<0.001				NS				<0.001
Boys	478	50.9	9.0		489	14.6	5.1		488	12.1	3.4		486	24.3	4.1	
Girls	404	51.3	9.3		423	18.0	5.3		417	12.5	3.9		415	21.0	4.2	
Age				<0.001				0.003				0.004				<0.001
12–13 years	265	53.7	8.3		272	17.1	4.9		270	12.9	3.5		270	23.8	4.0	
14 years	27	50.7	8.7		288	15.7	5.9		282	12.1	3.8		278	23.0	4.3	
15–17 years	346	49.5	9.6		352	15.8	5.5		353	11.9	3.6		353	21.8	4.7	

TAS: Toronto Alexithymia Scale.
SD: standard deviation; NS: not significant.

mean scores for boys were close to those seen in adults; in girls, they were higher than those of women in the general population.

It was possible to replicate the originally established three-factor model for the TAS–20.[12,13] Four out of five criteria of goodness-of-fit met the standards for adequacy of fit. Only the χ^2/df ratio was not adequate. This, however, was not surprising, because the sample was very large.[15,27]

The TAS–20 has been acceptably translated into 18 languages, and its efficacy has been evaluated with confirmatory factor-analysis in 19 countries.[15] Goodness-of-fit indices have been published from 24 different samples from 20 different countries.[15] Compared with them, our results are quite satisfactory. A Cronbach α coefficient value ≥0.70 is generally accepted as a standard for internal reliability.[28] In our study, this criterion was met for the TAS–20 total score in the case of the total sample and in all other subsamples except the middle age-group. In the TAS factors, especially in the case of EOT, the internal-consistency figures were lower. This is a similar finding as in many previous studies on TAS–20 in different languages and subject groups.[15] According to the authors,[15] there can be several reasons for this. The EOT subscale of the TAS–20 foreign-language versions may be less stable because of the greater number of items in it as compared with the other two subscales; a slight but significant altering of meaning in the translation process can contribute to this finding, as can the greater number of negatively keyed items in it; and, finally, true cultural differences in the meaning the subjects give to the phrasing of some items can also affect the results.

Only a few studies of test–retest correlation of the TAS–20 have been published, and, previously, correlation coefficient has been used as the measure of test–retest reliability.[12,29,30] Our results can therefore be judged to be at least satisfactory, especially when compared with earlier results. However, as claimed by Bland and Altman,[25] the correlation coefficient is not appropriate for assessing the agreement of repeated measures. When analyzed with the measure these authors recommend, our figures of test–retest reliability were satisfactory.

Adolescence is a period of great emotional, psychological, and social development. An adolescent's capacity to be conscious of his or her emotional and psychological states and to regulate them increases more rapidly than in childhood. We expected that the rate of alexithymia would decrease apace with adolescent development, and a decrease in rate was indeed seen from 14- to 15- to 16-year-olds. The mean TAS–20 scores of 50.9 for boys was rather

close to those published for adult men (46.4–48.8) in general-population samples, but the mean score of 51.3 found for girls in this sample was clearly higher than those presented for adult women (42.2–43.8). Moriarty et al.[31] found TAS–20 mean scores of 61.8 in male adolescent sex offenders (age 14–17) and 59.7 in non-offending control subjects. Because no significant difference was found between sex offenders and non-offending youth, they concluded that deficits in experiencing and expressing emotions may be characteristic of adolescents in general, an assumption that we also wanted to test in the present study. In Horton et al.'s[6] study, the rate of alexithymia in adolescents somewhat older than our sample was essentially higher. They measured alexithymia with the original 26-item version of the TAS. This can be one reason for the difference. The present findings substantiate preexisting knowledge about adolescent development. The criticism could be made that it is not meaningful to measure alexithymia at all over the turbulent years of adolescent development and that alexithymic features in this developmental phase only mimic the actual cognitive-affective deficit of alexithymia seen in adults; these considerations might make estimation of rates somewhat problematic.

In this study, we wanted to present rates in order to offer a basis for comparison with studies among adults, but we acknowledge that they may also not have the same meaning in all age-groups. Similar discussion about appropriateness of measuring a feature in childhood or adolescence concerns the concept of personality disorders. Although it is not considered appropriate in DSM or ICD diagnostic classifications to assign a personality-disorder diagnosis for a minor patient, some researchers nevertheless suggest the opposite, on the basis of findings that personality-disorder characteristics, to a great extent, are persistent over adolescent years.[32] In our opinion, it is important to gather more information about persistence and changes in alexithymic features (and those of personality-disorder traits, as well) over the adolescent years so as to add to our empirical understanding of adolescent development, but more research is needed to conclude whether alexithymic features in children and adolescents represent the same phenomena as alexithymia in adults.

Given the possibility that younger children or adolescents may have more difficulty reflecting upon and verbalizing their inner feelings, and therefore certain alexithymic features may be normal in childhood and adolescence, and that adolescent development is likely to bring about a normative decrease in these features, a question arises whether alexithymia should be "diagnosed" in

children and (early) adolescents by use of a higher cutoff in TAS–20 than has been recommended for adults. However, before conclusions can be made on the possible optimal cutpoint(s) for classifying children and adolescents on this dimension, more studies, and, especially, cross-cultural data, are needed about the changes in alexithymic characteristics over developmental phases. At present, knowledge about normative levels of alexithymic features can be helpful in assessing the developmental progress of a given adolescent, and particularly in assessing an adolescent's age-appropriate capacity to do "psychotherapeutic work" and to benefit from psychotherapy. At present, alexithymia rates in adolescents calculated using adult cutoff scores perhaps best serve for comparison between samples, not to conclude definitively about the prevalence of problematic difficulties or disorders.

An interesting finding in the present study was that no gender difference was found either concerning the rate of alexithymia or the means of the TAS total scores. However, between the TAS factors DIF and EOT, there was a significant gender difference. The possible gender difference in alexithymia is an interesting question. In a recent study, the developers of the TAS–20 instrument[14] found, in a population study, that men scored significantly higher on the TAS total score and on DIF and EOT subscales. However, they stated that "the gender difference accounts for a trivial amount of the variance in the total score and factor scale scores." On the other hand, all three earlier Finnish studies with representative population-drawn samples show a clear gender difference at least in the rate of alexithymia, with men being more commonly alexithymic than women.[3–5] There are also two population studies on older people, and, in both, no gender difference was found.[33,34] The issue of gender difference warrants more research, both in exploring further whether gender difference exists in rate of alexithymia across cultures, and confirming at what age and developmental phase it emerges and possibly

subsides again. Generally, gender differences in the epidemiology of mental disorders among adolescents become similar to those in adults. One would expect that personality features related to mental health, such as alexithymia, would appear with adult-type patterns evident from puberty. In old age, confounding because of shorter life expectancy in men may influence the epidemiology of mental disorders and related characteristics.

The strength of the present study is its large sample size and its representativeness. This study has, of course, limitations: it was not possible to measure sociodemographic or depression factors, both of which have been shown to be associated with alexithymia among adults.[4,5] As to sociodemographic background, however, it is most likely that the sample is a good representation of the Finnish adolescent population, because adolescents of this age are obliged to attain a "comprehensive school" education, which is almost exclusively provided by nonsegregated public comprehensive schools. We classified age into three groups of equal sizes, but actually both the two lower age-groups (12–13 years; 14 years) represent the developmental phase of early adolescence. Including older adolescents and classifying age according to phases of adolescent development (early, middle, and late) would add to the value of the study in increasing understanding of adolescent development. This study was based solely on self-report data. In the future, studies using alternative methods for assessing alexithymia, such as the recently developed Toronto (Ontario, Canada) Structured Interview for Alexithymia,[35] are warranted to confirm these results and further deepen the knowledge of alexithymia in adolescence.

We conclude that the TAS–20 is a suitable method for assessing alexithymia among young people. Rates of alexithymia decrease with development from early to middle adolescence. This is likely to be a relevant factor to take into account when planning psychiatric treatment approaches for adolescent patients.

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