Developmetrics
Evaluating social fears in late adolescence: Study with a Portuguese sample

Paula Vagos¹, Anabela Pereira¹, and Marina Cunha²

¹Department of Education, University of Aveiro, Aveiro, Portugal
²Department of Psychology, Instituto Superior Miguel Torga, Coimbra, Portugal

This work intends to psychometrically evaluate a measure of social fears for late adolescents, who may differently perceive social fear stimulus. A community sample of 794 late adolescents was recruited and assessed, using the Social Anxiety and Avoidance Scale for Adolescents. Internal structure analysis indicates that late adolescents adopt a unique perspective on social experiences. Internal consistency and convergent validity relating to thoughts typical of social anxiety were found. The instrument may be useful for evaluating social fears throughout adolescence.

Keywords: Social anxiety; Late adolescence; Evaluation; Psychometrics.

Social fears are a normative and distinctive feature of adolescence. They tend to increase over time (Westenberg, Drewes, Goedhart, Siebelink, & Treffers, 2004), and frequently associate with avoidance of anxious-provoking social events, especially in late adolescence (Sumter, Bokhorst, & Westenberg, 2009).

Late adolescents face specific developmental challenges that may shape the expression of their social fears. They need to express and perform according to their newfound and unique identity, while establishing intimate and rewarding relationships (Loevinger, 1997). Whereas peers, and fears associated with them, lose prominence from early to late adolescence (Levpuscek, 2004; Peleg, 2012), fears relating to social performance and formal interactions become salient (Bokhorst, Westenberg, Oosterlaan, & Heyne, 2008; Westenberg, Gullone, Bokhorst, Heyne, & King, 2007). Evaluating specific social fears in different age groups may therefore be informative (Sumter et al., 2009), requiring valid
instruments. Since it has been found that the same measurement models for social fears fit the data differently for different age groups (Bokhorst et al., 2008), it may be that some items are perceived disparately by, for example, early and late adolescents, under the influence of socio-cognitive maturation, which significantly predicts social evaluation fears (Westenberg et al., 2004).

This work proposes to psychometrically evaluate the Social Anxiety and Avoidance Scale for Adolescents, for late adolescents. This measure was designed and used to grasp social experiences of adolescents between 12 and 18 years old (Cunha, Pinto-Gouveia, & Salvador, 2008). For this research, an exploratory analysis on the fear components arising from late adolescents’ responses alone will be performed, in addition to confirming if fear components proposed to fit early, middle and late adolescents fit similarly well as those arising from the current late adolescent sample. Indicators of reliability and convergent validity will be analyzed.

METHOD

Participants

Participants were 794 students. Boys and girls had similar mean ages ($t(787) = -0.30; p = .76$) and were distributed similarly by school year ($\chi^2(2,1) = 1.11; p = .58$), but not by socioeconomic status ($\chi^2(2,1) = 19.77; p < .001$). More girls descended from low socioeconomic status, and more boys presented a medium- and high-socioeconomic status. A subsample of 679 adolescents also completed the Portuguese version of the Social Thoughts and Beliefs Scale (STABS, Vagos, Pereira, & Beidel, 2010). These sample groups had similar mean ages ($t(791) = .22; p = .82$) and their students were similarly distributed by sex ($\chi^2(1,1) = .29; p = .87$), and socioeconomic status ($\chi^2(2,1) = 2.89; p = .24$), but not by school year ($\chi^2(2,1) = 13.57; p < .001$). More students from the complete sample than the subsample attended the 10th grade, and the reverse was found for the 11th and 12th grade (see Table 1).

Instruments

The Social Anxiety and Avoidance Scale for Adolescents (SAASA) consists of 34 items representing social experiences typical of adolescence, which are evaluated using anxiety (from 1 = none to 5 = very much) and avoidance (from 1 = never to 5 = almost always) scales. It has shown good internal consistency, test-retest reliability, and convergent and divergent validity, with each scale being composed of six non-coincident dimensions: interaction with the opposite sex, assertive interaction, observation by others, interaction in new social situations, performance in formal social situations, and eating and drinking in public (Cunha et al., 2008).
The STABS uses 21 items to evaluate if the person's thinking resembles thoughts associated with social anxiety (from 1 = never to 5 = always characteristic). It has shown excellent internal consistency and temporal stability, convergent and divergent validity in community samples (Fergus, Valentiner, Kim, & Stephenson, 2009), and discriminant validity in clinical samples (Turner, Johnson, Beidel, Heiser, & Lydiard, 2003). Using exploratory factor analysis on a late adolescents' community sample, two subscales were found for its Portuguese version (Vagos et al., 2010), social interaction and public performance. Both had shown very good internal consistency values for the current sample ($\alpha = .91$ and .83 respectively).

### Procedure

The sample was recruited from secondary schools, after the national ethics committee, the executive boards of the schools, parents and students themselves consented to participate. Confidentiality of the data was explicit and instruments were presented counterbalanced and filled using about 20 minutes of classroom time.

Mplus (Muthén & Muthén, 2010) was used for internal structure analysis. Exploratory factor analysis with varimax rotation was performed on the 34 items of the anxiety and avoidance scales separately, to examine fear components arising from the present sample. Items were included if they had $\lambda \geq .32$ in only

|                | Complete sample$^a$ | Sub-sample$^b$ |
|----------------|---------------------|----------------|
| $n$ | % | $n$ | % |
| **Sex**       |                     |                |
| Male          | 304                 | 38.3           | 261             | 38.4           |
| Female        | 487                 | 61.3           | 416             | 61.3           |
| **School year** |                   |                |                  |                |
| $10^{th}$ grade | 269                | 33.9           | 215             | 31.7           |
| $11^{th}$ grade | 269                | 33.9           | 245             | 36.1           |
| $12^{th}$ grade | 253                | 31.9           | 217             | 32             |
| **Socioeconomic status** |             |                |                  |                |
| Low           | 216                 | 27.2           | 186             | 27.4           |
| Medium        | 377                 | 47.5           | 328             | 48.3           |
| High          | 161                 | 20.3           | 137             | 20.2           |
| **Age**       |                     |                |                  |                |
| $M (SD)$      | 16.69 (1.14)        | 16.68 (1.14)   |                  |                |

Notes: $^a$ Three adolescents did not provide information on their gender or school year (0.4%); 40 adolescents did not provide information as to evaluate their socioeconomic level (5%). $^b$ Three adolescents did not provide information on their gender or school year (0.3%); 28 adolescents did not provide information as to evaluate their socioeconomic level (4.1%).
one factor and cross-loadings ≤ .32. Items not matching these criteria were dropped (Tabachnick & Fidell, 2001). Because the current exploratory model differed from the one originally proposed (Cunha et al., 2008), confirmatory factor analysis were subsequently conducted to compare fit indicators. Measures only included items with λ ≥ .32; cross-loadings ≤ .32 were omitted. MPlus was also used to compute correlations between measures of anxiety, avoidance and social thoughts, as indicators of convergent validity. R software was used to calculate ordinal alpha values (Gaderman, Guhn, & Zumbo, 2012), as measures of internal consistency.

RESULTS

Exploratory factor analysis, internal consistency and convergent validity

For the anxiety scale, a six-factor exploratory solution was selected (see Table A in Appendix) because it presented superior fit (i.e., lower RMSEA values) than the next simplest model, and similar fit to the next most complex model (i.e., overlap of the RMSEA confidence intervals; see Table 2; Tabachnick & Fidell, 2001). A six-factor solution was also considered for avoidance (see Table B in Appendix), given its goodness of fit, and the pertinence of comparing similar constructs for anxiety and avoidance as dual indicators of social anxiety.

Results from the current sample show that only the constitution of interaction with the opposite sex coincided with the original anxiety model (see Table 3).

| TABLE 2 |
|-----------------|----------------|-----------|---------|-----------------|
| Adjustment indexes for exploratory and confirmatory factor analyses on the anxiety and avoidance scales of the Social Anxiety and Avoidance Scale for Adolescents |
|                  | χ²    | df  | CFI   | TLI   | RMSEA (CI)     |
|------------------|-------|-----|-------|-------|----------------|
| Anxiety          |       |     |       |       |                |
| EFA – Five-factor solution | 1017.10*  | 401 | .967  | .954  | .044 (.041; .047) |
| EFA – Six-factor solution | 754.65*  | 372 | .979  | .969  | .036 (.032; .040) |
| EFA – Seven-factor solution | 666.69*  | 344 | .983  | .972  | .034 (.030; .038) |
| CFA – Original measurement model | 1605.82*  | 512 | .941  | .936  | .052 (.049; .055) |
| CFA – Current measurement model | 928.85*  | 335 | .962  | .957  | .047 (.044; .051) |
| Avoidance        |       |     |       |       |                |
| EFA – Five-factor solution | 851.127*  | 401 | .967  | .954  | .038 (.034; .041) |
| EFA – Six-factor solution | 711.919*  | 372 | .975  | .963  | .034 (.030; .038) |
| EFA – Seven-factor solution | 610.87*  | 344 | .981  | .968  | .031 (.027; .035) |
| CFA – Original measurement model | 1368.32*  | 419 | .925  | .917  | .053 (.050; .057) |
| CFA – Current measurement model | 760.319*  | 284 | .954  | .948  | .046 (.042; .050) |

Notes: df = degrees of freedom; CFI = Comparative Fit Index; TLI = Tucker-Lewis Index; RMSEA = Root Mean Square Error of Approximation; CI = confidence interval; EFA = Exploratory Factor Analysis; CFA = Confirmatory Factor Analysis.
* p < .001.
TABLE 3
Confirmatory factor loading on the anxiety subscale of the SAASA, for the original and the current measurement models, and sample means, standard deviations and ordinal Alpha for each factor

| Factor 1: Eating and drinking in public ($M = 2.66; \text{DP} = 1.2; \text{ordinal } \alpha = .88$) | Original | Current |
|---|---|---|
| #1 Eating in public | .834 | .854 |
| #2 Drinking in front of other people | .772 | .930 |
| #10 In a bus or train, being sited in front of other people | .861 | – |

| Factor 2: Interaction in new social situations ($M = 9.11; \text{SD} = 3.18; \text{ordinal } \alpha = .80$) | Original | Current |
|---|---|---|
| #6 Phoning a colleague I don’t know very well | .653 | .696 |
| #7 Talking to someone I don’t know very well | .728 | .808 |
| #8 Meeting strangers | .628 | .688 |
| #11 Expressing disagreement or disapproval to a colleague I don’t know very well | .767 | – |
| #12 Making eye contact with someone I don’t know very well | .667 | .731 |
| #13 Expressing my feelings to the person I like | .607 | – |
| #15 Performing, for the first time, a new task or role in front of colleagues | .679 | – |
| #19 Asking someone out for the first time | .717 | – |

| Factor 3: Interaction with the opposite sex ($M = 7.89; \text{SD} = 3.42; \text{ordinal } \alpha = .90$) | Original | Current |
|---|---|---|
| #14 Being alone with a colleague from the opposite sex | .754 | .749 |
| #17 Mingling in a group where there are mainly people from the opposite sex | .797 | .804 |
| #20 Making a compliment to someone of the opposite sex | .791 | .776 |
| #21 Having a conversation with someone of the opposite sex | .881 | .888 |
| #22 Talking with other colleagues | .812 | .815 |

| Factor 4: Assertive interaction ($M = 11.53; \text{SD} = 4.12; \text{ordinal } \alpha = .83$) | Original | Current |
|---|---|---|
| #9 Urinating in a public toilet | .516 | – |
| #11 Expressing disagreement or disapproval to a colleague I don’t know very well | – | .776 |
| #15 Performing, for the first time, a new task or role in front of colleagues | – | .687 |
| #16 Saying “no” to a colleague who has asked me to do something I don’t want to | .609 | .616 |
| #18 Asking someone for a favour | .672 | .671 |
| #23 Asking a colleague to change a way of behaving which annoys me | .665 | .662 |
| #27 Complaining when someone tries to jump the queue | .637 | .638 |
| #30 Being late or early to a meeting or class | .583 | – |
| #34 Answering back to a colleague that is trying to make fun of me | .705 | – |

| Factor 5: Performance in formal social situations ($M = 8.83; \text{SD} = 3.41; \text{ordinal } \alpha = .82$) | Original | Current |
|---|---|---|
| #4 Reading aloud in front of the class | .625 | .632 |
| #5 Writing while being observed | .580 | – |
| #26 Having an oral test or exam | .632 | .648 |
| #28 Being asked to solve a problem on the blackboard | .773 | .787 |
| #29 Taking the initiative of asking a question or for an explanation in a class or meeting | .809 | .832 |

| Factor 6: Observation by others ($M = 11.29; \text{SD} = 4.63; \text{ordinal } \alpha = .88$) | Original | Current |
|---|---|---|
| #3 Going to a party given by a colleague | .746 | .730 |
| #24 Making exercises during gym class | .714 | .712 |

(continued)
Item 34 loaded on observation by others, denoting the exposure involved rather than the type of behaviour used in answering back to a colleague. Items 11, 15 and 16 represented assertive interaction, referring to negative assertion and initiating assertiveness (Rakus, 1991). Items 5, 9, 10 and 30 were excluded from the scale ($\lambda \leq .32$ for all factors), as were items 13 and 19 (cross-loadings $\geq .32$).

For avoidance, results from the current sample show that only the constitution of eating and drinking in public and interaction in new social situations match the original structure (see Table 4). Differences were mostly due to item exclusion, either by cross-loadings (item 19) or by low loading in all factors (items 9, 10, 11, 12, 15, 30 and 33). Only assertive interaction was changed by item relocation: items 13 conveyed positive assertion and item 18 denoted expressing of and dealing with personal limitations (Rakus, 1991).

All factors achieved adequate internal consistency values (ordinal alpha values $\geq .70$; see Tables 3 and 4) and correlated significantly amongst themselves and with the STABS. Corresponding dimensions of anxiety and avoidance also correlated significantly (see Table 5).

**Confirmatory factor analysis**

The current exploratory factor solution (see Tables 3 and 4) seemed theoretically reasonable but was different from the original exploratory model (Cunha et al., 2008). Consequently, both measurement models were tested and their fits were compared. The current models achieved acceptable CFI and TLI adjustment indices, but the original ones did not (Tabachnick & Fidell, 2001). The RMSEA values were lower for the current models, and the confidence intervals for the current and original models did not overlap (see Table 2), indicating the better fit of the current ones.
TABLE 4
Confirmatory factor loading on the avoidance subscale of the SAASA, for the original and the current measurement models, and sample means, standard deviations and ordinal Alpha for each factor

| Factor 1: Eating and drinking in public ($M = 4.49; SD = 2.27; \text{ordinal } \alpha = .87$) |
|---|
| #1 Eating in public | .894 | .864 |
| #2 Drinking in front of other people | .863 | .903 |
| #3 Going to a party given by a colleague | .842 | .824 |

| Factor 2: Interaction in new social situations ($M = 6.77; SD = 2.53; \text{ordinal } \alpha = .72$) |
|---|
| #6 Phoning a colleague I don’t know very well | .632 | .632 |
| #7 Talking to someone I don’t know very well | .843 | .845 |
| #8 Meeting strangers | .607 | .606 |

| Factor 3: Interaction with the opposite sex ($M = 7.95; SD = 3.65; \text{ordinal } \alpha = .90$) |
|---|
| #13 Expressing my feelings to the person I like | .414 | – |
| #14 Being alone with a colleague from the opposite sex | .809 | .825 |
| #17 Mingling in a group where there are mainly people from the opposite sex | .741 | .749 |
| #19 Asking someone out for the first time | .668 | – |
| #20 Making a compliment to someone of the opposite sex | .714 | .714 |
| #21 Having a conversation with someone of the opposite sex | .902 | .916 |
| #22 Talking with other colleagues | .801 | .817 |

| Factor 4: Performance in formal social situations ($M = 10.05; SD = 4.29; \text{ordinal } \alpha = .81$) |
|---|
| #4 Reading aloud in front of the class | .613 | .666 |
| #5 Writing while being observed | .559 | .606 |
| #15 Performing, for the first time, a new task or role in front of colleagues | .742 | – |
| #26 Having an oral test or exam | .618 | .674 |
| #28 Being asked to solve a problem on the blackboard | .732 | .794 |
| #29 Taking the initiative of asking a question or for an explanation in a class or meeting | .695 | .730 |
| #33 Participating in school parties | .547 | – |

| Factor 5: Assertive interaction ($M = 12.73; SD = 4.15; \text{ordinal } \alpha = .71$) |
|---|
| #11 Expressing disagreement or disapproval to a colleague I don’t know very well | .667 | – |
| #13 Expressing my feelings to the person I like | – | .406 |
| #16 Saying “no” to a colleague who has asked me to do something I don’t want to | .501 | .507 |

| Factor 6: Observation by others ($M = 6.36; SD = 3.21; \text{ordinal } \alpha = .83$) |
|---|
| #9 Urinating in a public toilet | .397 | – |
| #24 Making exercises during gym class | .767 | .780 |
| #25 Changing in the shower room | .787 | .798 |

(continued)
DISCUSSION

This work psychometrically evaluated the SAASA for late adolescents, to better understand their expression of social fears in comparison to that reported by a combined sample of early, middle and late adolescents (Cunha, et al., 2008). The exploratory analysis of items produced the same fear components being evaluated by different compositions of items; the same items may be evaluating different social experiences for various age groups. For anxiety, two items (11 and 15) moved from interaction in new social events to assertive interaction, and one item (34) moved from assertive interaction to observation by others. For avoidance, one item (13) moved from interaction with the opposite sex to assertive interaction, and one originally excluded items loaded on assertive interaction (18). These changes increase the correspondence between the anxiety and avoidance measures, facilitating the evaluation of these frequently associated constructs (Sumter et al., 2009).

TABLE 4 – Continued

| #31 | Participating in a group sport | Original | Current |
|-----|--------------------------------|----------|---------|
| #32 | Crossing the hall, corridors or going to the canteen/ school bar when it is full of students | .712 | .709 |
|     |                                | .765 | .765 |

Notes: Original = measurement model proposed by Cunha et al. (2008); Current = measurement model proposed by exploratory factor analyses in the present work; Underlined items were excluded from the original to the current measurement model; Items in bold were included from the original to the current measurement model.

TABLE 5
Correlation between dimensions of the Social Anxiety and Avoidance Scale for Adolescents and Social Thoughts and Beliefs Scale

| (1) Eating and drinking in public | (2) Interaction in new social situations | (3) Interaction with opposite sex | (4) Assertive interaction | (5) Performance in formal social situations | (6) Observation by others | (7) Discomfort in social interactions | (8) Discomfort in public performance |
|----------------------------------|----------------------------------------|----------------------------------|--------------------------|------------------------------------------|--------------------------|------------------------------------|------------------------------------|
| .702                             | .513                                   | .554                             | .647                     | .536                                     | .673                     | .430                               | .455                               |
| .486                             | .908                                   | .682                             | .747                     | .687                                     | .671                     | .434                               | .582                               |
| .662                             | .535                                   | .918                             | .746                     | .630                                     | .746                     | .505                               | .547                               |
| .547                             | .606                                   | .714                             | .841                     | .739                                     | .716                     | .505                               | .621                               |
| .515                             | .494                                   | .561                             | .624                     | .962                                     | .907                     | .534                               | .690                               |
| .664                             | .437                                   | .739                             | .722                     | .618                                     | .322                     | .578                               | .618                               |
| .308                             | .413                                   | .326                             | .511                     | .405                                     | .343                     | –                                  | –                                  |
| .268                             | .417                                   | .359                             | .529                     | .464                                     | –                       | –                                  | –                                  |

Notes: Correlations for avoidance are presented above the diagonal and correlations for anxiety are presented below the diagonal; the diagonal line presents correlations between corresponding dimensions for anxiety and avoidance; all correlations reported were \( p < .001 \), two-tailed.
Several items were excluded from the original to the current measurement model. Four of them were simultaneously excluded from the anxiety and avoidance scales (9, 10, 19 and 30), questioning their utility for evaluating social experiences in late adolescence. Items 9, 10 and 30 refer to general conduct or hygienic rules that may have become internalized, no longer representing pertinent social events. Item 19 seems subject to idiosyncratic interpretation, not illustrating one single construct only.

Adequate internal consistency and convergent validity indicators were found for the current measures of social fears, which better fitted the data from the current late adolescents’ sample than the original measurement model. Thus, the original model may be useful when comparing wider groups of adolescents, but the current one may be preferable for exclusively evaluating late adolescents and accurately reflecting their perspective on social fear stimulus. Assertive interaction suffered the most noticeable changes, with more items now representing challenges concerning personal expression and exposure, and the preoccupation that these will foster fruitful interactions (Loevinger, 1997). These more formal interactions may particularly prompt anxiety in late adolescence (Westenberg et al., 2007).

Age-group comparisons were not possible with the current sample. Given that gender and age-group differences have been found for levels of and developmental trends for social fears (Bokhorst et al., 2008; Sumter et al., 2009; Westenberg et al., 2004; Westenberg et al., 2007), quantitative (i.e., multiple-group comparison) and qualitative (i.e., focus group) methods may help design developmentally tailored assessment of such fears. This will further the preliminary evidence found on the SAASA usefulness for evaluating and describing social fears throughout adolescence.

REFERENCES

Bokhorst, C. L., Westenberg, P. M., Oosterlaan, J., & Heyne, D. A. (2008). Changes in social fears across childhood and adolescence: Age-related differences in the factor structure of the Fear Survey Schedule for Children-Revised. *Journal of Anxiety Disorders*, 22, 135–142. doi:10.1016/j.janxdis.2007.01.014

Cunha, M., Pinto-Gouveia, J. P., & Salvador, M. C. (2008). Social fears in adolescence – The social anxiety and avoidance scale for adolescents. *European Psychologist*, 13, 197–213. doi:10.1027/1016-9040.13.3.197

Fergus, T. A., Valentiner, D. P., Kim, H. S., & Stephenson, K. (2009). The social thoughts and beliefs scale: Psychometric properties and its relation with interpersonal functioning in a non-clinical sample. *Cognitive Therapy and Research*, 33, 425–431. doi:10.1007/s10608-008-9214-x
Gaderman, A. M., Guhn, M., & Zumbo, B. D. (2012). Estimating ordinal reliability for Likert-type and ordinal item response data: A conceptual, empirical, and practical guide. Practical Assessment, Research and Evaluation, 17(3). Retrieved from http://pareonline.net/pdf/v17n3.pdf

Levpuscek, M. P. (2004). Development of two forms of social anxiety in adolescence. Horizons of psychology, 13, 27–40.

Loevinger, J. (1997). Stages of personality development. In H. Robert (Ed.), Handbook of personality psychology (pp. 199–208). San Diego, CA: Academic Press. doi:10.1016/B978-012134645-4/50009-3

Mplus (6.0). [Computer software]. http://www.statmodel.com/

Muthe´ n, L. K., & Muthe´ n, B. O. (2010). Mplus user’s guide (6th ed.). Los Angeles, CA: Muthén & Muthén.

Peleg, O. (2012). Social anxiety and social adaptation among adolescents at three age levels. Social Psychology of Education, 15, 207–218. doi: 10.1007/s11218-011-9164-0

R. (3.0.1). [Computer software]. http://www.r-project.org/

Rakus, R. (1991). Assertive behavior – Theory, research and training. London: Routledge.

Sumter, S. R., Bokhorst, C. L., & Westenberg, P. M. (2009). Social fears during adolescence: Is there an increase in distress and avoidance? Journal of Anxiety Disorders, 23, 897–903. doi: 10.1016/j.janxdis.2009.05.004

Tabachnick, B. G., & Fidell, L. S. (2001). Using multivariate statistics. Boston, MA: Allyn and Bacon.

Turner, S. M., Johnson, M. R., Beidel, D. C., Heiser, N. A., & Lydiard, R. B. (2003). The social thoughts and beliefs scale: A new inventory for assessing cognitions in social phobia. Psychological Assessment, 15, 384–391. doi: 10.1037/1040-3590.15.3.384

Vagos, P., Pereira, A., & Beidel, D. C. (2010). Adaptação e validação de uma escala de medida de cognição na ansiedade social [Adaptation and validation of a scale to measure cognition in social anxiety]. Avaliação Psicológica, 9, 393–402.

Westenberg, P. M., Drewes, M. J., Goedhart, A. W., Siebelink, B. M., & Treffers, P. D. A. (2004). A developmental analysis of self-reported fears in late childhood through mid-adolescence: Social-evaluative fears on the rise? Journal of Child Psychology and Psychiatry, 45, 481–495.

Westenberg, P. M., Gallone, E., Bokhorst, C. L., Heyne, D. A., & King, N. J. (2007). Social evaluation fear in childhood and adolescence: Normative developmental course and continuity of individual differences. British Journal of Developmental Psychology, 25, 471–483. doi: 10.1348/026151006x173099
# APPENDIX

## TABLE A

Factor loadings on the anxiety subscale of the Social Anxiety and Avoidance Scale for Adolescents, and correlations between anxiety dimensions

| Factors | 1   | 2   | 3   | 4   | 5   | 6   |
|---------|-----|-----|-----|-----|-----|-----|
| Factor 1: Eating and drinking in public | –   | .213 | .296 | .268 | .270 | .331 |
| #1  Eating in public                  | .643 | .150 | −.009 | .070 | .028 | .165 |
| #2  Drinking in front of other people | .818 | .069 | .099 | .100 | .043 | .039 |
| Factor 2: Interaction in new social situations | –   | –   | .422 | .421 | .498 | .379 |
| #6  Phoning a colleague I don’t know very well | .034 | .534 | −.019 | .107 | .114 | .070 |
| #7  Talking to someone I don’t know very well | .107 | .863 | −.005 | −.022 | .053 | −.022 |
| #8  Meeting strangers                | .021 | .629 | .018 | .076 | .099 | −.042 |
| #12 Making eye contact with someone I don’t know very well | .076 | .325 | .264 | .150 | .076 | −.019 |
| Factor 3: Interaction with the opposite sex | –   | –   | –   | .491 | .426 | .476 |
| #14 Being alone with a colleague from the opposite sex | .092 | .225 | .629 | .010 | −.033 | −.019 |
| #17 Mingling in a group where there are mainly people from the opposite sex | −.010 | .086 | .662 | .041 | .113 | .024 |
| #20 Making a compliment to someone of the opposite sex | −.114 | .100 | .619 | .163 | .042 | .060 |
| #21 Having a conversation with someone of the opposite sex | .097 | −.087 | .917 | .021 | .072 | .012 |
| #22 Talking with other colleagues | .067 | .052 | .550 | .032 | .065 | .200 |
| Factor 4: Assertive interaction | –   | –   | –   | –   | .443 | .473 |
| #11 Expressing disagreement or disapproval to a colleague I don’t know very well | .139 | .188 | .101 | .422 | .150 | .015 |
| #15 Performing, for the first time, a new task or role in front of colleagues | .052 | .152 | −.029 | .391 | .208 | .103 |
| #16 Saying “no” to a colleague who has asked me to do something I don’t want to | .144 | −.037 | .008 | .660 | .088 | −.060 |
| #18 Asking someone for a favor | .147 | .096 | .111 | .437 | .063 | .031 |
| #23 Asking a colleague to change a way of behaving which annoys me | .033 | .015 | .047 | .566 | .023 | .147 |
| #27 Complaining when someone tries to jump the queue | .117 | −.010 | .084 | .388 | .144 | .105 |
| Factor 5: Performance in formal social situations | –   | –   | –   | –   | –   | –   |
| #4  Reading aloud in front of the class | .025 | .089 | .006 | −.114 | .689 | .018 |
| #26 Having an oral test or exam | −.092 | .158 | −.075 | .086 | .630 | −.022 |
| #28 Being asked to solve a problem on the blackboard | .021 | −.013 | .065 | .036 | .696 | .080 |
| #29 Taking the initiative of asking a question or for an explanation in a class or meeting | .088 | −.088 | .118 | .152 | .640 | .037 |
| Factor 6: Observation by others | –   | –   | –   | –   | –   | –   |
| #3  Going to a party given by a colleague | .079 | .276 | .187 | −.168 | .208 | .360 |
| #24 Making exercises during gym class | .029 | −.024 | −.058 | .004 | .078 | .822 |

(continued)
**TABLE A – Continued**

| #   | Description                                                                 | Factors |
|-----|------------------------------------------------------------------------------|---------|
|     |                                                                              | 1      | 2      | 3      | 4      | 5      | 6      |
| #25 | Changing in the shower room                                                 | .140   | -.018  | .172   | .113   | .041   | **.522**|
| #31 | Participating in a group sport                                              | .054   | -.021  | .042   | .019   | .064   | **.710**|
| #32 | Crossing the hall, corridors or going to the canteen/school bar when it is full of students | .239   | .092   | .106   | .170   | -.009  | **.437**|
| #33 | Participating in school parties                                             | -.011  | .124   | .137   | .092   | .051   | **.400**|
| #34 | Answering back to a colleague that is trying to make fun of me             | .108   | .037   | .018   | .285   | .112   | **.351**|

*Notes: Values presented in line with the items represent loading values; Values presented in line with the factors represent correlation values.*
TABLE B
Factor loading on the avoidance subscale of the Social Anxiety and Avoidance Scale for Adolescents, and correlations between anxiety dimensions

| Factors | 1      | 2      | 3      | 4      | 5      | 6      |
|---------|--------|--------|--------|--------|--------|--------|
| Factor 1: Eating and drinking in public | –      | .335   | .435   | .311   | .204   | .473   |
| #1 Eating in public | .838   | .036   | .029   | .049   | .030   | .044   |
| #2 Drinking in front of other people | .925   | .003   | .078   | .026   | .001   | .078   |
| #3 Going to a party given by a colleague | .424   | .159   | .220   | .064   | .023   | .078   |
| Factor 2: Interaction in new social situations | –      | –      | .356   | .338   | .422   | .307   |
| #6 Phoning a colleague I don’t know very well | .073   | .637   | –      | .150   | .091   | .031   |
| #7 Talking to someone I don’t know very well | – .010 | .807   | .048   | .006   | .005   | .028   |
| #8 Meeting strangers | .058   | .534   | .038   | .020   | .040   | .031   |
| Factor 3: Interaction with the opposite sex | –      | –      | –      | .308   | .419   | .459   |
| #14 Being alone with a colleague from the opposite sex | .110   | .223   | .534   | .014   | .022   | .156   |
| #17 Mingling in a group where there are mainly people from the opposite sex | – .028 | .184   | –      | .003   | .009   | .174   |
| #20 Making a compliment to someone of the opposite sex | .045   | .044   | .605   | .013   | .276   | .024   |
| #21 Having a conversation with someone of the opposite sex | – .135 | .056   | .835   | .126   | .013   | .078   |
| #22 Talking with other colleagues | .196   | .041   | .595   | .029   | .099   | .041   |
| Factor 4: Performance in formal social situations | –      | –      | –      | .343   | .396   |
| #4 Reading aloud in front of the class | .042   | .052   | .022   | .744   | .049   | .042   |
| #5 Writing while being observed | .190   | .224   | .040   | .328   | .149   | .106   |
| #26 Having an oral test or exam | – .021 | .068   | .009   | .744   | .011   | .015   |
| #28 Being asked to solve a problem on the blackboard | – .024 | .044   | .018   | .652   | .102   | .212   |
| #29 Taking the initiative of asking a question or for an explanation in a class or meeting | .026   | .029   | .093   | .545   | .215   | .036   |
| Factor 5: Assertive interaction | –      | –      | –      | –      | –      | .378   |
| #13 Expressing my feelings to the person I like | – .125 | .080   | .133   | .123   | .399   | .077   |
| #16 Saying “no” to a colleague who has asked me to do something I don’t want to | .153   | .017   | .102   | .154   | .416   | .042   |
| #18 Asking someone for a favor | .122   | .167   | .013   | .001   | .308   | .101   |
| #23 Asking a colleague to change a way of behaving which annoys me | .073   | .033   | .006   | .043   | .570   | .071   |
| #27 Complaining when someone tries to jump the queue | .081   | .017   | .031   | .037   | .512   | .111   |
| #34 Answering back to a colleague that is trying to make fun of me | .083   | .059   | .061   | .025   | .365   | .289   |
| Factor 6: Observation by others | –      | –      | –      | –      | –      | –      |
| #24 Making exercises during gym class | .060   | .019   | .19    | .115   | .023   | .752   |
| #25 Changing in the shower room | .200   | .054   | .115   | .087   | .044   | .563   |
| #31 Participating in a group sport | – .070 | .076   | .050   | .029   | .062   | .741   |
| #32 Crossing the hall, corridors or going to the canteen/school bar when it is full of students | .137   | .084   | .192   | .009   | .072   | .441   |

Notes: Values presented in line with the items represent loading values; Values presented in line with the factors represent correlation values.