

The Polish version of the Perth Alexithymia Questionnaire-Short Form (PAQ-S): psychometric properties and norms

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Abstract

Alexithymia is a trait involving difficulties identifying feelings, difficulties describing feelings, and an externally orientated thinking style. It is an important risk factor for a range of psychopathologies, and its assessment is therefore important in research and clinical settings. Originally created in English, the Perth Alexithymia Questionnaire-Short Form (PAQ-S) is a brief 6-item self-report measure of alexithymia. This study aimed to examine the psychometric properties of the first Polish version of the PAQ-S and to provide norms to help facilitate the interpretation of PAQ-S scores. Our sample was 1115 Polish-speaking adults (661 females, 438 males, and 16 non-binary gender) aged 18–72 from the general community in Poland. The PAQ-S's factor structure and measurement invariance was explored with confirmatory factor analysis, and the convergent and divergent validity of the questionnaire was assessed via relationships with psychopathology symptoms and well-being. As expected, the Polish PAQ-S demonstrated strong factorial validity, and was invariant across age and gender. Convergent and divergent validity was also empirically supported, and internal consistency reliability was good. Overall, the Polish PAQ-S therefore appears to have strong psychometric properties much like the original English form, with its brief format being promising for allowing robust alexithymia assessments in a range of settings. Percentile rank norms and high alexithymia cut-off scores for Polish adults are presented.

Keywords: alexithymia, norms, psychometric properties, psychopathology, questionnaire

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Introduction

Alexithymia is a trait characterized by difficulties identifying one's own feelings (DIF), difficulties describing one's own feelings (DDF), and an externally orientated thinking style (EOT) whereby one rarely focuses attention on their emotions [1, 2]. It was first coined in the 1970s by psychiatrists who often observed these emotion processing deficits in psychiatric patients [3]. High levels of alexithymia appear to impair

downstream emotion regulation abilities [4, 5], and high alexithymia is considered a key factor contributing to the development and maintenance of affective and psychosomatic disorders [6]. Therefore, its assessment is of high interest in clinical and research settings.

For assessing alexithymia, several popular self-report questionnaires have been developed, including the 20-item Toronto Alexithymia Scale (TAS-20) [7], the 40-item Bermond-Vorst Alexithymia Questionnaire (BVAQ) [8], and the 24-item Perth Alexithymia Questionnaire (PAQ) [9]. Of these, the PAQ has presently shown the best and most consistent psychometric performance amongst available comparison studies, including strong factorial validity, concurrent validity, discriminant validity, and high reliability across a range of population types and language versions (e.g., 10, 11,

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12, 13, 14, 15, 16, 17, 18, 19). The PAQ can conceptually provide a comprehensive alexithymia profile, via its capacity to generate a total scale score, as well as subscale scores for the various facets of alexithymia across negative and positive emotions. Originally developed in English, in the Polish context, the Polish translation of the PAQ has shown strong psychometric properties and has current Polish norms available to facilitate meaningful score interpretation [20].

Recently, a 6-item version of the PAQ was introduced, called the Perth Alexithymia Questionnaire-Short Form (PAQ-S) [21], with its brief format designed to enable alexithymia assessments in more time-pressured settings. The PAQ-S has items spanning the DIF, DDF, and EOT facets of the construct, and is designed to provide a total scale score across these as an overall marker of alexithymia. All PAQ-S items are answered on a 7-point Likert scale, with higher scores indicating higher alexithymia. The English version of the PAQ-S showed good psychometric performance across US and Australian samples in the original development study. Its structure conformed well to the intended 1-factor model (i.e., all items loading well on the general alexithymia factor), with the total score having good internal consistency reliability and correlating with other measures of alexithymia, psychopathology, and emotion regulation in expected ways [21]. However, there are presently no other published studies on the PAQ-S, and thus psychometric data are limited. There is also presently no Polish version.

Our aim in this study is therefore to introduce the first Polish version of the PAQ-S and assess its psychometric properties. Based on the theory and prior work on the PAQ-S [21] and the Polish PAQ [20], we anticipated (1) that the intended 1-factor structure of the PAQ-S would be a good fit to the data, (2) that the questionnaire would demonstrate measurement invariance across age and gender, (3) that the PAQ-S would have good internal consistency reliability, (4) and that higher alexithymia on the PAQ-S would correlate positively with markers of anxiety and depression symptoms, and negatively with well-being. We also present general community adult norms from Poland to help facilitate the interpretation of PAQ-S scores.

Material and methods

Participants and procedure

Our sample consisted of 1115 Polish-speaking adults (661 females, 438 males, and 16 non-binary) recruited from the general population in Poland, with ages ranging from 18 to 72 years (mean = 27.81, standard deviation = 10.90, median = 24.00). Most respondents

(42.33%) lived in large cities (above 100000 inhabitants), 21.88% in towns (from 20000 to 100000), 10.49% in small towns (up to 20000), and 25.29% in villages. Individuals with a higher education degree made up 35.43% of the respondents, with those with secondary education 53.90%, those with vocational education 5.38%, and those with primary school level education 5.29%. Among the respondents, 50.13% were single and 49.87% were in relationships.

The study was conducted in accordance with the Declaration of Helsinki Ethical Principles. The Kazimierz Wielki Ethics Committee approved the study (No. 1/13.06.2022, later revision 27.06.2023). The participants were recruited in July 2023 via researchers' social media, i.e., Facebook and Instagram, where there was a link to an online anonymous and voluntary survey by a Google Forms platform with an appended consent form. There was no reimbursement for the participants. All respondents provided their written informed consent digitally before completing the survey.

Measures

The Perth Alexithymia Questionnaire-Short Form (PAQ-S)

The PAQ-S [21] is a 6-item self-report measure of alexithymia. Items are scored on a 7-point scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*), with higher scores indicating a higher level of alexithymia. The instruction and the pool of six statements of the Polish version of the PAQ [20] was used as the base for creating the PAQ-S. A copy of the Polish PAQ-S is provided in Appendix 1.

The Patient Health Questionnaire-4 (PHQ-4)

The PHQ-4 is a 4-item self-report questionnaire for measuring anxiety and depression symptoms over the previous two weeks [22]. The PHQ-4 has two subscales: anxiety (two statements, e.g., *Feeling nervous, anxious, or on edge*) and depression (two statements, e.g., *Feeling down, depressed, or hopeless*). A total score can be also calculated as an overall marker of psychological distress. Statements are scored on a 4-point scale, ranging from 0 (*not at all*) to 3 (*nearly every day*). Higher scores indicate a higher level of symptoms. In this study, the Polish version of the PHQ-4 was used [23].

WHO-Five Well-being Index (WHO-5)

The WHO-5 is a 5-item self-report questionnaire for measuring positive well-being [24, 25]. Items (e.g., *I feel cheerful and in good spirits*) are scored on a 6-point scale, ranging from 0 (*at no time*) to 5 (*all the time*), with higher scores indicating a higher level of well-be-

ing. In this study, the Polish version of the WHO-5 was applied [26, 27].

Analytic strategy

Statistical analyses were carried out using Statistica 13.3 and R 4.3.0 with the *Javaan* (for confirmatory factor analysis and measurement invariance) and *psych* (for reliability analysis) statistical packages. There were no missing data, because all responses were mandatory.

Factor structure and measurement invariance

Confirmatory factor analysis with maximum likelihood estimation with robust standard errors and the Satorra–Bentler scaled test statistic was used. We tested a theoretically informed 1-factor model of the PAQ-S, where all six items were specified to load on a general alexithymia factor. As in the original study [21], three error terms (between items 1 and 2; items 3 and 6; items 4 and 5) were allowed to correlate. These item error term correlations were allowed as they reflect the underlying theoretical structure of the scale, linking the two items about the appraisal of negative emotions, the two items about the appraisal of positive emotions, and the two items specific to EOT [21].

Model goodness-of-fit was judged based on the following fit index values: root mean square error of approximation (RMSEA) with 90% confidence intervals (90% CI), standardized root mean square residual (SRMR), comparative fit index (CFI), and Tucker–Lewis index (TLI). RMSEA and SRMR values ≤ 0.08 indicate acceptable fit and values ≤ 0.06 excellent fit. CFI and TLI values ≥ 0.90 indicate acceptable fit and values ≥ 0.95 excellent fit [28].

The measurement invariance of the PAQ-S factor structure across two gender categories (females vs. males) and two age categories (younger people aged 18–29 vs. older people aged 30–72) was also examined. First, the goodness-of-fit was evaluated separately for each group. Second, the configural, metric, and scalar invariance models were tested. Models were compared in terms of the CFI, when an absolute difference in CFI (Δ CFI) of less than 0.01 supports invariance [29].

Internal consistency reliability

McDonald's omega values (ω) and Cronbach's alpha coefficients (α) with 95% confidence intervals were calculated. For these coefficients, values ≥ 0.70 were judged as acceptable, ≥ 0.80 as good, and ≥ 0.90 as excellent [30].

Convergent and divergent validity

We calculated Pearson correlations between PAQ-S scores and PHQ-4 scores (anxiety and

depression symptoms) for assessing convergent validity, and between PAQ-S scores and WHO-5 scores (well-being) for assessing divergent validity of the PAQ-S.

Predictive role of alexithymia in psychopathology symptoms and well-being

We conducted a set of regression analyses to examine whether PAQ-S scores could predict significant variance in psychopathology symptoms and well-being. Across three regression analyses, PAQ-S scores were used as the predictor. PHQ-4 anxiety scores, PHQ-4 depression scores, and WHO-5 well-being scores were used as the criterion variables.

Demographic differences

Pearson correlations between PAQ-S scores and age were calculated in the total sample and groups of females and males separately. We compared the PAQ-S scores between females and males as well as between younger and older adults using Student's *t*-tests. For this test, we calculated Cohen's *d* effect size with the following interpretation: < 0.20 very small, 0.20 – 0.49 small, 0.50 – 0.79 moderate, and ≥ 0.80 large [31]. The effect size was calculated using the Psychometrica calculator [32].

Group norms

We calculated percentile rank (PR) norms. PRs indicate the rank of an individual within a reference group, i.e., they show how many percent of the individuals in the reference group scored lower than the individual [33].

Results

Descriptive statistics

Table 1 presents descriptive statistics for all study variables. In the total sample, skewness scores ranged from 0.06 to 0.58, whereas kurtosis scores ranged from -1.25 to -0.31 , indicating that the study variables were reasonably normally distributed.

Factor structure and measurement invariance

In the total sample, the 1-factor model was a good fit to the data (Tab. 2), with all fit index values in the excellent or acceptable range [CFI = 0.983; TLI = 0.958; RMSEA = 0.077 (90% CI: 0.054; 0.102), SRMR = 0.020]. All PAQ-S items loaded well (from 0.421 to 0.736) on the general alexithymia factor (Tab. 3). The fit indices were similar across the two gender groups and two age groups (Tab. 2).

Table 1. Descriptive statistics and internal consistency reliability coefficients for the study variables

Scale/subscale	Total sample (n = 1115)				Females (n = 661)		Males (n = 438)		Non-binary (n = 16)	
	ω (95% CI)	α (95% CI)	M	SD	M	SD	M	SD	M	SD
PAQ-S Total score	0.81 (0.79; 0.82)	0.81 (0.79; 0.82)	19.78	8.91	19.62	9.00	19.72	8.65	27.94	8.76
PHQ-4 Anxiety	0.74 (0.70; 0.77)	0.74 (0.70; 0.76)	3.34	1.84	3.49	1.83	3.06	1.83	4.75	1.34
PHQ-4 Depression	0.77 (0.74; 0.80)	0.77 (0.74; 0.80)	2.90	1.94	2.96	1.94	2.78	1.93	3.94	1.81
PHQ-4 Total score	0.85 (0.83; 0.86)	0.84 (0.82; 0.85)	6.24	3.47	6.45	3.45	5.84	3.46	8.69	2.87
WHO-5 Total score	0.85 (0.84; 0.87)	0.85 (0.84; 0.87)	8.55	4.93	8.21	4.85	9.13	5.03	6.69	3.52

PAQ-S — Perth Alexithymia Questionnaire-Short Form; PHQ-4 — Patient Health Questionnaire-4; WHO-5 — WHO-Five Well-being Index; M — mean; SD — standard deviation, α — Cronbach's alpha; ω — McDonald's omega; CI — confidence interval

Table 2. Factor structure and measurement invariance for the PAQ-S 1-factor model across gender and age groups

Model	χ^2 (df)	CFI	TLI	RMSEA (90% CI)	SRMR	Δ CFI
Total sample (n = 1115)	36.163 (6)	0.983	0.958	0.077 (0.054; 0.102)	0.020	–
Females (n = 661)	28.051 (6)	0.980	0.950	0.087 (0.056; 0.121)	0.026	–
Males (n = 438)	14.706 (6)	0.987	0.967	0.065 (0.023; 0.107)	0.019	–
Younger people aged 18–29 (n = 776)	28.355 (6)	0.980	0.951	0.078 (0.051; 0.108)	0.023	–
Older people aged 30–72 (n = 339)	14.060 (6)	0.987	0.967	0.075 (0.022; 0.127)	0.025	–
Gender invariance						
Configural	43.292 (12)	0.982	0.956	0.079 (0.054; 0.105)	0.021	–
Metric	49.703 (17)	0.983	0.970	0.066 (0.045; 0.087)	0.028	0.001
Scalar	74.827 (22)	0.974	0.964	0.071 (0.054; 0.090)	0.039	–0.009
Age invariance						
Configural	41.651 (12)	0.983	0.957	0.077 (0.053; 0.104)	0.021	–
Metric	52.852 (17)	0.980	0.965	0.070 (0.049; 0.092)	0.040	–0.003
Scalar	65.204 (22)	0.977	0.968	0.066 (0.048; 0.085)	0.045	–0.003

χ^2 — chi-square statistic; df — degrees of freedom; CFI — comparative fit index; TLI — Tucker–Lewis index; RMSEA — root mean square error of approximation; CI — confidence intervals; SRMR — standardized root mean square residual

Table 3. Descriptive statistics of the PAQ-S statements and standardized factor loadings from confirmatory factor analysis (n = 1115)

PAQ-S statements	M	SD	Skewness	Kurtosis	Factor loadings
1. When I'm feeling <i>bad</i> (feeling an unpleasant emotion), I can't find the right words to describe those feelings.	3.83	2.16	0.13	–1.44	0.715
2. When I'm feeling <i>bad</i> , I can't tell whether I'm sad, angry, or scared.	3.28	2.13	0.46	–1.25	0.736
3. I tend to ignore how I feel.	3.79	2.15	0.12	–1.41	0.508
4. When I'm feeling <i>good</i> (feeling a pleasant emotion), I can't find the right words to describe those feelings.	3.13	2.03	0.56	–1.06	0.604
5. When I'm feeling <i>good</i> , I can't tell whether I'm happy, excited, or amused.	3.09	2.07	0.61	–1.05	0.596
6. I don't pay attention to my emotions.	2.65	1.95	0.95	–0.37	0.421

PAQ-S — Perth Alexithymia Questionnaire-Short Form; M — mean; SD — standard deviation. All factor loadings are statistically significant ($p < 0.001$).

As the fit indices were good for two gender groups and two age groups, we tested configural, metric and scalar invariance across gender and age separately (Tab. 2). The Δ CFI indicated full metric invariance for gender (Δ CFI = 0.001) and age (Δ CFI = –0.003), as well as full scalar invariance for gender (Δ CFI = –0.009) and age (Δ CFI = –0.003).

Internal consistency reliability

As displayed in Table 1, the PAQ-S total score showed good internal consistency reliability (ω and $\alpha = 0.81$).

Convergent and divergent validity

In the total sample, PAQ scores were positively correlated (all $ps < 0.001$) with anxiety symptoms ($r =$

Table 4. PR norms for the total sample (n = 1115)

Raw score	PR								
6	2.9	14	31.9	22	60.0	30	84.6	38	98.2
7	7.1	15	35.2	23	63.1	31	87.1	39	99.0
8	10.0	16	38.3	24	66.7	32	89.6	40	99.4
9	12.8	17	41.5	25	69.9	33	91.4	41	99.6
10	15.8	18	45.2	26	73.0	34	93.0	42	99.8
11	19.6	19	49.1	27	76.6	35	94.8	–	–
12	24.5	20	52.6	28	79.5	36	96.2	–	–
13	28.6	21	56.5	29	82.0	37	97.4	–	–

PR — percentile rank

=0.32), depression symptoms ($r = 0.36$), and the PHQ-4 Total score ($r = 0.37$), as well as negatively correlated with well-being ($r = -0.29$), thus supporting good convergent and divergent validity.

Predictive role of alexithymia in psychopathology symptoms and well-being

Our regression analyses indicated that PAQ-S scores were a significant (all p s < 0.001 for betas) positive predictor of anxiety symptoms ($F_{(1, 1113)} = 128.69$, $p < 0.001$, $R^2 = 10.4\%$, $\beta = 0.32$) and depression symptoms ($F_{(1, 1113)} = 162.65$, $p < 0.001$, $R^2 = 12.8\%$, $\beta = 0.36$), as well as a negative predictor of well-being ($F_{(1, 1113)} = 105.258$, $p < 0.001$, $R^2 = 8.6\%$, $\beta = -0.29$). This indicated good support for the clinical relevance of the PAQ-S.

Demographic differences

In the total sample, age was reasonably normally distributed (skewness = 1.65, kurtosis = 2.54). Pearson correlations between PAQ-S scores and age were negative and statistically significant for the total sample ($r = -0.25$, $p < 0.001$) and the female sample ($r = -0.34$, $p < 0.001$), whereas insignificant for the male sample ($r = -0.08$, $p > 0.05$). This indicated that younger females tended to have higher levels of alexithymia, whereas males appeared to have relatively stable alexithymia levels across life-span in these data.

The Student's t -test revealed no statistically significant differences in PAQ-S scores between females and males ($t = -0.19$, $df = 1097$, $p > 0.05$, Cohen's $d = -0.011$, indicating a very small effect size). There were statistically significant differences between younger people aged 18–29 ($M = 21.19$, $SD = 8.64$) and older people aged 30–72 ($M = 16.53$, $SD = 8.68$; $t = 8.27$, $df = 1113$, $p < 0.001$, Cohen's $d = -0.539$, indicating a moderate effect size), with younger people reporting higher levels of alexithymia.

Group norms

As there were no statistically differences in alexithymia between females and males, but there were stati-

stically significant differences between two age groups with a moderate effect size, we calculated current group norms for the total sample and these two age groups separately.

Table 4 contains PR norms for the total sample. In general, PRs of ≤ 15 indicate low levels of traits (or characteristics), PRs from 16 to 84 indicate average levels, and PRs of ≥ 85 indicate high levels [34]. Using this classification for the PAQ-S norms for the total sample, raw PAQ-S scores from 6 to 9 indicate "low level of alexithymia" in this Polish sample, whereas raw PAQ-S scores from 10 to 29 indicate "average level of alexithymia", and raw PAQ-S scores from 30 to 42 indicate "high level of alexithymia". Alternative cut-off scores specific to younger and older age categories are provided in Appendix 2.

Discussion

The aim of this study was to introduce the Polish version of the PAQ-S and examine its psychometric properties. Overall, the validity and reliability of the PAQ-S were supported. The questionnaire was characterized by the theoretically congruent 1-factor structure, which is in line with the results presented in the original validation study [21] and with the status of the alexithymia construct as having a strong general factor [2]. We also noted the invariance of the PAQ-S across gender and age groups. These findings therefore suggest that the latent structure of the alexithymia construct, as measured by the PAQ-S, operates similarly across females and males, as well as younger people and older people. This highlights that latent means (total PAQ scores) can be meaningfully compared across these demographic groups [35]. Furthermore, the internal consistency reliability of the Polish PAQ-S was high, suggesting good capacity to robustly measure the alexithymia construct even with just six items.

The PAQ-S's convergent and divergent validity was also supported empirically; higher PAQ-S scores were positively associated with psychopathology symptoms,

and negatively with well-being. These findings are in line with those in the original English version study of the PAQ-S [21], as well as being consistent with the broader alexithymia literature. Our results reinforce that the PAQ-S is therefore measuring a construct with high clinical relevance.

In terms of demographic differences in alexithymia, we found that younger people (aged 18–29) tended to report higher alexithymia than older adults (aged 30–72) with a moderate effect size, and we noted no statistically significant gender differences. We examined how age was related to alexithymia in the total sample, and we found a statistically significant link. After that, we assessed these relationships in females and males separately, and we revealed that, with age, females tended to have lower levels of alexithymia, whereas males appeared to have relatively stable alexithymia levels across the life-span. As our study was cross-sectional, this conclusion is tentative, and longitudinal research is required to examine these patterns. Notwithstanding, it should be highlighted that similar age-gender specific patterns within emotional variables have been shown in some other studies. For instance, the Polish studies on emotional reactivity [36, 37] showed changes towards a more favourable emotional status in females with age. In Polish samples, specific age-gender relationships with somatic symptoms were also observed [38]. Based on these studies, and in order to provide relevant conclusions on the role of age in psychosomatic variables, including alexithymia, we recommend calculating correlations between age and these variables separately for females and males.

We examined whether PAQ-S scores could predict significant variance in ill-being (i.e., anxiety and depression symptoms) and well-being. Our results indicated that PAQ-S scores meaningfully predicted participants' levels of psychopathology symptoms, similar to findings that have previously been observed for the 24-item PAQ [21]. Alexithymia, as measured by PAQ-S, was also a statistically significant negative predictor of general well-being, with a considerable amount of explained variance ($R^2 = 8.6\%$), supporting that alexithymia is not only a transdiagnostic risk factor for psychopathology symptoms, but more broadly is also a risk factor for decreased well-being. As such, the PAQ-S seems to be a good choice for a brief and robust evaluation of alexithymia.

As we revealed no statistically significant gender differences, but did find age differences in PAQ-S scores, we developed current PR norms for the total sample and two age groups (see Appendix 2). As alexithymia is a continuous (rather than categorical) construct, we

use the labels here “low level of alexithymia”, “average level of alexithymia”, and “high level of alexithymia” (rather than classifying cases as either “alexithymic” or “non-alexithymic”). Our data suggest that in a Polish sample or context, a cut-off score of 30 is indicative of a “high level of alexithymia”. This cut-off score, indicating characteristic alexithymia elevations when used in the Polish context, might help guide psychotherapeutic strategies (i.e., in clinical settings, cases where high alexithymia is present, and therefore might be a useful target of intervention), and could be also helpful in conducting primary prevention of mental disorders given the status of alexithymia as a risk factor for the onset of psychopathology [39, 40].

Limitations of the study

We believe that our study makes a useful contribution; however, several limitations should be indicated. We did not examine the test-retest reliability of the PAQ-S, and did not test the questionnaire in clinical samples. As we did not examine directly relationships of the PAQ-S with the full Polish PAQ [20], or how the PAQ-S and PAQ compare in their relationships to other constructs, this will be an important direction for future work. Our study is cross-sectional; therefore, no conclusions can be drawn regarding the temporal order of alexithymia and its correlates. As such, future research will be required to test the general applicability of our findings in different samples and settings.

Conclusions

The Polish version of the PAQ-S appears to be a promising new questionnaire to assess alexithymia in a general community sample. Its brief format should help to enable the assessment of alexithymia in a wider range of time-pressured settings.

Article information

Data availability statement

The data that support the findings of this study are available from the corresponding author upon reasonable request.

Ethics statement

The study was conducted in accordance with the Declaration of Helsinki Ethical Principles. The Kazimierz Wielki Ethics Committee approved the study (No. 1/13.06.2022, later revision 27.06.2023). All respondents provided their written informed consent digitally before they completing the survey.

Author contributions

Paweł Larionow (85%): conceptualization, formal analysis, data curation, investigation, methodology, writing, reviewing and editing, and project administration.

David A. Preece (10%): writing, reviewing, and editing.

Karolina Mudło-Głagolska (5%): data curation, and investigation.

All authors approved the final article and agreed to the authorship order.

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Conflict of interest

The authors state no conflict of interest.

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Appendix 1. The Polish version of the Perth Alexithymia Questionnaire-Short Form (PAQ-S; Polish version: Larionow et al., 2023, based on Preece et al. [21])

Kwestionariusz aleksytymii Perth — krótka wersja

W tym kwestionariuszu pytamy o Twoje postrzeganie i doświadczanie emocji. **Oceń, czy podane stwierdzenia są prawdziwe dla Ciebie — czy zgadzasz się z nimi, czy nie zgadzasz.** Zakreśl kółkiem jedną odpowiedź dla każdego ze stwierdzeń.

Część pytań dotyczy „negatywnych” czy nieprzyjemnych emocji, takich jak smutek, złość czy strach. Niektóre pytania odnoszą się do „pozytywnych” lub przyjemnych emocji, takich jak radość, zadowolenie czy ekscytacja.

		Zdecydowanie się nie zgadzam	Ani się zgadzam, ani się nie zgadzam	Zdecydowanie się zgadzam
1	Kiedy czuję się <i>źle</i> (odczuwam nieprzyjemną emocję), trudno mi znaleźć odpowiednie słowa, by opisać moje uczucia.	1	2	3	4	5	6	7
2	Kiedy czuję się <i>źle</i> , trudno mi stwierdzić, czy odczuwam smutek, złość czy strach.	1	2	3	4	5	6	7
3	Mam tendencję do ignorowania tego, jak się czuję.	1	2	3	4	5	6	7
4	Kiedy czuję się <i>dobrze</i> (odczuwam przyjemną emocję), trudno mi znaleźć odpowiednie słowa, by opisać moje uczucia.	1	2	3	4	5	6	7
5	Kiedy czuję się <i>dobrze</i> , trudno mi stwierdzić, czy odczuwam radość, zadowolenie czy ekscytację.	1	2	3	4	5	6	7
6	Nie zwracam uwagi na moje emocje.	1	2	3	4	5	6	7

Obliczanie wyników

Odpowiedzi na pytania zawarte w PAQ-S udzielane są na 7-punktowej skali Likerta (od 1 do 7), przy czym wyższe wyniki wskazują na wyższe nasilenie aleksytymii (zakres wyników od 6 do 42). Aby obliczyć wynik PAQ-S, należy zsumować wyniki wszystkich sześciu pozycji; jest on ogólnym wskaźnikiem poziomu aleksytymii.

Appendix 2. Percentile rank norms for two age groups

Younger people aged 18–29 (n = 776)						Older people aged 30–72 (n = 339)					
Raw score	PR	Raw score	PR	Raw score	PR	Raw score	PR	Raw score	PR	Raw score	PR
6	1.5	19	43.1	32	87.4	6	6.0	19	63.0	32	94.4
7	3.8	20	46.9	33	89.4	7	14.7	20	65.8	33	95.9
8	5.5	21	51.1	34	91.4	8	20.2	21	68.7	34	96.8
9	7.5	22	54.8	35	93.5	9	25.1	22	71.8	35	97.6
10	10.1	23	58.2	36	95.3	10	28.9	23	74.5	36	98.2
11	13.5	24	61.9	37	96.7	11	33.6	24	77.7	37	98.8
12	17.7	25	65.3	38	97.7	12	40.1	25	80.5	38	99.4
13	21.4	26	68.9	39	98.6	13	45.1	26	82.3	39	99.7
14	24.6	27	72.9	40	99.3	14	48.5	27	85.1	40	99.7
15	27.6	28	75.9	41	99.5	15	52.4	28	87.8	41	99.7
16	30.8	29	78.8	42	99.8	16	55.3	29	89.4	42	99.9
17	34.7	30	81.9	–	–	17	56.9	30	90.9	–	–
18	39.0	31	84.8	–	–	18	59.6	31	92.5	–	–

PR — percentile rank

Cut-off scores for low, average, and high levels of alexithymia in a Polish sample or context

For younger people aged 18–29, raw PAQ-S scores from 6 to 11 indicate “low level of alexithymia”, whereas raw PAQ-S scores from 12 to 30 indicate “average level of alexithymia”, and raw PAQ-S scores from 31 to 42 indicate “high level of alexithymia”.

For older people aged 30–72, raw PAQ-S scores from 6 to 7 indicate “low level of alexithymia”, whereas raw PAQ-S scores from 8 to 26 indicate “average level of alexithymia”, and raw PAQ-S scores from 27 to 42 indicate “high level of alexithymia”.

Interpretation of percentile rank norms

Percentile ranks indicate the rank of an individual within a reference group, i.e., they show how many percent of the individuals in the reference group scored lower than the individual [33]. For instance, if the participant aged 18–29 has PAQ-S score of 10, and this refers to PR of 10.1, all that means that this participant has a higher alexithymia than 10.1% people aged 18–29.