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Psychometric evaluation of the Polish students adaptation of the Aggression Questionnaire

The four-factor structure and psychometric properties of the Polish students adaptation of the Buss and Perry (1992) Aggression Questionnaire were investigated. The exploratory factor analyses of the responses of 604 Polish participants generally supported the four-factor model. The factors included Physical Aggression, Verbal Aggression, Anger and Hostility. The correlations between subscales, internal consistency and stability over time were evaluated and proved to be satisfactory. Apart from gender differences, 48 prison inmates and 48 students were interviewed to determine the validity of the Aggression Questionnaire by testing for hypothesized differences between groups. Aggression Questionnaire showed cross-cultural differences in aggression between various nations.

Keywords: Aggression Questionnaire; Polish adaptation; Factor analysis; Gender differences; Cross-cultural difference

Introduction

The Buss-Durkee Hostility Inventory (BDHI: Buss & Durkee, 1957) has been one of the most frequently used self-report measures of the trait of aggression. The questionnaire consisted of 66 items in the true-false format. The major advantage of inventory was its ability to measure seven dimensions of aggressive behavior: Assault, Indirect aggression, Irritability, Negativism, Resentment, Suspicion and Verbal aggression. These subscales were created without any factor analysis, only on the basis of face validity. Critical points of BDHI were the lack of factor analytic methods, binary format of items and the fact that some items related to more than one subscale. The sample size used in the development – the BDHI – was not very large, consisting of 173 participants.

Buss & Perry (1992) created the Aggression Questionnaire, which initially consisted of 52 items and represented the updated version of the BDHI. The authors intended to assess six aggression dimensions: Physical Aggression, Verbal Aggression, Anger, Indirect Aggression, Resentment and Suspicion. Moreover, they used a scale in the 5-point response format. Three samples of participants, containing 400 students each, were involved

in the development of the questionnaire. The exploratory factor analysis of the aggression items with the oblimin rotation was conducted on the first sample. Four subscales were established to be of maximal interpretation: Physical Aggression, Verbal Aggression, Anger and Hostility. During the confirmatory factor analysis conducted on the second and third sample this result was confirmed. Of the list of 52 items, 23 were excluded because they did not meet criteria - an item had to load at least .35 on its own factor and less than .35 on any other factor. The final version of the Aggression Questionnaire consists of 29 items. The construction of the questionnaire showed adequate internal consistency and stability over time.

English-speaking samples and several studies based on non-English language participants showed various results but generally confirmed four-factor model of the Aggression Questionnaire. Harris (1995) revealed that questionnaire might be improved, if two items were removed from the scale. Convergent results showed the psychometric validity conducted by Nakano (2001) on Japanese adaptation. Evaluation study in Dutch sample by Meesters, Muris, Bosma, Schouten, & Beuving (1996) elicited that a better fit of the four-factor structure was obtained by discarding three items. Harris (1997) and Berstein & Gesn (1997)

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conducted further analysis and proved that original Buss & Perry four scale format had good reliability and construct validity (internal consistency and test-retest stability). Also, another studies developed in different languages by Fossati, Maffei, Acquarini, & Di Ceglie (2003) in Italy, von Collani & Werner (2005) in Germany and Garcia-Leon et al. (2002) in Spain supported the four-factor structure.

The Polish version of Buss-Perry Aggression Questionnaire (AQ; Buss & Perry, 1992) was translated by Amity (Siekierka, 2005) with original questionnaire authors permission. Authors of Polish version maintained that translation was done carefully including back-translation from Polish to English and has been compared with original Aggression Questionnaire. We decided to examine scientific properties of this tool, because of lack of hard statistical evidence about Polish version and increasing popularity of the questionnaire.

The present study was intended to confirm the four-factor structure and to examine the psychometric properties and the internal consistency of the Aggression Questionnaire in a Polish students sample. The second purpose of this study was to determine test-retest reliability of this instrument. The third aim was to examine the ability of the Aggression Questionnaire to discriminate hypothesized differences between prison inmates and university students. Finally, we compared the cross-cultural differences in aggression between various nations tested by Aggression Questionnaire.

STUDY 1

The first study was intended to examine reliability, construct validity and psychometric properties of the Polish version of the Aggression Questionnaire.

Materials & Methods

Participants

The participants comprised undergraduate students from the University of Wrocław, Wrocław University of Environmental and Life Sciences, Wrocław University of Technology and Wrocław University of Economics. They were students from a wide variety of courses across different faculties (mostly Pedagogical, Biological and Food Science) at the university, thus making the sample quite heterogeneous. They were part-time and full-time students. Participation in this research was completely voluntary, and responses were held anonymous. The total number of respondents in the study was 604 (332 women and 272 men). The proportions of sex (54.97% and 45.03%) were very similar to the real Lower Silesian students sex ratio (55.4% and 44.6%) and national sex ratio (56.7% and 43.3%) published by Central Statistical Office in 2007 (Dmochowska et al., 2007). Their mean age was 23.70 years ($SD = 3.29$). There were significant sex differences

concerning age $t = -3.11, p < .01$ (women: $M = 23.32, SD = 3.69$; men: $M = 24.16, SD = 2.67$).

To estimate test-retest reliability we used a subsample which comprised of 59 students (33 women and 26 men) of the University of Wrocław. Their mean age was 21.57 ($SD = 1.13$). There were not sex differences concerning age (women: $M = 21.53, SD = .90$; men: $M = 21.62, SD = 1.38$).

Instruments

The Total Aggression scale of Buss-Perry Aggression Questionnaire contained four subscales: Physical and Verbal Aggression, Anger and Hostility. The assignment of the items to the components was as follows: Anger (items 1, 9, 12, 18, 19, 23, 28); Physical Aggression (items 2, 5, 8, 11, 13, 16, 22, 25, 29); Hostility (items 3, 7, 10, 15, 17, 20, 24, 26); Verbal Aggression (items 4, 6, 14, 21, 27). The five-point scale was used: (1) Never or hardly applies to me, (2) Usually does not apply to me, (3) Sometimes applies to me, (4) Often applies to me and (5) Very often applies to me. Both 9 and 16 were the reversed scored items.

Procedure

This study is a part of work collected in 2006-2012 for a master's thesis and doctoral thesis focused on aggression and a variety of anthropological and social features. Participants were asked to fill in the information regarding their age and the Aggression Questionnaire in group sessions in their classes.

Statistical analysis

All statistical analyses were conducted by using Statistica 10.0. Because most of the examined characteristics had a normal distribution, we used parametric tests in further analysis.

Results

Factor analysis and internal consistency

The correlation matrix of the 29 items was subjected to principal component analysis and Quartimax rotation. The first eight component eigenvalues were 5.29, 2.91, 1.85, 1.59, 1.19, 1.15, 1.08, 1.00, .93 and .90, respectively. Thus, eight components had eigenvalues that were equal to or greater than 1.0, according to Kaiser (1960) criterion. But, an inspection of the eigenvalue curve revealed a four-factor structure in compliance with the Cattell's (1966) scree-test and Buss & Perry's (1992) that no more than four factors were needed to describe the item structure. We selected items that loaded at least .35 on its own factor but less than .35 on any other factor. The four factors accounted for 40.15% of the variance and the model based upon Buss & Perry's (1992) item assignment accounted for 5.35% more than this (45.5%). The contribution of the single factors were 18.26%, 10.02%, 6.38% and 5.49%. These factors

Table 1 Factors loadings of the Polish version of the Aggression Questionnaire.

	Factor			
	(F1)	(F2)	(F3)	(F4)
Anger (Cronbach's $\alpha = .73$)				
1. Some of my friends think I'm a hot head	.48*	.06	.26	-.31
9. I am an even-tempered person ^f	.54*	-.03	-.13	-.10
12. I flare up quickly but get over it quickly	.54*	.12	.15	-.11
18. I have trouble controlling my temper	.66*	.17	-.11	.11
19. When frustrated, I get my irritation show	.50*	-.01	-.12	.20
23. I sometimes feel like a powder keg ready to explode	.64*	.19	-.01	.12
28. Sometimes I fly off the handle for no good reason	.69*	.04	.00	.14
Physical Aggression (Cronbach's $\alpha = .76$)				
2. If I have to resort to violence to protect my rights, I will	-.03	.54*	.24	.00
5. I have become so mad that I have broken things	.42*	.35*	-.09	.02
8. Once in a while I can't control the urge to strike another person	.37*	.59*	-.14	.08
11. I have threatened people I know	.15	.36*	.25	.17
13. Given enough provocation, I may hit another person	.02	.82*	.06	.06
16. I can think of no good reason for ever hitting a person ^f	-.08	.45*	.05	-.06
22. If somebody hits me, I hit back	.09	.67*	.14	-.08
25. There are people who pushed me so far that we came to blows	.12	.73*	-.07	.11
29. I get into fights a little more than the average person	.13	.59*	-.11	-.06
Verbal Aggression (Cronbach's $\alpha = .64$)				
4. I tell my friends openly when I disagree with them	-.01	-.07	.69*	.00
6. I can't help getting into arguments when people disagree with me	.50*	.11	.23	.00
14. When people annoy me, tell them what I think of them	.15	.29	.58*	-.04
21. I often find myself disagreeing with people	.20	.09	.25	.39*
27. My friends say that I'm somewhat argumentative	.60*	.05	.33	.09
Hostility (Cronbach's $\alpha = .55$)				
3. When people are especially nice, I wonder what they want	.08	.12	.21	.62*
7. I wonder why sometimes I feel so good about things	.45*	.03	.38*	.10
10. I am suspicious of overly friendly strangers	-.05	.21	.33	.57*
15. I am sometimes eaten up with jealousy	.27	.13	-.20	.22
17. At times I feel I have got a raw deal out of life	.40*	-.16	-.19	.40*
20. I sometimes feel that people are laughing at me behind my back	.32	.00	-.25	.58*
24. Other people always seem to get the breaks	.34	-.13	-.26	.51*
26. I know that "friends" talk about me behind my back	.25	.10	-.13	.49*

n = 604 * Salient (> .35) ^f The scoring of these items was reversed

Table 2 Correlations and effect size among the aggression subscales.

Subscale	Physical Agg.	Verbal Agg.	Hostility
Anger	.31*** / .65 (.49/.82)	.42*** / .92 (.75/1.09)	.44*** / 1.00 (.83/1.17)
Physical Agg.		.30*** / .63 (.47/.80)	.20*** / .41 (.24/.57)
Verbal Agg.			.30*** / .62 (.46/.79)

$N = 604$ *** $p < .001$

Pearson's r -value, effect size d and confidence interval (95%) associated with d value (in parenthesis)

Table 3 Sex differences in the four aggression subscales.

Subscale	Women		Men		d	CI	t	p
	$n = 332$		$n = 272$					
	M	SD	M	SD				
Anger	20.64	5.32	17.68	5.21	.56	.40/.73	6.88	< .001
Physical Aggression	17.88	5.42	22.47	6.02	-.81	-.97/-.64	-9.86	< .001
Verbal Aggression	15.85	3.61	16.04	3.23	-.06	-.22/.10	-.69	.49
Hostility	23.59	5.33	21.66	5.10	.37	.21/.53	4.53	< .001
Total score	77.96	14.61	77.85	14.12	.01	-.15/.17	.09	.93

Sample size, mean, standard deviation, effect size d , confidence interval (95%) associated with d value, Student's t and p -value.

were called: (F1) Anger; (F2) Physical Aggression; (F4) Verbal Aggression; (F4) Hostility.

All seven items of the Anger subscale loaded together on one single factor F1. However, six items from other subscales (two pertained to Physical Aggression, two to Verbal Aggression and two Hostility items) had their loadings on this factor. All seven Physical Aggression items belonged to factor F2 but two of them (item No. 5 and 8) also loaded on factor F1. The two Verbal Aggression items loaded on factor F3 and two of them (item No. 6 and 27) belonged only to factor F1. The remaining one item (item No. 21) of Verbal Aggression subscale loaded only on factor F4. Six of the eight Hostility items belonged to factor F4 and one of them (item No. 17) also loaded on factor F1. The remaining one item belonged to factor F1 and F3 (item No. 7) and the last one (item No. 15) had lower than 0.35 loading. In total, 25 of the 29 items of the AQ could be assigned by their primary loadings to the same factors as in the original Buss and Perry's model. Furthermore, factor F1 contained all items from the Anger subscale, it also included several items from other subscales. Almost clear interpretation showed factor F2 comprised nine of nine items although two of them had also contribution

to another factor. The remaining two factors had an unequivocal interpretation. Factor F3 comprised two of five items and factor F4 six of eight items. Some of these items had contributions to another factors and one item did not load on any factor. Table 1 indicated that the results of the factor analysis partially supported the four-scale model designed by Buss & Perry (1992).

Internal consistency of the four subscales and the total score ($\alpha = .82$) was evaluated by the Cronbach's alpha coefficient. The alpha for the total score showed considerable internal consistency and the alphas for the subscales presented lower but adequate scores ($\alpha = .55 - .76$).

The results in Table 1 suggest that all subscales are slightly less homogeneous than the original Buss & Perry (1992) Aggression Questionnaire.

Correlations

The correlations among the subscales are presented in Table 2. Anger correlated moderately with the other three factors. The effect size between these subscales were big ($d = .65$ to $.1.00$). Physical Aggression, Verbal Aggression and Hostility subscales intercorrelated less strongly, and also effect sizes were small to medium ($d = .41$ to $.63$).

The results are similar to those obtained by Buss & Perry (1992), but the value of our scores was lower than the scores of the original version.

Only in women the age effect was observed. With age a level of Hostility ($r = -.16, p < .01$) and total score ($r = -.13, p < .05$) decreased.

Sex differences

Table 3 contains the means and standard deviations for the four subscales and their total, broken down by gender. Men had significantly higher scores only in Physical Aggression ($t = -9.86, p < .001$), whereas women had significantly higher scores in Anger ($t = 6.88, p < .001$) and Hostility ($t = 4.53, p < .001$). Physical aggression was the most sexually dimorphic of the aggression indices ($d = -.81$) and the next two subscales: Anger ($d = .56$) and Hostility ($d = .37$) were moderately dimorphic. No significant differences between men and women were found on Verbal Aggression and total score. Interestingly, women had almost equal total scores to the men's scores.

Reliability Analyses

Test-retest reliabilities were conducted on a subsample of 59 participants (33 women and 26 men) who filled in the Aggression Questionnaire twice with a one-month interval. The test-retest correlations were as follows: Anger .78, Physical aggression .89, Hostility .71, Verbal aggression .72 and Total score .81. These results suggest good stability over time.

STUDY 2

The aim of the second study was to determine the validity of the Aggression Questionnaire by testing for hypothesized differences between groups of prison inmates and students.

Materials & Methods

Participants

The first group of this study consisted of 48 inmates of a No. 1 Prison in Wrocław. They were males sentenced for more serious offenses with mean age of 23.03 ($SD = 3.10$). The second group was made up of 48 randomly selected male students involved in study 1, with mean age of 23.35 ($SD = .40$). There were not significant sex differences concerning age.

Procedure

University students were asked to fill in the information regarding their age and the Aggression Questionnaire in group sessions in their classes. Instruments for inmates were delivered to a warder and he distributed the Aggression Questionnaire among the participants.

Results

The means and standard deviations of both groups are displayed in Table 4. For inmates the Cronbach's alphas were as follows: Anger ($\alpha = .53$), Physical Aggression ($\alpha = .75$), Verbal Aggression ($\alpha = .47$), Hostility ($\alpha = .66$) and the total score ($\alpha = .79$). These values were lower (Anger, Verbal Aggression and total score), comparable (Physical Aggression) and higher (Hostility) than students alphas. As we expected, inmates showed higher scores than students in almost all subscales (except Hostility and Verbal Aggression) and total score of the Aggression Questionnaire. The statistical analyses elicited that differences in Physical Aggression ($t = -4.88, p < .001$) and total score ($t = -2.16, p < .05$) between both groups are highly significant. Likewise, the effect size between these subscales was big ($d = -1.00$) and medium ($d = -.44$), respectively. No significant differences between inmates

Table 4 Group differences in the subscales of the Aggression Questionnaire.

Subscale	University students		Prison inmates		<i>d</i>	CI	<i>t</i>	<i>p</i>
	<i>n</i> = 48		<i>n</i> = 48					
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>				
Anger	16.90	5.24	18.50	5.19	-.31	-.71/.09	-1.51	.47
Physical Agg.	21.31	5.80	27.92	7.36	-1.00	-1.42/-.57	-4.88	< .001
Verbal Agg.	15.58	3.51	15.35	4.72	.06	-.35/.46	.27	.79
Hostility	21.50	5.01	20.25	4.69	.26	-.14/.66	1.26	.21
Total score	75.29	14.49	82.02	15.94	-.44	-.85/-.04	-2.16	< .05

Sample size, mean, standard deviation, effect size *d*, confidence interval (95%) associated with *d* value, Student's *t* and *p*-value.

and students were revealed in Anger, Verbal Aggression and Hostility subscales.

STUDY 3

The purpose of the third study was to compare the cross-cultural differences in aggression between various nations examined by Aggression Questionnaire.

Participants

Samples used in this study were similar in respect of age and educational status. Original USA student sample was composed of 612 men and 641 women students ranged from 18 to 20 years of age (Buss & Perry, 1992). Japanese sample was consisted of 169 men and 256 women who were undergraduate students with age ranged from 18 to 24 years (Nakano, 2001). Spanish sample made up 90 men and 294 women who were characterized by mean age of 21.6 years ($SD = 5.6$) (Garcia-Leon et al., 2002). Canadian students sample was comprised of 149 men and 149 women with median age of 19 years (Bailey & Hurd, 2005). Another Polish sample was composed of 87 men and 95 women with age ranged from 18 to 24 years (Tucholska, 1998).

Results

The comparison of the results of our tests on aggression according to the Aggression Questionnaire subscales with the results of other authors for men and women similar in age living in different geographic and cultural regions – Canada, Poland, Spain, USA, Japan seems to be interesting. As it is presented in table 5 young people depending on the country

differed with the subscale of aggression. The comparison revealed that young Japanese and Spanish men were characterised with the lower level of total score. Higher, similarly high level of total score was presented by men from USA, Poland and Canada. Similarly the lowest level of total score characterises young Japanese women and the highest one was observed in female Poles and Spanish and a bit lower in female Canadians and Americans. Generally both men and women coming from Japan and Spain were characterised by the lowest level of any kind of aggression. Young Spanish men had low Physical Aggression and Hostility but high Verbal Aggression and Anger. Young Japanese men, however, did not present any of the tested types of aggression. In the tested group Polish men and women were characterised by a high level of each type of aggression and young Poles took the first place in almost each type of aggression and the total score ranking.

Polish students were different in comparison with another polish sample of young men and women. Tucholska (1998) found sex differences in Physical Aggression, Verbal Aggression, Hostility and total score, all in men direction. Men students had higher scores only in Physical Aggression. Polish women students showed higher scores on Anger and Hostility subscales than men students. Women students presented higher and men students exhibited lower level of total score than second Polish sample.

Discussion

The main purpose of this work was to replicate the four-factor structure and the psychometric properties of the Aggression Questionnaire (AQ: Buss & Perry, 1992) on a

Table 5 Comparison of the AQ subscales levels between women and men living in different regions.

Subscale	Krukowski et al. (2012)		Tucholska (1998)		Buss & Perry (1992)		Nakano (2001)		Garcia-Leon et al. (2002)		Bailey & Hurd (2005)	
	Women (n=332)	Men (n=272)	Women (n=95)	Men (n=87)	Women (n=641)	Men (n=612)	Women (n=256)	Men (n=169)	Women (n=294)	Men (n=90)	Women (n=149)	Men (n=149)
Anger	20.64	17.68	19.2	19.1	17.9	24.3	17.6	22.6	11.0	13.2	17.54	24.45
Physical agg.	17.88	22.47	18.9	22.9	13.5	15.2	9.7	11.9	21.1	22.8	14.39	15.56
Verbal agg.	15.85	16.04	14.5	15.7	16.7	17.0	16.6	17.1	28.7	24.9	16.94	17.55
Hostility	23.59	21.66	21.8	23.6	20.2	21.3	16.7	17.6	9.6	8.8	22.68	21.45
Total score	77.96	77.85	74.3	81.4	68.2	77.8	60.6	69.2	76.1	74.3	69.55	79.01

Polish students sample using exploratory factor analysis. The original Buss & Perry (1992) AQ revealed four specific factors called: Physical Aggression, Verbal Aggression, Hostility and Anger. The authors interpreted these subtraits of aggression as instrumental or motor component (Physical and Verbal Aggression), emotional or affective component (Anger) and cognitive component (Hostility). The results of this study generally support the four-factor structure of the AQ in the Polish adaptation of this instrument. But a factor loadings of the single items did not agree in all cases with the original subscales. Particularly, Verbal Aggression and Hostility subscale items showed relevant overlap with the Anger factor. Item No. 15 of Hostility found to has relatively low factor loadings. Two reversed scored items had sufficient loadings and this is in contrast with the Nakano (2001) results and in line with findings of Garcia-Leon (2002) and von Collani & Werner (2005). Some authors confirm that removing two Hostility items (Harris, 1995), one Verbal Aggression and two Hostility items (Meesters et al., 1996) or one Physical Aggression and one Anger item (Nakano, 2001) improve the measure of the questionnaire. Our results are similar to those of Meesters et al. (1996), because of low loadings exactly these same two Verbal Aggression items. The observed discrepancies between original English version of the AQ and Polish adaptation could be explained by a translation artifact, or may be due to cultural bias. These results were in line with the previous findings (e.g. Fossati et al., 2003; Garcia-Leon et al., 2002; Meesters et al., 1996; Nakano, 2001; von Collani & Werner, 2005), which confirmed the four-factor structure of the questionnaire, however with some exceptions.

Physical and Verbal Aggression, as it might be expected, were correlated because both factors belong to the same instrumental or motor component of aggression construct. Physical Aggression subscale modestly correlated with Hostility component. Nevertheless, relations was not so strong as in the original AQ but convergent with another non-English language samples (e.g. Garcia-Leon et al., 2002; von Collani & Werner, 2005). Anger subscale was moderately related to other three components (Physical Aggression, Verbal Aggression and Hostility) and these relations were slightly weaker than in the original AQ. We also found a moderate correlation with the Hostility subscale and the Verbal Aggression component. The relation was stronger than in original AQ and in similar studies (e.g. Garcia-Leon et al., 2002; von Collani & Werner, 2005). The internal consistency of the four factors and the total score was sufficient but lower than in the original version. The test-retest correlations suggested good stability over time and were similar to the original AQ.

Like in other studies (e.g. Buss & Perry, 1992; Garcia-Leon et al., 2002; Tucholska, 1998; von Collani & Werner, 2005) men had significantly higher scores on Physical Aggression subscale. Physical Aggression is more biologically

proximal to men than women for various selective pressures in the environment of evolutionary adaptedness. Therefore, if more dangerous forms of aggression are used, the larger sex differences occur. This pattern is cross-culturally stable (Cross & Campbell, 2011). Women scored higher than men on Anger and Hostility components and these results were varied in similar studies. Women exceed men on Anger and Hostility subscales which are more indirectly aggressive than Physical and Verbal Aggression subscales. These results are consistent with previous findings which characterized woman as more prone to use covert forms of aggression (Archer, 2004; Cross & Campbell, 2011). There were no significant sex differences on Verbal Aggression subscale and total score. Interestingly woman had almost so high as men scores on Total Aggression scale and this outcome was not in line with the previous findings (e.g. Buss & Perry, 1992; Meesters et al., 1996; Nakano, 2001; Tucholska, 1998). Presented sample of students were characterized by significant sex differences concerning age. These results may arise due to women violence peak, which occurs earlier (15-19 years) than that of men (20-24 years) according to differences in sexual maturity (Cross & Campbell, 2011). In other countries (Bailey & Hurd, 2005; Buss & Perry, 1992; Nakano, 2001) sex differences on total score were not so big as in Polish sample. Moreover, in another Polish study conducted by Tucholska (1998) 14-years ago, sex differences on total score were smaller than in our study. Observed effect is probably associated with cultural and social changes in Poland. In comparison with various nations, Polish men and women students took the first place in almost each subscale of aggression and the total score ranking.

The purpose of the second study was to determine the validity of the AQ by testing for hypothesized differences between groups of prison inmates and students. Prison inmates were significantly more physically aggressive than students. In addition, inmates had significantly higher scores on total score. These results were similar with Garcia-Leon et al. (2002) and contrary to Williams, Boyd, Cascardi, & Poythress (1996).

In conclusion, the Polish adaptation of the Aggression Questionnaire replicated original four-factor structure and confirmed sufficiently psychometric properties in Polish students sample. Moreover, the instrument showed the ability to measure not only overall aggression but also its separate components. This advantage is important in terms of discrimination among sexes and different groups. The Polish version of the Aggression Questionnaire proved useful.

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