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FACTOR STRUCTURE OF THE AGGRESSION QUESTIONNAIRE: STUDY ON THE ROMANIAN DELINQUENT POPULATION

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Abstract

The present study aims was the assessment of the factorial composition of the Aggression Questionnaire (BPAQ29) on the Romanian delinquent population. The translated questionnaire was administered on a sample of detainees serving custodial sentences in several penitentiaries in the South Muntenia Region of Romania (N=358) during October 2021 and March 2022. The 4-factor solution was selected: Factor 1 included items related, mostly to Anger, but loaded items related to verbal aggression and one to Hostility. Factor 2 included items related to physical aggression, factor 3 included items related to Hostility, and factor 4 included items that capture verbal aggression. Taking into account the results obtained, we decided to eliminate from the analysis the items whose significance refers to another reality, to other aspects. In addition, internal consistency was examined. Exploratory analysis revealed a 4-factor structure. Over all, the internal consistence was acceptable, with the four factors obtained from the analysis having a Cronbach's Alpha coefficient ranging between .70 and .90

Keywords: Aggression, delinquent population, factor structure, internal consistency

1. Introduction

Aggression is a "complex phenomenon" (Caprara et al., 1996, p. 133) of broad and permanent sociological interest, addressed in specialized literature most of the time as a result of separate researches, or expressing different opinions of psychologists, sociologists, psychiatrists, pedagogues and lawyers. Aggression manifests itself in different forms of antisocial behavior, including delinquency and conduct issues, as well as partner violence. Aggression is a phenomenon that can take many forms, ranging from acts, relatively minor behaviors to more serious ones, ranging from extremely severe acts. Although the scientific definition of aggression has undergone some changes over time, the views of experts on the concept converge for the most part. Thus, in social psychology, aggression is often defined as behavior designed to harm another person who is motivated to avoid harm (Bushman & Huesmann, 2010; DeWall, Anderson & Bushman, 2012, cited in Allen & Anderson, 2017). This injury can take many forms: physical harm, hurt feelings, or damaged relationships.

Research has found considerable heterogeneity that characterizes the construct of aggression (Cima & Raine, 2009). The study of aggression focused either on its purposes or functions, or assessed its different types of manifestations. In the aggression research, there have been multiple attempts to achieve a valid taxonomic model, but a comprehensive classification that integrates all unanimously accepted types of aggression has not been successful (Parrott & Giancola, 2007, as cited in Pechorro et al., 2016).

In clinical or criminalistical contexts, aggression is regarded as a personality characteristic of crucial importance (Cunha et al., 2021, p. 3). The term aggression is often used interchangeably with hostility and anger. For Buss and Perry (1992), anger relate to physiologic activation and represent the emotional or affective part of behaviour, while hostility is composed of feelings of injustice and is the cognitive component of behaviour (Buss & Perry, 1992, p. 457). Physical aggression and verbal aggression are the instrumental or motor components of the behaviour and involve "hurting or harming others" (Buss & Perry, 1992, p. 457).

Aggression influences the violent behavior of individuals. In this regard, studies have shown that aggression differentiates violent individuals from nonviolent perpetrators (Cruz et al., 2019; Helfritz et al., 2006) and is related with persistent violence (Serin et al., 2009, cited in Cunha et al., 2021) and it is also related with a higher chance of recurrence (Martin et al., 2019).

A number of studies have sustained the theoretical implications of aggression and its forms on the partner. Also, several studies have shown a high prevalence of aggressive traits among individuals who hurt their partner (Archer, 2000; Clements et al., 2018).

Aggression has different conceptualizations and can manifest itself in various ways. In literature, the Aggression Questionnaire (BPAQ) by Buss and Perry (1992) is one of the most widely used tools for studying aggression (Reyna et al., 2011). BPAQ consist of 29 items structured into four factors: physical aggression, verbal aggression, anger, and hostility. The Aggression Questionnaire (BPAQ) has been validated in various countries and translated into several languages, but not all of these researches sustained the factorial structure first suggested (Reyna et al., 2011, p. 31).

Not many researches investigate the psychometric properties of BPAQ in adult populations that have committed crimes, the vast majority of whom obtain good validity for the short version of the 12-item questionnaire. For example, Williams et al. (1996) examined the four-factor model of BPAQ in the

delinquent population, but the structure was inconsistent. Subsequently, the authors proposed a model with two factors: a factor that combines physical aggression and anger, and a factor that combines verbal aggression and hostility (Williams et al., 1996). Diamond et al. (2005) evaluated seven models of the AQ questionnaire and its short form, AQ-SF, in a representative group of male detainees with mental disorders, obtaining a satisfactory consistency only for the four-factor model of AQ-SF. Similar results were found in samples of inpatient and outpatient psychiatric patients (Hornsveld et al., 2009) and violent individuals (Pettersen et al., 2018).

2. Problem Statement

BPAQ and its other form BPAQ-SF are usually used in criminalistical environments (Diamond et al., 2005) and have proven to be a valuable tool in predicting adult and adolescents (Pechorro et al., 2016) violent behavior (Camlibel et al., 2021; Diamond et al., 2005; Diamond & Magaletta, 2006).

3. Research Questions

In the Romanian literature we do not know about the existence of any study to examine the factorial structure of the AQ aggression questionnaire on the delinquent population, so in this study we ask to what extent the proposed four-factor model is valid.

4. Purpose of the Study

The aim of the present study was to evaluate the proposed models in the literature regarding the Aggression Questionnaire in the Romanian delinquent population.

5. Research Methods

The study was conducted on a sample of detainees serving custodial sentences in several penitentiaries in the South Muntenia Region of Romania during October 2021 and March 2022. Participants were selected using the following inclusion criteria: a) male; b) age greater than 20 years; c) Romanian nationality; d) an educational level at least related to the graduation of the 8th form, gymnasium level; e) at least one episode of aggression against the partner in the background. In Romania, the convictions for aggression against the partner are slightly incriminated. The study participation of the subjects was done on a voluntary basis, with the completion of the Informed Consent Form. The purpose of the investigation was explained to each detainee. The study was approved by the director of the reference penitentiary and endorsed by the ethics council of the unit. The data of the detainees were collected by one of the authors of the study, a clinical psychologist in the national penitentiary system.

The sample included 363 men convicted of various crimes. Of these, 116 (31.95%) serve custodial sentences for murder, manslaughter, fatal beatings, rape, domestic assault, pimping and human trafficking. The participants had an average age of 39.39 years (SD = 12.34), ranging from 20 to 72 years. 121 of the subjects are married (33.6%) and 115 of them (31.9%) are in a relationship. 167 (46.4%) of the

participants have at least eight study classes. Socio-demographic and criminological characteristics are presented in Table 1:

Table 1. Demographic and criminological characteristics

Variable	N	%
Marital status		
married	121	33,6
unmarried	65	18,1
divorced	37	10,3
widower	22	6,1
in a relationship	115	31,9
Educational level		
Graduation form 8	167	46,4
Graduation form 10	92	25,6
Graduation form 12	54	15
baccalaureate	34	9,4
faculty	13	3,6
The crime committed		
homicide, manslaughter, fatal beatings, rape, domestic assault, pimping and human trafficking	116	31,95
drug trafficking, theft, aggravated theft, driving under the influence of alcohol, fleeing the scene of the accident, criminal group, etc.	247	68,05

Subjects were asked to complete the answers to the BPAQ aggression questionnaire, the 29-item version. Each participant was explained how to complete the questionnaire. Each questionnaire including the demographic and criminological scales, were achieved independently, in a adequate environment: the institutionalized persons filled in the forms in a private room inside the penitentiary. Participation in the study was voluntary (i.e., no compensation was offered for participation) and the subjects were assured of the confidentiality of personal data.

The items of the questionnaire were translated into Romanian and successfully translated into English by an English-speaking university professor. Each item is rated by the subject on a Likert scale ranging from 1 (extremely uncharacteristic to me) to 5 (extremely characteristic of me). In this study, we integrated the four factors (Buss & Perry, 1992) of the initial version of BPAQ. BPAQ assesses four dimensions of aggression: 1) Physical aggression (nine items); 2) Verbal aggression (five items); 3) Anger (seven items); and 4) Hostility (eight items). The original version showed good psychometric properties, with internal consistency values ranging from .72 to .85 for the four subscales and .89 for the total scale (Buss & Perry, 1992).

The data obtained were analyzed using common exploration techniques (Hair et al., 2009). Five questionnaires that either had incomplete answers to the items or had answers on the same level of the Likert scale were excluded from the analysis.

6. Findings

We used a factorial data analysis method. The result of the KMO test was 0.825 and the Bartlett's test of sphericity was significant (Approx. $\chi^2_{,406}= 6806,310$, p = .000, N = 358), which supports factorial

analysis on the data analysed. An initial solution suggested 7 factors to remember, with eigenvalues greater than 1 that represented 55.73% of the total variance. Scree plot graph and Horn's parallel analysis suggested the retention of 4 factors. Consequently, solutions from 4 to 7 factors were analysed, looking for the most economical and relevant theoretical solution. Oblique rotation was used because the factors were assumed to be correlated. The 4-factor solution was selected. Factor 1 included items related, mostly to Anger, but loaded items related to verbal aggression and one to Hostility. Factor 2 included items related to physical aggression, factor 3 included items related to Hostility, and factor 4 included items that capture verbal aggression (Table 2). Taking into account the results obtained, we decided to eliminate from the analysis the items whose significance refers to another reality, to other aspects.

In terms of reliability, the internal consistency was assessed using Cronbach's alpha (α). Scores between .70 and .90 are considered acceptable, above .80 indicate good internal consistency, and values above 90 are excellent (Ticu, 2004).

Table 2. Mean, Standard Deviation and factor structure of the Aggressive Questionnaire.

	F1	F2	F3	F4	M	SD
Configurational matrix						
i_28	1.012				2.13	1.275
i_1	.854				2.72	1.243
i_18	.937				2.74	1.387
i_27	.771				1.89	1.214
i_9	.662				2.34	1.080
i_7	.719				2.79	1.183
i_6	.726				2.33	1.235
i_14	.720				3.09	1.346
i_19	.667				2.86	1.311
i_5		1.105			2.46	1.479
i_2		.896			2.41	1.308
i_25		.747			1.70	1.131
i_13		.900			2.33	1.403
i_11		.720			1.87	1.183
i_22		.822			3.05	1.525
i_29		.397			1.35	.771
i_12					3.53	1.298
i_8					1.68	.979
i_20			1.108		2.90	1.370
i_15			1.086		2.58	1.392
i_24			.835		2.51	1.272
i_17			.846		2.69	1.344
i_26			.768		2.38	1.362
i_10				.931	3.45	1.293
i_16				.743	2.96	1.484
i_23				.649	2.65	1.323
i_3					3.10	1.192
i_4					3.80	1.168
i_21					2.60	.995

The results revealed excellent internal consistency indices for all items (Table 3). Relevant internal consistency indices were also obtained both on each sub factor identified in the factor analysis and on the whole questionnaire (Table 4).

Table 3. Internal consistency per items

	Item-Total Statistics				
	Scale Mean if Item Deleted	**Scale Variance if Item Deleted**	**Corrected Item-Total Correlation**	**Squared Multiple Correlation**	**Cronbach's Alpha if Item Deleted**
i_1	72.18	414.149	.673	.681	.924
i_2	72.49	426.396	.400	.686	.927
i_3	71.80	419.342	.593	.684	.925
i_4	71.10	447.751	.013	.490	.932
i_5	72.44	409.911	.628	.687	.924
i_6	72.58	419.068	.576	.735	.925
i_7	72.12	422.367	.534	.633	.926
i_8	73.23	423.453	.629	.642	.925
i_9	72.56	430.533	.402	.607	.927
i_10	71.45	421.744	.496	.625	.926
i_11	73.04	418.872	.608	.662	.925
i_12	71.38	417.682	.572	.683	.925
i_13	72.58	408.940	.684	.818	.923
i_14	71.81	419.600	.514	.601	.926
i_15	72.33	421.739	.456	.702	.927
i_16	71.95	422.286	.414	.597	.928
i_17	72.22	419.816	.511	.609	.926
i_18	72.16	406.556	.738	.749	.923
i_19	72.05	428.045	.368	.480	.928
i_20	72.01	418.487	.524	.762	.926
i_21	72.30	428.643	.488	.595	.926
i_22	71.85	413.376	.549	.645	.925
i_23	72.25	413.494	.641	.585	.924
i_24	72.40	421.311	.513	.701	.926
i_25	73.20	421.367	.583	.650	.925
i_26	72.52	417.096	.553	.636	.925
i_27	73.02	410.960	.758	.795	.923
i_28	72.78	412.852	.681	.736	.924
i_29	73.55	433.755	.479	.631	.927

Table 4. Internal consistency for Aggression Questionnaire

	Scale Mean if Item Deleted	**Scale Variance if Item Deleted**	**Corrected Item-Total Correlation**	**Cronbach's Alpha if Item Deleted**
F	10.2651	7.967	.710	.844
AF	10.6556	8.185	.693	.847
O	10.2132	8.278	.554	.892
AV	9.9221	9.467	.690	.788
AGT	10.2414	8.082	.985	.973

Note. F= Anger; AF= Physical aggression; O=Hostility; AV=Verbal aggression; AGT=Total aggression.

7. Conclusions

This study examined the factorial structure of the Aggression Questionnaire in a sample of national detainees. Initial exploratory factor analysis successfully replicating the 4-factor structure described in the original questionnaire. Previous studies have identified the 2-factor structure as representative of adult offenders in the United States (Williams et al., 1996). Also, similar to other authors, we excluded from the analysis items that referred to another dimension (Meesters et al., 1996; Nakano, 2001). In terms of internal consistency, good indices were obtained for both the whole questionnaire and the sub-factors.

Acknowledgement

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