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## Aggressiveness within the high school students sector: Comparison between two measurement instruments

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### Abstract

A cross-sectional study has been conducted within Timis County (Romania) in order to evaluate some paramount health-risk behaviour patterns in the case of high-school students. Eleven items of a certain instrument (*CORT 2004 Inventory*) addressed aggressive behaviour. The *Freiburg Personality Inventory (FPI)* has also been applied, in order to analyse spontaneous aggression coupled with other personality features. Statistical analysis has proven decreasing correlations of FPI aggressiveness within certain selected CORT items in gravity diminishing order. The measurement instruments used in our study provide reliable information for oriented decisions regarding the improvement of education.

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*Keywords:* Adolescents; aggressiveness; personality; education.

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### 1. Introduction

There are many concerns and scientific debate has been completed about excessive, inappropriate aggression in young people of our time, from public school shooting and similar instances of children murdering children or teachers, to unrecognized and untreated mental disorders and violence in youngsters.

Many high school students share the belief in a fair world, hence their tendency to control their life turning events and to make justice. That is why we should be preoccupied about the limits of their responsibility in this undertaking and about the level of aggressiveness involved.

Suspected negative influence of student aggressiveness on school performance suggests that investigation needs to become more thorough and it should also embrace several different approaches. Consequently, different measurements and evaluation may be employed.

The aim of our study was to corroborate the usefulness of the CORT 2004 Inventory and Freiburg Personality Inventory - FPI (Fahrenberg, J., Hampel, R. & Selg, H., 1978) on a representative sample of high school students.

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## 2. Participants and methods

The study included 2908 high school students within Timis County (Romania), from grades 9 to 12, participants in the survey in early 2005. They answered a 126-item questionnaire (CORT 2004 Inventory), covering risk behaviors for health such as aggressiveness, nutrition habits, relation with family members and peers, substance use etc. The research used also the Freiburg Personality Inventory (FPI), a 212-item self-rated questionnaire comprising twelve primary personality factors: Nervousness, Spontaneous Aggressiveness, Depressiveness, Irritability, Sociability, Calmness, Striving for Dominance, Inhibition, Sincerity, Extraversion, Emotional Lability and Masculinity (Fahrenberg, J., Hampel, R. & Selg, H., 1978), the last one being passed up (Table 1).

Table 1. FPI specificity

Personality trait/ FPI Scale	Description for test high value
Nervousness	Tendency unto somatic affections of vegetative nature (circulation, respiration, movement disorders)
Spontaneous Aggressiveness	He/she can commit physical, verbal or imaginary spontaneous aggression acts
Depressiveness	State of indisposition or higher in fluctuating moods, but prevailing depression, tension, pessimism
Irritability	Feelings of irritability, tension, and emotional susceptibility, low tolerance to frustration, impatience, restlessness
Sociability	Desire and tendency to establish new contacts, active, communicative, talkative and prompt replier
Calmness	Calm, with equanimity, confidence, and good spirits
Striving for Dominance	Reactive aggression (physical, verbal or imaginary), knows to impose its own interest, self-centered concept, attitude of suspicion and distrust of others
Inhibition	Shy, lonely, inhibited in contact with other people, especially in community and in some situations
Sincerity	Open-minded, recognize common/small weaknesses and flaws, self-critical, in certain circumstances having a detached attitude
Extraversion	Need contacts, search and is able to establish contacts, easily connects friends, is released, vivacious, impulsive, talkative, likes variation and entertainment
Emotional Lability	Malaise or labile mood, predominantly depressed, sad, pressed, infirm, low spirits

The design of CORT Inventory was based on following studies: The American study *Monitoring the Future*, the European study *ESPAD (The European School Survey project on Alcohol and other Drugs)*, the American study *YRBSS (Youth Risk Behaviour Surveillance System)*, the Timis County *CAST study (Use of Alcohol, Stupefians and Tobacco)*, and a national Romanian study *(The Maturity of teenage students)*.

Binary logistic regression analysis was used to estimate personality trait structure influence on four aggressive behaviors: *Involuntary Aggressive Language (IAL)*, *Voluntary Aggressive Language (VAL)*, *Physical Aggression without Legal Implications (PAWOLI)*, and *Physical Aggression with Legal Implications (PAWLI)*. As dependent variables, these items were recoded as “never happened” and “at least one time”.

Pearson correlation coefficients were also computed for linear associations between variables. A p-value < 0.05 was considered statistically significant. SPSS 13 software was involved in statistical analyses.

## 3. Results

### 3.1. Sample description

The class response rate was 97.9% and the student response rate 76.2%, resulting in an overall response rate of 74.6%. Details regarding sample and questionnaire were recently published, in detail, in another article (Ursoniu, S. et al, 2009).

We concluded as *Involuntary Aggressive Language* the results of the question “Have you used obscene words or curses in your conversations?” (three frequency levels; Table 2), and as *Voluntary Aggressive Language* the results of the question “How often during the previous 12 month have you verbally abused somebody?” (five frequency

levels; Table 3). We also comprehended as *Physical Aggression without Legal Implications* the results of the question “Have you ever engaged in a physical fight outside the school?” (five frequency levels), and as *Physical Aggression with Legal Implications* the results of the question “Have you ever hit someone so that he/she have needed medical care?” (five frequency levels; Table 3).

### 3.2. Findings and discussions

#### 3.2.1. CORT 2004 Inventory

The frequencies of selected aggressive behaviors varies with the severity of the manifestations and with its intentionality (Table 2 and Table 3).

Table 2. Distribution of selected aggressive behavior scale (CORT 2004 Inventory)

Answer structure (%)	Never	Seldom	Often	Missing
<i>IAL</i>	15.2	64.5	14.4	5.8

Table 3. Distribution of selected aggressive behavior scales (CORT 2004 Inventory)

Answer structure (%)	Never	Once	2-3 times	4-5 times	6 times or more	Missing
<i>VAL</i>	46.6	13.9	15.9	3.9	18.7	1.0
<i>PAWOLI</i>	74.8	10.5	8.0	2.5	2.9	1.2
<i>PAWLI</i>	93.9	2.7	1.4	0.3	0.6	1.1

#### 3.2.2. Freiburg Personality Inventory (FPI)

According to FPI authors, because of the relatively strong interdependence with the FPI 9 scale (Sincerity), Aggressiveness (FPI 2) may be expressed by high levels of mood status (readiness-training), personal weaknesses, affective reactions and, in particular, aggressive tendencies.

Based on the study of the questionnaire scales inter-correlations, there were also established some relations which allow a more nuanced interpretation. According to our data, FPI Spontaneous Aggression demonstrates strong correlations with other FPI scales like Irritability, Striving for Dominance, Emotional Lability, Depression, Sincerity and Nervousness (Table 4).

Table 4. Correlation coefficients of *Aggressiveness* with other *FPI Scales*

FPI Scale	r	p-value	N
Irritability	0.59	0.001	2608
Striving for Dominance	0.56	0.001	2608
Emotional Lability	0.48	0.001	2608
Depression	0.46	0.001	2606
Sincerity	0.42	0.001	2607
Nervousness	0.42	0.001	2604
Extraversion	0.33	0.001	2608
Inhibition	0.20	0.001	2608
Calmness	0.06	0.003	2608
Sociability	-0.01	0.555	2606

#### 3.2.3. CORT 2004 Inventory and Freiburg Personality Inventory (FPI)

FPI results concerning Spontaneous Aggression prove a stronger correlation with *IAL* ( $r = 0.33$ ;  $p = 0.00$ ) than with *VAL* ( $r = 0.29$ ;  $p = 0.00$ ) or *PAWOLI* ( $r = 0.22$ ;  $p = 0.00$ ) and *PAWLI* ( $r = 0.17$ ;  $p = 0.00$ ). We note slight

differences between closer categories (voluntary and involuntary behaviors), which may appear due to lower frequency of cases in categories with most serious implications (Table 5).

Table 5. Correlations between *CORT 2004 items* and *FPI Scales*

Personality trait	<i>IAL</i>		<i>VAL</i>		<i>PAWOLI</i>		<i>PAWLI</i>	
	r	p-value	r	p-value	r	p-value	r	p-value
Aggressiveness	0.33	0.00	0.29	0.00	0.22	0.00	0.17	0.00
Sincerity	0.18	0.001	0.18	0.001	-0.11	0.586	-0.18	0.348
Irritability	0.28	0.001	0.25	0.001	0.14	0.001	0.12	0.001
Striving for Dominance	0.26	0.001	0.23	0.001	0.16	0.001	0.12	0.001
Emotional Lability	0.18	0.001	0.17	0.001	0.05	0.012	0.05	0.011
Depression	0.17	0.001	0.15	0.001	0.01	0.438	0.02	0.232
Nervousness	0.11	0.001	0.10	0.001	0.05	0.006	0.07	0.001
Extraversion	0.17	0.001	0.17	0.001	0.12	0.001	0.11	0.001
Inhibition	0.02	0.365	0.01	0.796	-0.06	0.002	-0.034	0.086
Calmness	-0.08	0.001	-0.08	0.001	-0.02	0.333	0.01	0.849
Sociability	0.04	0.039	0.07	0.001	-0.01	0.509	0.01	0.773

The binary logistic regression analysis revealed Irritability, Spontaneous Aggression, Extraversion, Striving for Dominance, and Sincerity as important trigger factors for *IAL*. In the same time, Calmness and Inhibition may be considered the main protective factors (Table 6). For *VAL* item, the same personality scales appears in the logistic regression model, except Striving for Dominance (Table 6).

Aggressiveness, Irritability, Sincerity, and Extraversion would influence *PAWOLI*, while Inhibition and Sociability appear to prevent the same aggression type. Depression and Calmness have also some influence in behavior control for the same item (Table 6). As for *PAWLI*, the same previously mentioned personality features associate, depression not fitting in the regression model anymore (Table 6).

Striving for Dominance scale influence is decreasing with the increasing gravity of aggressive behavior (*CORT* items), while Sociability proves an inverse trend (Table 6).

These findings show the decreasing influence of dominance features (reactive aggression, self-centrality, suspicion, and distrust) on the morbid dimension of once aggressiveness. This relation disproves a “self preservative” type of aggression for more severe behaviours (Table 6).

In the same direction, subjects need for social contact is increasing. From this perspective, subjects with increased tendency toward violent behavior would prove “a fracture of human attachment” (while the strength and coherence of the self is decreasing, the need for externalization is increasing) (Table 6).

Table 6. Logistic regression model regarding the influence of students personality structure on four selected *CORT* items of aggressive behavior

Statistical findings	FPI Scales	<i>CORT items</i>			
		<i>IAL</i>	<i>VAL</i>	<i>PAWOLI</i>	<i>PAWLI</i>
<i>OR&gt;1</i>	Aggressiveness	***	***	***	***
	Irritability	***	***	***	***
	Striving for Dominance	***	**	**	*
	Sincerity	***	***	***	***
	Extraversion	***	***	***	***
<i>OR&lt;1</i>	Calmness	***	***	***	***
	Inhibition	***	***	***	***
	Sociability	*	**	***	***
Not in the model	Depressiveness	*	*	***	**
	Emotional Lability	*	*	*	*

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Nervousness \* \* \* \*

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\*\*\*  $p$ -value < 0.01; \*\*  $p$  value = (0.05-0.01); \*  $p$ -value > 0.05

As it is in our study, “there are situations where the concept of purely reactive aggression seems profoundly unsatisfactory.” (Fonagy, P., 2003 a) Some authors also consider “the excess of aggression of school shooters as a manifestation of a human propensity, which almost by definition is beyond what might be accounted for by reaction to frustration.” (Fonagy, P., 2003 b)

Our case is also to present opposition of some personality scales which will lead to certain blockages of subject’s normal reactions (Striving for Dominance and Inhibition, Sincerity and Inhibition, Sincerity and Depressiveness, Sociable but not striving for Dominance, Extraversion and Sociability). Through our study we emphasize the importance of personality structure for possible reactive consequences. We also point out the existence of multiple difficult to detect sources of psychological distress for teenagers.

Nowadays, our ambivalence towards aggression is particularly acute. What are the boundaries between expressing one’s feelings and the rights of others? “We must become more aware of the messages young people receive from their life environment and then determine what messages and standards should be applied in school and communities.” (Ma, G.X., Thompson B., 1999)

Identification and treatment of aggressive young people are among the greatest challenges for professionals in juvenile justice and in educational, psychiatric and mental health treatment settings. Addressing young people’s mental-health needs is crucial if they are to fulfil their potential and in order to fully contribute to the development of their communities. Many aggressive young people battle with a mental illness in their life, while many remain undiagnosed until their condition becomes acute (Connor, D. F., 2002).

In attempting to distinguish between youngsters likely to have difficulty during the adolescent transition and those who are not, it is helpful to differentiate between the risk factors that increase vulnerability to developing problems and the protective factors that increase resistance to developing problems. Protective factors are not simply the absence of risk factors; rather they are characteristics of individuals and their environments that make a positive contribution to development and behaviour.” (Ma, G. X., Thompson B., 1999)

So far, we welcome all studies that approach the parallel research of antisocial-aggressive behaviors and non-aggressive, yet delinquent behaviors.

In order to range the most important coping mechanisms of aggressive behavior in youth, our data need to be corroborated with researches regarding measurements of IQ, EQ, locus of control, self-esteem, parent-child relations, social support but also friendships and availability of opportunities.

For this reason we encourage the multi-, inter-, and transdisciplinary team in research for the development of future mental health and educational needs.

#### 4. Conclusions and Recommendations

Interpreting our results, we indicate a possible psychosomatic deterioration in aggressive students (correlations with Irritability, Emotional Lability, Depressiveness, and Nervousness), but also high levels of mood status (correlations with Dominance and Sincerity).

The reality of certain risk-related adolescent behaviors highlights the rupture between growing and maturation on the one hand, and social autonomy, on the other hand. Emerging evidence about optimal youth development highlights the importance of both reducing negative behavior and promoting positive behavior.

The measurement instruments used in our study provide reliable information for oriented decisions regarding the improvement of adolescent level of well-being, mental health, quality of relationships, knowledge and skills, school performance and social cohesion.

#### 5. Limitations

The survey was designed as a descriptive needs assessment and not for testing causal hypotheses, prevention needs or appropriate service delivery approaches for high-schools and communities. The findings reported here

cannot be relevant for adolescents not attending scholar institutions. At the same time, some errors based on self reported behaviors might have been generated.

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