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## *Religiosity as a factor protecting against problem behaviour in adolescence*

### ABSTRACT

This article explores the question, to what degree religiosity contributes, as a protecting factor against a broad category of socially deviant adolescent and youth behaviours. It also tests the hypothesis that gender plays a moderating role in the relationship between religiosity and problem behaviour. It employs a modified version of the Problem Behaviour Syndrome Measure (PBSM), in concert with Jessor and Jessor's conceptual work. It also makes use of the Duke Religion Index (DUREL) to assess religiosity. The empirical study deals with a representative group of 960 students of upper-secondary schools in the Lubelskie province, Poland. The results were analyzed using canonical analysis and ANOVA. The achievements of the article are twofold. First, it identifies significant correlations between the different levels of religiosity among youth, and the occurrence and intensification of problem behaviours, particularly in regard to organized activity. Organized and intrinsic religiosity play principal protective roles, while the impact of personal religious practices is less significant.

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Secondly, while analyzing the moderating role of gender in the relationship between religiosity and the intensity of problem behaviour, it was found that gender does not have a significant interactive impact. An affirmative conclusion was confirmed in only two instances.

*KEYWORDS: problem behaviour, religiosity, adolescence*

## INTRODUCTION

The literature on the subject provides contradictory statements about the role of religiosity in the process of reducing the risk of deviant behaviour among the youth. Some empirical analyses indicate that this factor protects young people against preferring behaviour that violates the applicable social norms. Reference can be made in this respect to the findings of studies in which it has been proven that religiosity reduces the probability of adolescents displaying such behaviour as: Smoking (Wallace & Forman, 1998; Wills et al., 2003), Alcohol Use (Miller et al., 2000; Wills et al., 2003; Wells, 2010), Drug Use (Miller et al., 2000; Wills et al., 2003), Excessive Gambling (Casey et al., 2011), Assault (Wallace & Forman, 1998; Ellison et al., 2008), School Misconduct (Wallace et al., 2005), Attempted Suicide (Zhang & Jin, 1996), Premature Sexual Activity (Wilcox et al., 2000).

Some other scientific reports, on the other hand, tend to advocate the conclusion that the interrelations between religiosity and the risk of behaviour violating the applicable social norms during the adolescence period are weak. This conclusion seems to find confirmation in the findings of meta-analyses performed under 60 studies, in which the interrelations between religiosity and different forms of anti-social behaviour were described as weak (Baier & Wright, 2001).

Another, unsolved issue concerns indicating the areas of religiosity functioning as factors protecting the youth against deviant

activity. We can find references in the literature on the subject indicating several significant interrelations in this respect.

The first type of interrelations shows that only when manifested publicly, and measured *inter alia* by the frequency of attending services or engaging in religious group activity, religiosity reduces the risk of socially unacceptable behaviour among adolescents. Concurrently, the manifestations of religiosity of private nature have no influence on the presence of deviant behaviour. The above-mentioned conclusion is illustrated by the findings of studies, where only publicly expressed religiosity constitutes a factor protecting against regular Smoking, Alcohol Use, Drug Use, Premature Sexual Activity, Teenage Motherhood and Fatherhood, Criminal Offences and Assault (Johnson et al., 2000; Nonnemaker et al., 2003; Wagner et al., 2003; Good & Willoughby 2006; Sinha et al., 2007; Walker et al., 2007). It has been also observed that the interrelations between high frequency of publicly manifested religiosity and low preference for deviant behaviour of teenagers is often the effect of socialising in accordance with the applicable norms, *inter alia* resulting from the peer religious group preferring socially-oriented values and constructive lifestyles, as well as pressure from peers who themselves manifest constructive behaviour (Ellison et al., 2008). The results from the published studies also suggest the presence of negative interrelations between public manifestation of religiosity, in the form of participation in religious groups, and their preference for deviant behaviour, i.e. the higher the engagement in an activity of the above sort, the lower the intensity of anti-social behaviour among the youth. In addition, bigger role in predicting the existing correlations is ascribed to friendship rather than membership (French et al., 2012),

The findings in the literature on the subject also provide for formulating the conclusion that only the high extent of privately manifested religiosity, e.g. in the form of private prayers, spiritual reflection and reading the Scriptures, religious magazines

and/or books, results in less frequent socially unacceptable behaviours among adolescents. The above statement is reflected in the examples below. Only high intensity of privately manifested religiosity constitutes a factor protecting young people against suicidal thoughts and/or attempts (Nonnemaker et al., 2003). Only high degree of private religious manifestations correlates negatively with such kinds of deviant behaviour as: Criminal Offences, Psychoactive Substance Use, Frequent Truancy, Premature Sexual Activity, Assault (Chadwick & Top, 1993; Wagener et al., 2003; Wills et al., 2003; Sinha, 2007; Walker et al., 2007).

Including in the empirical analysis the division into the youth frequently manifesting private religiosity and the adolescents characterised by high intensity of spiritual development of religious character indicates significant interrelations in respect of relationships between the above-mentioned factors and the use of psychoactive substances (tobacco and alcohol). Concurrently, the individuals characterised by frequent manifestations of private religiosity and high intensity of non-religious spiritual development are considerably less prone to tobacco or alcohol use compared to the remaining groups, i.e. both in relation to individuals that rarely manifest private religiosity with high intensity of non-religious spiritual development, and in relation to the youth that rarely manifest private religiosity and with low intensity of non-religious spiritual development (Hodge et al., 2007).

The third type of correlations in the empirical studies gives grounds to the statement that both the high intensity of public manifestation of religiosity and the high degree of private religious manifestations constitute factors protecting the youth against behaviour that violates the applicable social norms. The grounds for such a conclusion may include the results of empirical analyses, in which observations were made that both the high degree of public religiosity manifestation and the high intensity of private religiosity manifestations reduce the risk of Smoking, Alcohol Use, Marijuana Use, engaging in Premature Sexual Activ-

ity, and Assault (Nonnemaker et al., 2003). In the meta-analysis including 40 different studies concerning relationships between religiosity and deviant behaviours among the youth, it has been pointed out that the manifestations of private religiosity inhibit deviant behaviours on a slightly higher level than public manifestation of religiosity (Cheung & Yeung, 2011).

Comparisons involving the students of secular and denominational universities in the same geographical area show the following patterns in the area of religiosity and alcohol consumption by the students (Wells, 2010): 1) denominational university students are characterised by higher manifestation of both public and private religiosity as compared to secular university students, 2) secular university students consume much more alcohol as compared to denominational university students, 3) the culture of alcohol drinking is significantly different across the two environments, whereas the drinking culture in secular universities is a strong predictor of moderate and high intensities of alcohol consumption.

The results of the empirical studies also lead to a fourth conclusion, namely that the high intensity of the manifestation of both private and public religiosity is a factor protecting adolescents against socially unacceptable behaviour. This conclusion is reflected by e.g. findings of the study in which the relationship between public religiosity manifestations and alcohol consumption among the youth is modified by the presence of private religiosity. Accordingly, public manifestation of religiosity is a significant predictor of adolescents remaining abstainers, but only in the case of individuals that previously manifested high intensity of private religiosity. At the same time, the youth characterised by infrequent manifestation of behaviour reflecting private religiosity and high intensity of public religiosity manifestations tend to consume alcohol more frequently (Bodford & Hussong, 2013). Similar regularities were reflected in other studies, which focused on the analysis of interrelations between different symptoms of religiosity and adolescents' inclination towards deviant behaviours

(Salas-Wright et al., 2012). The interrelations obtained under these studies indicate that high intensity of private religiosity manifestations does not protect against problem behaviours by itself. The factor that protects adolescents against destructive activity, mainly against Drug Use, Assault and Criminal Offences, is the concurrent high intensity of private and public religiosity manifestations. With moderate intensity of the two above-mentioned factors (signs of private religiosity and aspects of public religiosity) the youth is less susceptible to using illegal psychoactive substances and violence as compared to individuals characterised by low religiosity, in respect of both private and public manifestations of religiosity.

Another issue which has not been settled yet in the literature on the subject, is the moderating role of gender in the relationships between religiosity and deviant behaviours.

Some studies indicate that religiosity constitutes an important factor protecting against deviant behaviour, irrespective of gender. For example, one may point out that strong religious beliefs, both in boys and girls, associate gambling with amoral behaviour, which results in inhibiting their gambling activity (Casey et al., 2011).

The results of analyses performed on a representative sample of Slavic youth implicate that, irrespective of gender, religiosity negatively correlates with such deviant behaviour as: smoking, using hemp products, drinking alcohol, initiating premature sexual relationships. For both genders, the relationship between religiosity and the use of psychoactive substances is stronger than the relationship between religiosity and other deviant behaviours (Pitel et al., 2012).

In the analysis that includes the significance of gender to the interrelations between religiosity and psychosocial activity of academic youth, it has also been stated that for both men and women religiosity constitutes a factor protecting against the use of psychoactive substances and against manifesting problem behaviour in the academic environment (Milot & Ludden, 2009).

Other studies indicate that religiosity is a stronger protective factor against antisocial behaviours for boys than for girls (Stolz et al., 2013).

The above-mentioned discrepancies confirm the postulate, existing in the literature on the subject, that further studies must be undertaken in the area of interrelations between religiosity and deviant behaviours among the youth. The current state of knowledge indicates that the empirical analysis of the issue in question should include *inter alia* nationality- and ethnicity-related factors (Rollocks & Dass, 2007; Stolz et al., 2013), cultural moderators (Baier & Wright, 2001; King & Roeser, 2009), various manifestations of religiosity (Johnson et al., 2000; Borders et al., 2010; Cheung & Young 2011; Salas-Wright et al., 2012; Bodford & Hussong, 2013), the specific character of the development period in adolescence (Brechtling et al., 2010; Wallace et al., 2005), gender differences (Cheung & Young 2011; Pitel et al., 2012) and the mediatory role of religiosity between psychosocial risk factors and inclination towards deviant behaviours (Laird et al., 2011).

The purpose of this article is: (1) to identify whether there are correlations between the different levels of religiosity among the youth and the occurrence and intensification of problem behaviours; and (2) to test the hypothesis about the moderating role of gender in the relationship between religiosity and problem behaviour.

## METHOD

### STUDY GROUP

The studies were performed in 2013 on a representative group of the students of uppersecondary schools in the Lubelskie province. In order to ensure the representativeness of the sample,

stratified sampling was applied for schools, and then simple sampling for classes in individual schools. The stratified sampling of schools included: the size of the locality in which the school was situated (small town and village up to 5 thousand residents/ large town or city above 5 thousand residents); the kind of school (public/non-public) and the type of school (vocational school/ general secondary school/technical secondary school).

The study comprised 960 students from 48 classes, aged 17-21 ( $M = 18.06$ ;  $SD = .37$ ), of which 52% were women. The study group was 92.7% Catholic, 1.2% – other Christian denominations, 0.5% – Jehovah witnesses. 0.8% – followers of other religions, 1.8% to the question about their religion gave the answer “I don’t know”, and 2% – “None”. The declared attitude towards religion in the group was as follows: 62.2% described themselves as “religious”, 12.6% as “believers but not devotees or religiously neutral”, 16.3% as “spiritual but not religious”, 8.9% as “not religious”.

## METHODS

Participants were asked to fill out the boarder set of questionnaires. In the present study we used the measures of gender, PBS and religiosity.

**Gender.** The participants indicated their gender in one item, “What is your gender?” Responses were coded as: 0 (female) and 1 (male).

**Problem Behaviour Syndrome Measure.** The study used a modified version of the Problem Behaviour Syndrome Measure (PBSM; Vazsonyi, Chen, Jenkins, Burcu, Torrente, Sheu, 2010), based on conceptual considerations to capture a broad deviance construct, consistent with Jessor and Jessor (1997) conceptual work. The items are based on work by Jessor and colleagues (2003), and they capture a variety of problem behaviours ranging from school misbehaviour to interpersonal violence. The current



version was extended by a range of problem behaviours (including alcohol and drug use) and consists of 33 items. Participants were asked whether they had ever been involved in each of the deviant behaviours. They rated their involvement on the following frequency scale: 0 (never), 1 (1 time), 2 (2–3 times), 3 (4–5 times), and 4 (6 or more times). The format of their answers was constructed in such a way so as to maximise the declared occurrence of a given behaviour and not its absolute frequency, therefore the results were collected by transforming the answers to a dichotomous format (occurred/did not occur). The original PBSM consists of 15 items grouped into 5 subscales: Vandalism (two items), School Misconduct (three items), General Deviance (two items), Theft (four items), and Assault (four items). In order to identify the structure of the current version of the method, the analysis of its major components was performed. The following seven subscales were identified as a result: Alcohol and Tobacco Use (7 items), Drug Use (4 items), Involvement in Crimes (3 items), Assault (4 items), Theft (4 items), Vandalism (3 items), School Misconduct (3 items). 5 items were not included in any factor due to low weights or inadequate formulation (You borrowed a car without the owner's permission; You were expelled from class for your misbehaviour; You stole, took or attempted to take public property (e.g. road signs, construction signs); You escaped from home and spent the whole night away from it; You watched porn). Cronbach's  $\alpha$  were: Involvement in Crimes – 0.68; Alcohol and Tobacco Use – 0.76; Vandalism – 0.68; Theft – 0.71, Drug Use – 0.69, School Misconduct – 0.45, Assault – 0.72; Problem Behavior Syndrome (PBS) – 0.88.

**Duke University Religiosity Measure.** Religiosity was assessed by using the Duke Religion Index (DUREL; Koenig, Parkerson, & Meador, 1997). DUREL is a 5-item measure that assesses organised religious activity (frequency of attending religious services; one item), non-organised religious activity (frequency of praying, meditating, or studying religious texts; one item) and intrinsic

religiosity (internalisation of one's religious practices and beliefs; three items). Items are scored on a 5 to 6-point Likert scale. In the present study, the Cronbach's  $\alpha$  for the intrinsic religiosity subscale was found at 0.89.

## FINDINGS

Findings will be presented as follows – first, descriptive statistics and correlations between the variables used in this study, then analyses exploring interrelations between behaviour problems and religiosity, together with the assessment of modulation by gender, and finally analyses examining the relations between the intensity of behaviour problems and religiosity, including the assessment of modulation by gender.

## DESCRIPTIVE STATISTICS AND CORRELATIONS

Table 1. includes minima, maxima, means, standard deviations and Pearson's correlations for the study variables.

Out of 24 possible, the study produced 21 significant correlations between problem behaviour measures and religiosity. All these correlations were negative. The strongest relationships between the individual PBSM subscales were recorded for organised religiosity and the weakest for the non-organised religious activity. Religiosity showed the strongest correlation with Drug Use and Assault. These findings suggest that there is an underlying link between religiosity and problem behaviour.

Table 1. Descriptive statistics and first order correlations for the variables in the study (n = 960).

No.	Variable	Min.	Max.	M	SD	1	2	3	4	5	6	7	8	9	10
1	Involvement in Crimes	0	3	0.10	0.39										
2	Alcohol and Tobacco Use	0	7	3.97	2.19	0.10**									
3	Vandalism	0	3	0.53	0.89	0.27**	0.31**								
4	Theft	0	4	0.41	0.88	0.32**	0.21**	0.34**							
5	Drug Use	0	4	0.54	0.92	0.36**	0.39**	0.40**	0.40**						
6	School Misconduct	0	3	1.90	0.96	0.10**	0.57**	0.30**	0.27**	0.33**					
7	Assault	0	4	0.77	1.13	0.38**	0.30**	0.52**	0.35**	0.43**	0.31**				
8	Problem Behaviour Syndrome	0	29	9.19	5.78	0.40**	0.76**	0.66**	0.56**	0.69**	0.67**	0.69**			
9	Organised Religious Activity	1	6	3.80	1.36	-0.16**	-0.13**	-0.17**	-11**	-0.24**	-0.07*	-0.22**	-0.24**		
10	Non-organised Religious Activity	1	6	2.82	1.69	-0.06	-0.10**	-0.05	-0.08*	-0.18**	-0.05	-0.12**	-0.15**	0.56**	
11	Intrinsic Religiosity	3	15	9.35	3.24	-0.12**	-0.13**	-0.14**	-0.08*	-0.21**	-0.13**	-0.18**	-0.22**	0.62**	0.61**

# DIMENSIONS OF RELIGIOSITY AND THE PRESENCE OF PROBLEM BEHAVIOUR

In order to evaluate the connection between religiosity and the emergence of problem behaviour, the study distinguished between the groups of people who had never been involved in these types of behaviour and those who had engaged in them at least once. Table 2 presents differences between the dimensions of religiosity identified in the groups differentiated on the basis of problem behaviour.

Table 2. Predictor means and standard deviations as the function of the presence or absence of the individual types of problem behaviour.

Type of problem behaviour	Predictors	Presence			Absence			test	
		n	M	SD	N	M	SD	t(912)	p
1	2	3	4	5	6	7	8	9	10
Involvement in Crimes	Organised Religious Activity	70	3.04	1.54	844	3.86	1.32	-4.91	< 0.001
	Non-organised Religious Activity	70	2.40	1.62	844	2.86	1.69	-2.19	0.029
	Intrinsic Religiosity	70	7.86	3.58	844	9.47	3.18	-4.04	< 0.001
Alcohol and Tobacco Use	Organised Religious Activity	808	3.77	1.33	106	4.00	1.50	-1.63	0.104
	Non-organised Religious Activity	808	2.80	1.68	106	2.98	1.79	-1.01	0.312
	Intrinsic Religiosity	808	9.26	3.26	106	10.04	3.04	-2.34	0.020

1	2	3	4	5	6	7	8	9	10
Vandalism	Organised Religious Activity	289	3.47	1.40	625	3.95	1.31	-4.99	< 0.001
	Non-organised Religious Activity	289	2.72	1.66	625	2.88	1.70	-1.32	0.187
	Intrinsic Religiosity	289	8.71	3.40	625	9.64	3.12	-4.09	< 0.001
Theft	Organised Religious Activity	212	3.63	1.44	702	3.85	1.33	-2.05	0.041
	Non-organised Religious Activity	212	2.67	1.63	702	2.87	1.71	-1.57	0.117
	Intrinsic Religiosity	212	9.05	3.30	702	9.44	3.22	-1.54	0.123
Drug Use	Organised Religious Activity	320	3.45	1.39	594	3.98	1.30	-5.75	< 0.001
	Non-organised Religious Activity	320	2.49	1.62	594	3.01	1.71	-4.47	< 0.001
	Intrinsic Religiosity	320	8.48	3.37	594	9.81	3.07	-6.05	< 0.001
School Misconduct	Organised Religious Activity	814	3.78	1.35	100	3.93	1.40	-1.03	0.305
	Non-organised Religious Activity	814	2.82	1.69	100	2.83	1.71	-0.03	0.975
	Intrinsic Religiosity	814	9.26	3.25	100	10.05	3.08	-2.30	0.022

1	2	3	4	5	6	7	8	9	10
Assault	Organised Religious Activity	379	3.58	1.41	535	3.96	1.30	-4.23	< 0.001
	Non-organised Religious Activity	379	2.66	1.65	535	2.94	1.72	-2.41	0.016
	Intrinsic Religiosity	379	8.84	3.29	535	9.71	3.16	-4.03	< 0.001
Problem Behaviour Syndrome	Organised Religious Activity	863	3.80	1.34	51	3.84	1.57	-0.24	0.810
	Non-organised Religious Activity	863	2.83	1.69	51	2.80	1.76	0.09	0.927
	Intrinsic Religiosity	863	9.30	3.25	51	10.10	3.03	-1.70	0.089

Significance tests carried out under this study show that religiosity is, to varying degrees, connected with the appearance of various problem behaviours. The strongest relationship was recorded for Drug Use, Assault and Involvement in Crimes, which were closely connected with all investigated aspects of religiosity. The presence of Vandalism was associated with two aspects, i.e. Organised Religious Activity and Intrinsic Religiosity, while Alcohol and Tobacco Use and School Misconduct – solely with Intrinsic Religiosity, and Theft – with Organised Religious Activity. No manifestation of the Problem Behaviour Syndrome was connected with religiosity.

The analysed aspects of religiosity are not equally linked to any display of problem behaviour. Out of 8 possible relationships, 5 proved significant for Organised Religious Activity, 3 for Non-organised Religious Activity and 6 for Intrinsic Religiosity.

The aforementioned conclusions were confirmed with a series of logistic regression models with three measured dimensions of religiosity as predictors and the presence of the individual types of problem behaviour as the criterion.

Table 3. Summary of logistic regression models predicting the appearance of the individual types of problem behaviour on the basis of findings for religiosity aspects.

Explained variables	Predictors	B	SE	Exp(B)	95% CI	Wald (df = 1)	p
1	2	3	4	5	6	7	8
Involvement in Crimes	Organised Religious Activity	-0.38	0.12	0.68	[.54,.87]	9.84	0.002
	Non-organised Religious Activity	0.12	0.10	1.13	[.92, 1.38]	1.29	0.26
	Intrinsic Religiosity	-0.08	0.05	0.92	[.83, 1.02]	2.47	0.12
Alcohol and Tobacco Use	Organised Religious Activity	-0.05	0.10	0.96	[.78, 1.17]	0.19	0.66
	Non-organised Religious Activity	0.05	0.08	1.05	[.90, 1.23]	0.41	0.52
	Intrinsic Religiosity	-0.08	0.05	0.92	[.84, 1.01]	3.33	0.07
Vandalism	Organised Religious Activity	-0.26	0.07	0.77	[.67,.89]	13.30	< 0.001
	Non-organised Religious Activity	0.14	0.06	1.15	[1.03, 1.29]	6.15	0.01
	Intrinsic Religiosity	-0.07	0.03	0.93	[.88,.99]	4.82	0.03
Theft	Organised Religious Activity	-0.09	0.08	0.91	[.79, 1.06]	1.43	0.23
	Non-organised Religious Activity	-0.03	0.06	0.97	[.86, 1.10]	0.18	0.67
	Intrinsic Religiosity	-0.01	0.03	1.00	[.93, 1.06]	0.02	0.88

1	2	3	4	5	6	7	8
Drug Use	Organised Religious Activity	-0.16	0.07	0.85	[.75,.98]	5.43	0.02
	Non-organised Religious Activity	-0.02	0.06	0.98	[.88, 1.10]	0.12	0.73
	Intrinsic Religiosity	-0.08	0.03	0.92	[.87,.98]	7.31	0.01
School Misconduct	Organised Religious Activity	0.00	0.11	1.00	[.81, 1.23]	0.00	0.98
	Non-organised Religious Activity	0.14	0.08	1.14	[.98, 1.34]	2.72	0.10
	Intrinsic Religiosity	-0.12	0.05	0.89	[.81,.97]	6.78	0.01
Assault	Organised Religious Activity	-0.15	0.07	0.86	[.75,.98]	5.35	0.02
	Non-organised Religious Activity	0.04	0.05	1.04	[.94, 1.15]	0.52	0.47
	Intrinsic Religiosity	-0.06	0.03	0.95	[.89, 1.00]	3.73	0.05
Problem Behaviour Syndrome	Organised Religious Activity	0.09	0.14	1.09	[.83, 1.44]	0.40	0.53
	Non-organised Religious Activity	0.13	0.11	1.14	[.92, 1.41]	1.34	0.25
	Intrinsic Religiosity	-0.14	0.06	0.87	[.77,.98]	5.16	0.02

Note. CI – confidence interval for Exp(B).

Five out of eight models proved statistically significant. These were models for Involvement in Crimes ( $\chi^2(3) = 25.59$ ;  $p < 0.001$ ;  $R^2 = .07$ ); Drug Use ( $\chi^2(3) = 41.91$ ;  $p < 0.001$ ;  $R^2 = .06$ ), Vandalism ( $\chi^2(3) = 32.02$ ;  $p < 0.001$ ;  $R^2 = .05$ ); Assault ( $\chi^2(3) = 21.39$ ;  $p < 0.001$ ;  $R^2 = .03$ ) and School Misconduct ( $\chi^2(3) = 8.39$ ;  $p = 0.04$ ;  $R^2 = .02$ ). Religiosity showed the closest relationship with Involvement in Crimes, with Organised, or Institutional, Religiosity as its significant predictor. For Drug Use this was Inner and Institutional Religiosity. For Vandalism – Organised and Non-Organised Reli-



gious Activity, with the latter producing reverse correlation than initially assumed. For Assault – Organised Religious Activity, and for School Misconduct – Intrinsic Religiosity. Overall, Organised Religious Activity proved to constitute a significant predictor for 4 types of problem behaviour, while Intrinsic Religiosity for three, and Non-organised Religious Activity for one (reverse correspondence).

#### THE MODERATING ROLE OF GENDER IN THE RELATIONSHIP BETWEEN RELIGIOSITY AND PROBLEM BEHAVIOUR

The moderating role of gender in the relationship between religiosity and the PBS was assessed using logistic analysis. Each type of problem behaviour was provided with a model where the presence of problem behaviour was the explained variable, while the three aspects of religiosity, gender and the interaction between religious factors and gender served as the explanatory variables. The moderation was assessed on the basis of the interaction effect significance.

Only one significant interaction was found, namely in Alcohol and Tobacco Use being predicted by Non-organised Religious Activity (Wald(1) = 5.82;  $p = 0.16$ ;  $\text{Exp}(B) = 0.67$  [0.48, 0.93]). Simple effects tests showed a negative relationship between Non-organised Religious Activity and the presence of Alcohol and Tobacco Use in women ( $B = -0.20$ ; Wald(1) = 2.40;  $p = 0.12$ ;  $\text{Exp}(B) = 0.82$  [0.64, 1.05]) and a positive one in men ( $B = 0.21$ ; Wald(1) = 6.36;  $p = 0.057$ ;  $\text{Exp}(B) = 1.23$  [0.99, 1.52]).

DIMENSIONS OF RELIGIOSITY AND THE INTENSITY OF PROBLEM BEHAVIOUR

In order to evaluate the relationship between religiosity and the intensity of problem behaviour, the study measured the links between the dimensions of religiosity and the intensity of each type of behaviour in the groups of people who had been involved in such behaviour at least once. Table 4 presents the correlations between the dimensions of religiosity and the intensity of problem behaviour found in each subgroup.

Table 4. Kendall's tau correlation between the dimensions of religiosity and the intensity of problem behaviour in the groups of people displaying such behaviour

Variable	n	Organised Religious Activity	Non-organised Religious Activity	Intrinsic Religiosity
Involvement in Crimes	70	-0.11	0.07	0.01
Alcohol and Tobacco Use	808	-,11**	-,09**	-,08**
Vandalism	289	-0.07	0	-0.05
Theft	212	.14**	-0.1	-0.08
Drug Use	320	-,20**	-,15**	-0,08
School Misconduct	814	-,07*	-,06*	-,09**
Assault	379	-,23**	-,13**	-,13**
Problem Behaviour Syndrome	863	-,18**	-,11**	-,14**

Subsequently, series of linear regression analyses were conducted for the corresponding groups to estimate the intensity of problem behaviour predicted by religiosity aspects. For findings, please see Table 5.

Table 5. Summary of linear regression models predicting the intensity of the individual types of problem behaviour on the basis of findings for religiosity aspects.

		B	SE	Beta	t	p
1	2	3	4	5	6	7
Involvement in Crimes (n = 70)	Organised Religious Activity	-0.12	0.07	-0.29	-1.75	0.086
	Non-organised Religious Activity	0.07	0.06	0.18	1.14	0.259
	Intrinsic Religiosity	0.01	0.03	0.08	0.44	0.661
Alcohol and Tobacco Use (n = 808)	Organised Religious Activity	-0.13	0.06	-0.10	-2.23	0.026
	Non-organised Religious Activity	-0.03	0.05	-0.03	-0.65	0.519
	Intrinsic Religiosity	-0.02	0.03	-0.03	-0.66	0.511
Vandalism (n = 289)	Organised Religious Activity	-0.06	0.05	-0.11	-1.31	0.191
	Non-organised Religious Activity	0.04	0.04	0.08	1.03	0.304
	Intrinsic Religiosity	-0.01	0.02	-0.04	-0.49	0.625
Theft (n = 212)	Organised Religious Activity	-0.09	0.06	-0.13	-1.42	0.156
	Non-organised Religious Activity	-0.02	0.05	-0.04	-0.45	0.652
	Intrinsic Religiosity	-0.01	0.03	-0.04	-0.38	0.707
Drug Use (n = 320)	Organised Religious Activity	-0.18	0.05	-0.27	-3.73	< 0.001
	Non-organised Religious Activity	-0.05	0.04	-0.09	-1.38	0.170
	Intrinsic Religiosity	0.03	0.02	0.09	1.24	0.216
School Misconduct (n = 814)	Organised Religious Activity	-0.01	0.03	-0.01	-0.22	0.825
	Non-organised Religious Activity	0.00	0.02	-0.01	-0.19	0.852
	Intrinsic Religiosity	-0.02	0.01	-0.09	-1.92	0.056

1	2	3	4	5	6	7
Assault (n = 379)	Organised Religious Activity	-0.23	0.05	-0.31	-4.44	< 0.001
	Non-organised Religious Activity	0.02	0.04	0.03	0.46	0.648
	Intrinsic Religiosity	0.01	0.02	0.02	0.23	0.819
Problem Behaviour Syndrome (n = 863)	Organised Religious Activity	-0.89	0.18	-0.22	-5.01	< 0.001
	Non-organised Religious Activity	0.03	0.14	0.01	0.20	0.842
	Intrinsic Religiosity	-0.15	0.08	-0.09	-1.87	0.062

Five models proved statistically significant. In four of them, i.e. the intensity of Alcohol and Tobacco Use (n = 808; F = 5,69; p < 0.001; adjusted R-squared = 0.02), Drug Use (n = 320; F = 41,91; p < 0.001; adjusted R-squared = 0.05), Assault (n = 379; F = 11,18; p < 0.001; adjusted R-squared = 0.08) and Problem Behavior Syndrome (n = 863; F = 23,27; p < 0.001; adjusted R-squared = 0.07), it was Organized Religiosity that proved to be a significant predictor. In the model for School Misconduct (n = 814; F = 3,08; p < 0.03; adjusted R-squared = 0.01) the relationship with Intrinsic Religiosity came close to statistical significance. In all significant models, except for School Misconduct, the only significant predictor of problem behaviour in the groups of people involved in this behavior was Organised Religiosity. Contrary to the models built for the presence of problem behaviour, it also proved significant for the intensity of the PBS global score.

### THE MODERATING ROLE OF GENDER IN THE RELATIONSHIP BETWEEN RELIGIOSITY AND THE INTENSITY OF PROBLEM BEHAVIOUR

The moderating role of gender in the relationship between religiosity and the intensity of problem behaviour was tested on the basis of the analysis of covariance (ANCOVA) in the groups of people who had involved in the individual problem behaviour types. Each type of problem behaviour was provided with a model where the intensity of problem behaviour was the explained variable, while the three aspects of religiosity, gender and the interaction between religious factors and gender served as the explanatory variables. The moderation was assessed on the basis of the interaction effect significance.

Two significant interactions were identified. The first manifested itself in Vandalism being predicted by Non-organised Religious Activity ( $n = 289$ ;  $F = 4.45$ ;  $p = 0.036$ ;  $\eta^2 = 0.02$ ). Simple effects tests showed an insignificant effect of interaction between Non-organised Religious Activity and Vandalism in women ( $n = 108$ ;  $B = -.06$ ;  $t = -0.97$ ;  $p = 0.335$ ;  $\eta^2 = 0.01$ ) and a significant positive effect in men ( $n = 181$ ;  $B = .10$ ;  $t = -2.25$ ;  $p = 0.025$ ;  $\eta^2 = 0.03$ ). The second significant interaction manifested itself in Theft being predicted by Intrinsic Religiosity ( $n = 212$ ;  $F = 4.07$ ;  $p = 0.045$ ;  $\eta^2 = 0.02$ ). Simple effects tests showed a negative insignificant effect of interaction between Intrinsic Religiosity and Theft in women ( $n = 109$ ;  $B = -.06$ ;  $t = -1.64$ ;  $p = 0.105$ ;  $\eta^2 = 0.03$ ) and an insignificant positive effect in men ( $n = 103$ ;  $B = .05$ ;  $t = 1.24$ ;  $p = 0.218$ ;  $\eta^2 = 0.02$ ).

### CONCLUSIONS

The above-mentioned findings point to a few conclusions in the assessment of religiosity as a factor that protects teenagers

from problem behaviour. First of all, religiosity serves as a factor which protects adolescents both against engaging in deviant activities, but also from excessive involvement in different types of behaviour that are not socially accepted. Even though the findings produced by this study suggest the protective effect of religiosity on young people's inclination towards problem behaviour, it needs to be noted that this effect is not very strong. This conclusion is corroborated both by the poor predictive effect of religiosity in relation to the analysed problem behaviour, and by the fact that the protective functions of this variable are not manifested in all the categories of problem behaviour analysed in this study.

Secondly, the protective functions of religiosity in teenager population are based on an array of psychosocial mechanisms. The findings obtained in this study suggest that important protective roles are played both by Organised Religiosity and Intrinsic Religiosity, while personal religious practices are less significant in terms of such protection. However, these protective functions of Organised Religiosity can stem from teenagers' *modus operandi* in their social networks which include religious persons. Mechanisms that govern individual behaviour patterns in young people within religious social networks include such deviance-suppression factors as the sense of affiliation, sense of support, shared values and standards of conduct, the existence of mutual responsibilities, the fulfilment of adopted roles, and reciprocal behaviour control (Landrine et al., 1994). The governance capacity of these defence mechanisms is likely to be largely dependent on the number of religious members of the network, their similarity, level of intimacy and mutual interactions (Berkman & Glass, 2000; Niewiadomska, 2009).

The defensive effect of Intrinsic Religiosity against the inclination towards problem behaviour can, in turn, be the outcome of motivation based on the inner system of religious values, relatively fixed as part of adolescents' belief system regarding

their preferred *modus operandi* or ultimate existential states, arranged according to their relative importance (Schwartz, 1992). The intrinsic system of religious values can serve as the basis for choices made by young people both in terms of their goals and methods of achieving them, which in consequence contributes to the protective function of intrinsic religiosity against problem behaviour (Bartczuk & Jarosz, 2006; Niewiadomska & Wałęjsza, 2005; Niewiadomska, 2007).

The third conclusion refers to the comparison of authors' own studies with findings presented in the literature on the subject in terms of seeking answers to questions concerning the functions of protecting teenagers against deviation, as fulfilled by religiosity. The findings of the authors' own studies confirm the regularity that the protective function is fulfilled both by the public displays of religiosity, which can be manifested in the importance of organised religiosity to suppressing deviation, and the expressions of private religiosity in the form of the high intensity of intrinsic religiosity.

It is also important to note that the findings of this study complement the information on the significance of the manifestations of private religiosity for reducing the risk of socially unacceptable behaviour among teenagers. It was established that the religious beliefs of young people are crucial in this respect, while the manifestations of private religiosity in the form of private religious practices proved of little protective importance.

In addition, the findings of this study contribute to the debate on the importance of gender for the relationships between the religiosity in adolescents and their displays of problem behaviour. These regularities corroborate the claim that gender is not an important moderator of such relationships.

The fourth conclusion relates to the possibility of continuing the research on religiosity and its function of protecting teenagers against deviations. In this context, it is crucial to note such issues as 1) the improvement of the previously applied research meth-

odology, e.g. using more complex tools to measure public and private displays of religiosity, 2) the change in research methodology, e.g. by abandoning the self-description of the tested variables in favour of the observation of their manifestations in teenagers, 3) the search for important social and psychological moderators of the relationships between the diverse displays of religiosity and the presence of problem behaviour, 4) the development of analyses concerning the unexpectedly positive interactions between private religious practices and the socially unacceptable behaviour in the form of vandalism.

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