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Psychometric validation of the Adolescence Deconversion Scale

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There is strong evidence supporting the occurrence of a religious and spiritual transformation during adolescence. In this article, the topic was studied based on the analysis of deconversion according to the approach developed by Streib and collaborators. A psychometrically valid measure of deconversional processes was proposed. This paper shows the results of a cross-validation and revision study of the Adolescence Deconversion Scale (ADS) involving 366 Polish youths (aged 15–20). The results support the five-factor structure of the scale (Abandoning Faith, Withdrawal from the Community, Experiencing Transcendental Emptiness, Moral Criticism and Behavioural Deconversion). The reliability and preliminary theoretical validity assessment of the ADS are satisfactory.

Key words: deconversion; adolescence; spiritual transformation; Adolescence Deconversion Scale.

Adolescence has always been recognized as an especially dynamic stage of the human life cycle. Yonker, Schnabelrauch, and DeHaan (2012) note that religiosity and spirituality are important factors that influence its course. Changes that take place during adolescence in the biological, psychological, and social domains push young people to engage in religious and spiritual activities, such as questioning worldviews and values, seeking meaning and purpose, making lifestyle choices, experiencing transcendence, and searching for the sacred (King, Ramos, & Clardy, 2013). Spiritual transformation during adolescence is a universal characteristic of different religions (Schnitker, Felke, Barrett, & Emmons, 2014).

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The scientific interest of psychologists in religious transformations during adolescence goes back to the very beginning of the psychology of religion (Hall, 1891; Starbuck, 1899) and continues until today. Contemporary works in this field include analyses of the sociological picture of the changes involved (Mariański, 2008; Smith & Snell, 2009; Wuthnow, 2007; Zarzycka, 2008), investigations of the transformations in the light of general developmental changes, in terms of looking for meaningfulness and growth (Uecker, Regnerus, & Vaaler, 2007), ways in which these changes take place at various levels of developmental systems: biological, social and psychological (Arnett, 2004; King et al., 2013; Levenson, Aldwin, & Igarashi, 2013) and the determinants of the transformation (Dawson, 2004; Nowosielski, 2008; Rydz, 2012; Wuthnow, 2007). According to various studies, a substantial transformation of religiosity occurs on multiple levels. However, relatively little attention has been given to the important aspect of spiritual transformation, which involves abandoning one's current religious or/and spiritual orientation, beliefs, practice and morality, as well as dissociation from one's religious community. This aspect can be described as deconversion (Streib, Hood, Keller, Csöff, & Silver, 2009).

According to Streib and his colleagues (2009), deconversion is "the change of a person's religious orientation in a specific biographical time which involves re-writing one's religious identity, revising one's system of beliefs and world views, and re-structuring one's way of thinking, moral judgement, and dealing with authority—with special focus on the act of leaving the old and searching for something different" (p. 23). Streib and Keller (2004) proposed five criteria of deconversion: (1) loss of specific religious experiences; (2) intellectual doubt; (3) moral criticism; (4) emotional suffering; and (5) disaffiliation from the community. In the presented approach, *deconversion* covers a wide range of changes in personal life, including not only rejection of religion, but also changes in religious orientation, bringing religion down to the realm of privacy or finding spirituality (Streib et al., 2009; cf. Nowosielski & Bartczuk, 2016).

An important problem related to the investigation of deconversion is the lack of psychometrically sound instruments for measuring this construct. Streib's team (Streib et al., 2009) operationalized deconversion by means of single survey questions and qualitative methods. Other researchers of this phenomenon also applied qualitative methods (Altemeyer & Hunsberger, 1997; Jamieson, 2002). In this paper we show the results of our research aimed at confirming the structure of a scale which serves to measure the deconversional processes taking place during adolescence.

As we understand it, deconversional processes are all sorts of changes in beliefs, emotions and behaviour which reflect one's departure from the current ways of experiencing and/or showing religiosity. In other words, deconversional processes are those (cognitive, emotional, behavioural and social) processes which lead to (the act of) deconversion. We defined deconversional processes more specifically by referring to the five dimensions of deconversion

described by Streib and Keller (2004), complemented by the dimension of disturbance in the personal relation to God, distinguished by Nowosielski (2008) based on a qualitative study of adolescents who were experiencing a religious crisis.

The development of the Adolescence Deconversion Scale (ADS) was preceded by defining the specific deconversional processes, separately for each of the six theoretical dimensions. Based on the research on changes in religiosity in youth and on the respective literature, 172 statements were generated. Following the evaluation of their content validity by 30 competent judges, 42 best items were selected and an experimental version of the ADS was formulated (Nowosielski & Bartczuk, 2017).

A study of a sample of 323 school pupils aged between 16 and 20 did not support the theoretical six-dimensional structure of deconversional processes in this age group. However, based on the results of an exploratory factor analysis, four such processes were distinguished: abandoning faith (related more to intellectual belief), experiencing transcendental emptiness (related to experience and emotions), moral criticism (in the sphere of moral judgments) and withdrawal from community (related to social relations). The final version of the ADS includes 23 items. A detailed description of the development of the ADS can be found in an article by Nowosielski and Bartczuk (2017).

In the course of further work on the ADS, we noticed two weaknesses of the scale. First, some items of certain sub-scales had relatively lower factor loadings, which pointed to deficiencies in their validity. Second, the scale had no items referring to deconversional behaviours, such as a lowered frequency of private and public religious practices.

Our objectives in this paper were to (1) confirm the structure of deconversional processes; (2) revise ADS items and complement them with the behavioural dimension; (3) evaluate the psychometric properties of the revised version of the scale; (4) make a preliminary evaluation of the theoretical validity of the ADS.

METHOD

Participants

The study was conducted in 2014 in four secondary schools located in two towns near Warsaw (Skierniewice and Godzianów). The students were surveyed in class. A total of 12 classes participated in the study. The participation was voluntary.

The study involved 366 participants aged 15–20 (M = 17.20, SD = 0.78), 52% of whom were women. Eighty four percent of the respondents came from two-parent families, 56% lived in a city or a town. Religious affiliation was as follows: Catholics—89%, no affiliation – 9%, Protestants and Pentecostals – 1%, other affiliations—1%. The participants described their attitude toward religion as follows: "religious"—51%, "non-practising believer"—21%, "very religious" and "religiously indifferent"—7% each, "atheist" and "spiritual but not religious"—4% each, „not religious" and "agnostic"—3% each.

Measures

The socio-demographic data of the participants were collected based on questions related to age, sex, type of family (two-parent/other), place of residence and the declared attitude towards religion.

ADS. Deconversional processes were measured using the ADS (Nowosielski & Bartczuk, 2017). The scale consists of 23 items. The participants assess their attitudes toward these items by evaluating changes in their own religiosity within the preceding 12 months. Answers are given by rating the similarity of the statements to the participants' own experiences (0 = *totally unlike me*, 1 = *a bit similar*, 2 = *similar*, 3 = *very similar*). The ADS is divided into 4 sub-scales: Abandoning Faith (AFa, 6 items), Withdrawal from Community (WFC, 7 items), Experiencing Transcendental Emptiness (ETE, 6 items), and Moral Criticism (MCr, 4 items). The reliabilities of the individual sub-scales in the constructional study were high: $.85 \leq \alpha \leq .94$, $.84 \leq \lambda_6 \leq .96$.

We added two sets of experimental items to the 23 ones originally included in the ADS. First, in order to achieve a higher discriminant validity of the subscales, we added 11 new items: 2 to AFa, 4 to WFC, 2 to ETE and 3 to MCr. Second, we generated 9 new items which expressed deconversion in one's behaviour. The new items were added at the end of the sheet.

Retrospective Analysis of Religiosity (RAR). To discover changes in the respondents' attitudes toward religion, we applied a graphic method based on Płużek's (2002) proposal. It is a coordinate system in which the vertical axis is composed of categories of attitude toward religiosity ("atheist," "agnostic," "not religious," "spiritual but not religious," "religiously indifferent," "non-practising believer," "religious," "very religious"). The horizontal axis measures time in years. Using the scheme, the participant draws a line which expresses his or her flow of religious life. A change in the "religiosity line" denotes a change in the way of experiencing and showing religiosity. In the present study, participants were assigned to the group in which qualitative changes toward religion had taken place if the graph showed a marked difference between their attitudes now and two years earlier on the time axis.

Duke University Religiosity Index (DUREL). Religiosity was assessed by means of the DUREL (Koenig & Büssing, 2010), as adapted into Polish by Jarosz, Wiechetek and Bartczuk (2012). The DUREL is a 5-item measure which assesses Organised Religious Activity (frequency of attending religious services; 1 item), Non-Organised Religious Activity (frequency of praying, meditating, or studying religious texts; 1 item) and Intrinsic Religiosity (internalisation of one's religious practices and beliefs; 3 items). Items are scored on 5- and 6-point response formats. In the present study, Cronbach's α for the Intrinsic Religiosity sub-scale was 0.83.

Delta. The inclination to present oneself in a better light was measured using the Lie Scale from the Delta questionnaire (Drwal, 1980). This measure consists of 10 Yes/No questions and is based on theoretical assumptions formulated by Crown and Marlowe (1960). It is often used in research conducted

among secondary school students. The reliability of the Lie Scale in Drwal's study was $\alpha = .46$, and in the present study it was .45.

Analyses

Statistical analyses were conducted in the R environment (R Core Team, 2015). They included the results obtained from 364 subjects who provided answers to at least 80% of the ADS items. This criterion was not met by 2 participants (.06% of the sample). Other missing values were replaced using the procedure based on canonical variables (Harrel, with contributions from Dupont and others, 2015). In total, there were 131 missing values supplemented, which amounted to 6‰ of all results.

The structure of the ADS was analysed in 3 stages which involved (1) confirming the structure of deconversional processes, (2) revising and selecting items and (3) exploring the structure of the new version of the scale, extended to cover the behavioural aspect of deconversion.

The previously discovered structure was corroborated by confirmatory factor analysis using the robust maximum likelihood method (with the Yuan-Bentler correction), implemented in the lavaan package (Rosseel, 2012). To assess model fit, we examined absolute (χ^2, χ^2/df, SRMR), incremental (CFI, TLI) and parsimony-adjusted (RMSEA) fit indices (Jackson, Gillaspy, & Purc-Stephenson, 2009). Given our data, sample size, and estimation procedures, we set cut-off values of > .90 for both TLI and CFI (Hu & Bentler, 1998, 1999), ≤ .06 for RMSEA and ≤ .08 for the upper value of its CI (Hu & Bentler, 1998; Steiger, 1990), < .08 for SRMR (Hu & Bentler, 1998, 1999) and ≤ 2 for χ^2/df (Ullman, 2006).

We revised the ADS items by means of extended exploratory hierarchical factor analysis, using minimum residuals estimation with the promax rotation, implemented in the psych package (Revelle, 2015). Extended factor analysis made it possible to obtain factor loadings of the newly introduced (extended) items in the matrix of factor loadings received by means of the factor analysis of the original items. Oblique rotation was chosen based on the assumption of concomitance of deconversional processes.

The structure of the new version of the scale was analysed by means of hierarchical factor analysis using the minimum residuals method with target oblique rotation (Revelle, 2015). We tested the hypothesis of the distinctiveness of the behavioural factor in the structure of deconversional processes. The dimensionality of the ADS was explored using the Kaiser criterion, the Minimum Average Partial (MAP) criterion (Velicer, 1976) and parallel analysis. As we applied target rotation in factor analysis, we were able to transform the matrix of factor loadings so that it could be best fitted to the other matrix (Bernaards & Jennrich, 2005). In the present analysis, the non-rotated factor solution was transformed so that factor loadings were closest to the model matrix, in which the items of a particular factor had loadings of 1 for this factor and loadings of 0 for the other factors. Identity of the rotated matrix with the model matrix was tested using the φ-Tucker congruence coefficient, for

which the criterion value in relation to the factors was .9 (Lorenzo-Seva & ten Berge, 2006). As for the items, a more liberal criterion of .8 was assumed.

Reliability of the ADS was tested by the internal consistency method using two coefficients: Cronbach's α and Guttman's λ_6 (cf. Sijtsma, 2009).

RESULTS

ADS structure

The original structure of the 23-item ADS was cross-validated with the use of confirmatory factor analysis. A hierarchical model in which four first-level factors (each consisting of appropriate items) were part of a second-level general deconversion factor was tested. The goodness-of-fit indices were as follows: $\chi^2(226) = 489.429$ ($p < .001$), $\chi^2/df = 2.17$, CFI = .92; TLI = .91; RMSEA = .057 [.051; .062]; SRMR = .054. All indices reached the criterion values. Table 1 shows the evaluated parameters of the model.

Table 1.

Unstandardized Loadings (L), Standardized Loadings (λ), Standard Errors (SE_λ)and their Significance Tests for a Two-level Four-factor Confirmatory Model of ADS ($N = 364$)

Item	Factor	*L*	λ	SE_λ	*z*
ADS02	AFa	0.201	.619	.046	13.576***
ADS11	AFa	0.318	.772	.031	24.884***
ADS15	AFa	0.363	.829	.024	34.027***
ADS19	AFa	0.233	.664	.045	14.756***
ADS22	AFa	0.347	.865	.021	40.558***
ADS23	AFa	0.298	.762	.035	21.699***
ADS06	WFC	0.406	.835	.020	42.400***
ADS09	WFC	0.429	.85	.020	43.238***
ADS13	WFC	0.322	.678	.039	17.409***
ADS14	WFC	0.405	.806	.024	33.418***
ADS17	WFC	0.294	.643	.039	16.302***
ADS18	WFC	0.444	.877	.018	48.114***
ADS21	WFC	0.390	.737	.032	23.281***
ADS01	ETE	0.275	.542	.053	10.263***
ADS03	ETE	0.354	.708	.038	18.744***
ADS04	ETE	0.419	.723	.036	20.045***
ADS05	ETE	0.370	.647	.043	14.905***
ADS07	ETE	0.288	.532	.051	10.382***
ADS10	ETE	0.391	.711	.043	16.433***

ADS08	MCr	0.373	.723	.039	18.566***
ADS12	MCr	0.428	.741	.036	20.797***
ADS16	MCr	0.401	.785	.034	23.229***
ADS20	MCr	0.392	.73	.038	19.162***
F1	G	2.431	.925	.021	43.687***
F2	G	2.086	.902	.020	44.636***
F3	G	1.365	.807	.039	20.722***
F4	G	1.623	.851	.029	29.127***

Note. *** $p < .001$.

The analysis showed that the structure of the 23 original ADS items was the same as in the constructional study (Nowosielski & Bartczuk, 2017).

ADS revision

The ADS was revised in two stages. The first one was aimed at replacing some ADS items with their improved equivalents. The objective of the second one was to complement the method with items which expressed deconversional behaviours.

Improvement and selection of ADS items. The analysis included responses to 23 original and 11 new items. Data were subjected to extended hierarchical factor analysis with promax rotation. Table 2 shows the results.

Table 2.

Summary of Extended Exploratory Hierarchical Factor Analysis Results for ADS (N = 364)

	1-order Factor loadings				Subscale membership	
Item	WFC	AFa	ETE	MCr	Revised	Original
ADS09	**.869**	.051	.011	−.077	WFC	WFC
ADS18	**.800**	.074	.010	.023	WFC	WFC
ADS21	**.787**	−.026	−.147	.111	WFC	WFC
ADS14	**.770**	−.133	.006	.193	WFC	WFC
ADS06	**.703**	.256	.083	−.162	WFC	WFC
ADS13	**.415**	−.069	.179	.245		WFC
ADS17	.370	.041	.339	.006		WFC
ADS22	−.109	**.965**	−.072	.106	AFa	AFa
ADS23	.171	**.701**	−.059	−.031	AFa	AFa
ADS15	.257	**.666**	−.206	.130	AFa	AFa
ADS19	.034	**.569**	.031	.071	AFa	AFa
ADS02	.159	**.469**	.229	−.178	AFa	AFa

ADS11	.225	.373	.113	.167		AFa
ADS05	.036	-.232	**.832**	.025	ETE	ETE
ADS01	.078	-.210	**.797**	-.139	ETE	ETE
ADS03	−.226	.258	**.680**	-.008	ETE	ETE
ADS10	−.143	.328	**.541**	.038	ETE	ETE
ADS07	−.028	−.131	**.426**	.309		ETE
ADS04	.116	.171	.387	.135		ETE
ADS12	.016	−.001	−.019	**.764**	MCr	MCr
ADS20	.045	.136	−.162	**.715**	MCr	MCr
ADS16	−.044	.008	.160	**.697**	MCr	MCr
ADS08	−.031	.130	.079	**.579**	MCr	MCr
ADS27	**.699**	−.060	−.010	.191		WFC*
ADS29	**.534**	.176	−.203	.245		WFC*
ADS26	**.502**	.322	−.010	.086		WFC*
ADS28	**.400**	.339	−.116	.094		WFC*
ADS24	−.027	**.414**	.347	.042		WFC*
ADS25	.036	.368	.329	.126		WFC*
ADS33	.180	−.109	**.503**	.033	ETE	ETE*
ADS31	.000	.318	.044	**.477**	MCr	MCr*
ADS30	.330	−.158	.349	.228		ETE*
ADS32	.315	.053	.154	.266		MCr*
ADS34	**.462**	.085	−.174	**.441**		MCr*

Note. Factor loadings over .40 are given in bold. Asterisk indicates extended items.

Based on the analysis, we selected 5 items with the highest factor loadings for each ADS subscale, and replaced two original items with new ones (Table 2).

Extension of ADS to include the behavioural dimension. In the second stage of ADS revision, we analysed 20 items selected in the previous stage and 9 new items which expressed deconversional trends in behaviour. The aim of the analysis was to check whether these items would create a separate factor. A dimensionality analysis was carried out using the Kaiser criterion, the MAP criterion and parallel analysis. All of the criteria showed that there were 5 factors to be extracted. Therefore, we assumed that "behavioural" items made up a separate factor.

Next, the 5-factor structure was confirmed by means of hierarchical factor analysis with oblique target rotation. Having extracted the factors, we rotated the matrix of factor loadings towards the model matrix in which value 1 was assigned to items with corresponding factors (columns T1–T2 in Table 3). The rotated matrix of factor loadings was compared with the model matrix using φ-Tucker congruence coefficients. Table 3 shows the results of this analysis.

Table 3.

Target Matrix, Factor Loadings and Congruence Coefficients for Hierarchical Exploratory Factor Analysis of ADS and "Behavioral" Items Using Target Rotation (N = 364)

Item	Target matrix					Factor loadings					φ (for items)
	T2	T1	T4	T3	T5	WFC	AFa	MCr	ETE	ZDe	
ADS06	1	0	0	0	0	**.616**	.351	−.178	.114	.040	.831
ADS09	1	0	0	0	0	**.722**	.184	−.129	.054	.104	.943
ADS14	1	0	0	0	0	**.636**	−.033	.119	.039	.147	.956
ADS18	1	0	0	0	0	**.675**	.193	−.004	.012	.087	.954
ADS21	1	0	0	0	0	**.671**	.035	.064	−.144	.185	.939
ADS02	0	1	0	0	0	.324	.390	−.065	.191	−.171	**.682**
ADS15	0	1	0	0	0	.331	**.622**	.144	−.188	−.075	.832
ADS19	0	1	0	0	0	−.033	**.565**	.055	.063	.120	.967
ADS22	0	1	0	0	0	−.038	**.843**	.143	−.031	−.015	.984
ADS23	0	1	0	0	0	.122	**.736**	−.061	.002	.040	.982
ADS08	0	0	1	0	0	.032	.032	**.635**	.079	−.052	.987
ADS12	0	0	1	0	0	−.074	−.039	**.763**	.023	.086	.987
ADS16	0	0	1	0	0	−.137	−.063	**.765**	.167	.113	.950
ADS20	0	0	1	0	0	.059	.043	**.807**	−.128	−.091	.978
ADS31	0	0	1	0	0	−.023	.276	**.519**	.029	.032	.880
ADS01	0	0	0	1	0	.150	−.187	−.053	**.682**	−.042	.940
ADS03	0	0	0	1	0	−.094	.148	.062	**.626**	−.003	.958
ADS05	0	0	0	1	0	.110	−.206	.103	**.700**	−.041	.938
ADS10	0	0	0	1	0	−.056	.241	.073	**.554**	−.007	.907
ADS33	0	0	0	1	0	−.016	.051	.001	**.460**	.189	.919
ADS35	0	0	0	0	1	**.465**	−.058	.162	−.078	.293	**.504**
ADS36	0	0	0	0	1	.267	−.270	−.006	.059	**.647**	.860
ADS37	0	0	0	0	1	.095	.052	−.055	.137	**.617**	.959
ADS38	0	0	0	0	1	−.112	.230	.028	.137	**.609**	.902
ADS39	0	0	0	0	1	−.146	.273	−.074	.027	**.722**	.914
ADS40	0	0	0	0	1	.033	−.022	−.045	−.061	**.868**	.995
ADS41	0	0	0	0	1	.052	−.017	.062	−.079	**.813**	.990
ADS42	0	0	0	0	1	.003	−.164	−.002	−.037	**.916**	.984
ADS43	0	0	0	0	1	−.042	−.137	.016	−.022	**.897**	.987
φ (for factors)						.879	.843	.954	.934	.948	.915

Note. Factor loadings over .40 and φ values below .80 are given in bold.

The results confirm the assumptions regarding the structure of the ADS. The congruence coefficients for the whole matrix and for the following factors: ETE, MCr and Deconversional Behaviours (DBe) reached the expected criterion value. We observed departures from the assumed structure in some single items from the following factors: WFC and AFa. Item ADS02 of factor WFC ("I more and more often think of abandoning my religious community (Church)") failed to achieve the expected load value and was equally related to its own factor as it was to factor AFa. On the other hand, the "behavioural" item ADS35 ("I go to Church less often") was found in factor WFC. This result shows there is a close relationship between considering apostasy, abandoning faith and rare public practices.

As a result of the analysis, we created a subscale for DBe by choosing 5 items with the highest factor loadings. The analysis of their meaning (cf. Appendix) points to a relationship of this factor with withdrawal from one's religious interests.

Reliability and intercorrelations of subscales

Table 4 shows the descriptive statistics of distributions of ADS scores, their reliabilities and intercorrelations.

Table 4.

Descriptive Statistics, Reliabilities, and Intercorrelations of Subscales and Total Score of ADS (N = 364)

Subscales	k	M	SD	α	λ_6	1.	2.	3.	4.	5.
1. WFC	5	1.14	1.009	.91	.91					
2. AFa	5	.65	.813	.87	.88	.74				
3. MCr	5	.89	.823	.86	.85	.68	.68			
4. ETE	5	.64	.667	.78	.79	.53	.55	.56		
5. DBe	5	1.65	1.018	.90	.91	.60	.39	.44	.32	
6. ADS (Total)	25	.99	.695	.94	.96	.90	.83	.83	.70	.72

The global and subscale scores of ADS show good reliability. The high intercorrelations confirm a relatively low differentiation in deconversional processes in adolescents. This refers in particular to strong intercorrelations among the following processes: AFa, WFC and MCr. Second-level factor loadings observed in the hierarchical factor analysis (from .57 for DBe to .87 for WFC) show that all subscales can be treated as indicators of the same phe-

nomenon. The coefficient of saturation with the general factor (Revelle & Zinbarg, 2009) was $\omega_T = .96$.

Similarly to a previous study of the ADS (Nowosielski & Bartczuk, 2017), the means for the particular processes differed from one another ($F(4, 1452) = 185.95$; $p < .001$; $\eta^2 = .34$; Table 4 shows the means). Multiple comparisons with Bonferroni's correction demonstrated that the highest mean was on DBe (significantly different from other means $p < .001$) followed by Withdrawal from Community (significantly different from other means $p < .001$) and MCr (significantly different from other means $p \leq .001$), and the lowest mean was on AFa and ETE (with no differences between each other). This result shows that deconversional processes of a social nature are more prevalent in adolescents than those of an individual character. The highest results in the behavioural dimension provided justification for adding this factor as a sensitive indicator of deconversion.

Deconversion and sociodemographic variables. In our previous study on the ADS (Nowosielski & Bartczuk, 2017), no significant correlations were found between deconversion and age, sex, or type of family (two-parent/other), but respondents living in cities had higher scores in comparison to those who lived in villages (with the exclusion of ETE). We expected that this relationship would be confirmed in the present study. Just as we assumed, no correlations were found between deconversion and age or sex. However, respondents from two-parent families ($n_T = 305$) scored lower than those from other families ($n_O = 59$) on: WFC ($M_T = 1.28$ (.90), $M_S = 1.00$ (.91), $t(362) = 2.13$, $p = .034$), MCr ($M_T = 1.06$ (.81), $M_S = .82$ (.78), $t(362) = 2.13$, $p = .034$), ETE ($M_T = .85$ (.71), $M_S = .63$ (.67), $t(362) = 2.26$, $p = .024$), and the global scale ($M_T = 1.17$ (.74), $M_S = .96$ (.68), $t(362) = 2.11$, $p = .036$). Respondents coming from villages ($n_V = 160$) had significantly lower total ADS scores than those coming from cities ($n_C = 204$) ($M_V = .85$ (.69), $M_C = 1.11$ (.68), $t(362) = 3.57$, $p < .001$) and scored significantly lower on the following subscales: AFa ($M_V = .60$ (.75), $M_C = .86$ (.84), $t(356.29) = 3.15$, $p = .002$), WFC ($M_V = .82$ (.86), $M_C = 1.22$ (.92), $t(362) = 4.24$, $p < .001$), MCr ($M_V = .76$ (.75), $M_C = .94$ (.81), $t(362) = 2.20$, $p = .028$) and BDe ($M_V = 1.46$ (1.02), $M_C = 1.79$ (.99), $t(362) = 3.13$, $p = .002$). No differences were found for ETE only, which mirrors the results obtained in the previous study.

Theoretical validity

The theoretical validity of the scale was evaluated by correlating its results with the measures of other variables theoretically related to deconversion: retrospective changes in one's attitude toward religion (assessed by RAR), religiosity (measured by DUREL) and inclination to show oneself in a better light (measured by the Delta Lie Scale). Table 5 shows the results of the correlational analysis.

Table 5.

Attitude Towards Religion Change, Organizational Religious Activity, Non-Organizational Religious Activity, Intrinsic Religiosity, and Social Desirability: Descriptive Statistics and Correlations with ADS (N = 364)

Variable	*M*	*SD*	WFC	AFa	MCr	ETE	DBe	ADS
Attitude towards religion change[a]	.31	.46	.20***	.18***	.22***	.21***	.12*	.22***
Organizational religious activity	3.85	1.30	−.56***	−.63***	−.44***	−.28***	−.44***	−.58***
Non-organizational religious activity	2.62	1.66	-.45***	−.43***	−.40***	−.28***	−.38***	−.48***
Intrinsic religiosity	8.77	3.01	−.63***	−.63***	−.58***	−.40***	−.48***	−.66***
Social desirability	2.42	1.73	−.03	.00	−.06	.00	−.09	−.05

Note. * $p < .050$, *** $p < .001$. [a]Attitude towards religion change: 1—Attitude towards religion change coding, 0 = change absent, n = 361.

We assumed that the increase in deconversional processes was related to the change occurring in one's attitude towards religion within the recent two years. This assumption was confirmed by statistically significant correlations between the indicator obtained by means of RAR and all ADS subscales.

We hypothesized that religiosity would be negatively related to deconversional processes, assuming at the same time that Organisational Religious Activity would be correlated to the greatest extent with social processes (WFC, MCr) and with BDe whereas Non-Organisational Religious Activity and Intrinsic Religiosity would be associated with individual factors (AFa, ETE). All correlations were, as anticipated, negative and significant, but the pattern of correlations differed from expected. Intrinsic Religiosity was correlated most strongly with all ADS subscales, which suggests a strong correlation between deconversional processes and internalisation of religion. Organisational Religious Activity was correlated stronger than Non-Organisational Religious Activity with all deconversional processes, not only those of a social character. ETE was an exception here, as it correlated with private and public practices to the same extent.

Based on the research on the previous version of the ADS, we expected weak but significant correlations of the scale with the measure of social desirability. In the present study, we did not obtain significant correlations, which proves that the ADS is relatively resistant to showing oneself in a better light.

The preliminary assessment of the theoretical validity of the ADS is therefore satisfying.

DISCUSSION

This paper shows the results of research on the ADS and its revision. The results corroborated the five-factor structure of the scale. We also confirmed the previously identified four deconversional processes—abandoning faith, withdrawal from community, experiencing transcendental emptiness and moral criticism—and complemented them with behavioural deconversion. The behavioural dimension is a relatively separate deconversional process, and it is probably related to religious/spiritual interests; it is manifested primarily by less frequent searching for information. Based on research data, we complemented the ADS with a new sub-scale, replaced two items and shortened the whole scale. The reliability of the Scale is acceptable. Moreover, we preliminarily confirmed its theoretical validity and resistance to the influence of social acceptance.

Apart from psychometric measures, the results we obtained allowed us to draw certain conclusions regarding the phenomenon of deconversion during adolescence. The change in religious attitude occurred within the preceding two years in 31% of the participants, which means that adolescents do experience deconversional processes. This result is in accordance with what has been discovered so far in the field of spiritual transformation during adolescence (King et al., 2013; Levenson et al., 2013). All deconversional processes are related to these changes. The processes themselves show a relatively weak differentiation, which is probably typical of development, as per the theory of differentiation (Werner, 1957). Nevertheless, one can distinguish three types of processes: behavioural, social (withdrawal from community and moral criticism) and individual (abandoning of faith and experiencing transcendental emptiness). The preponderance of social over individual processes in adolescents suggests that deconversion has a social rather than an individual nature in this period. This observation is in line with the existing knowledge in developmental psychology, both in terms of the development of moral judgements (Colby & Kohlberg, 1987) and the development of faith (Fowler, 1981). At this developmental stage, it is still more important for an adolescent to search for their own identity in the light of social roles than to shape their religious beliefs based on personal experience of faith. An additional confirmation of this is the fact that deconversion is correlated more strongly with the public cult rather than private practices, and that the attitude to faith is related to the attitude to religious institutions, as shown by the participants' responses to ADS items.

The results of the present research indicate the potential factors that influence deconversion: internalization of religion, environmental factors, and family conditions. This confirms that spiritual transformations in adolescence are affected by both the cultural context and individual motivation (Kornadt, 2012; Krok, 2016).

This study served as a basis for developing the Adolescence Deconversion Scale. The present version of the ADS is a method with satisfying psychometric parameters. The principal field of its application is in research on the con-

ditions and processes which precede personal decisions leading to permanent changes in religiosity and spirituality, in particular, the rejection of existing religious orientations (e.g. apostasy, involvement in mock religions or so called "heretic exits") and changes in orientation (e.g. involvement in new religious movements or conversions from Christianity to Judaism or Islam). These phenomena and fields of research are of topical interest to today's psychology.

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Appendix

Adolescent Deconversion Scale

Sentences given below relate to changes of behavior, thoughts and feelings associated with religion and spirituality. Your task is to indicate the extent to which the opinions expressed in each of the following statements correspond to what has happened in your religious life in the past year (last 12 months), i.e. to what extent the content of the statement is similar to your experience.
Check the digit on the right which best represents your answer using the following scale:
0 = totally unlike me, 1 = a bit similar to me, 2 = similar to me, 3 = very similar to me.
PLEASE NOTE: DO NOT RATE your actual experience if it has not changed during the last 12 months. We are only interested in a CHANGE in your experience in the past year. If your experiences are the same as the year before check "0".

During the last year...
[ADS06] 1. I need religious community (the Church) less than before.
[ADS22] 2. I have started to doubt God's existence.
[ADS20] 3. I cannot understand any more why—according to the religion—I cannot live as I please.
[ADS05] 4. I have started to experience emptiness in my spiritual life.
[ADS43] 5. I take part in religious activities on the Internet less often than before.
[ADS09] 6. Participating in community prayers makes less and less sense to me.
[ADS23] 7. I cannot feel any relationship with God any more.
[ADS16] 8. Religious moral rules more and more often seem impractical to me.
[ADS01] 9. Sadness has begun to dominate my spiritual life.
[ADS39] 10. I use religious media less often than before.
[ADS18] 11. I am getting more and more indifferent to the religious community (the Church).
[ADS15] 12. I am coming to the conclusion that religion is just a human invention.
[ADS12] 13. I have started to doubt if it is possible to keep all the commandments.
[ADS03] 14. More and more often I feel that God has deserted me.
[ADS41] 15. I read books concerned with religion less often than before.
[ADS14] 16. I stopped attending religious meetings (church services).
[ADS19] 17. The concept of God has become incomprehensible to me.
[ADS08] 18. I have started to perceive religious moral rules as restrictions on my freedom.
[ADS10] 19. I am feeling more and more left alone by God.
[ADS42] 20. I attend religious meetings less often than before.
[ADS21] 21. My bond with my religious community (the Church) has weakened.
[ADS02] 22. I am considering leaving my religion more and more often.
[ADS31] 23. The moral rules have become incomprehensible to me.
[ADS33] 24. When I think about my religiousness, more and more often I have an impression that something is dying inside me.
[ADS40] 25. I talk about religious matters less often than before.

Scoring key:
Withdrawal From Community: 1, 6, 11, 16, 21; Abandoning Faith: 2, 7, 12, 17, 22; Experiencing Transcendental Emptiness: 4, 9, 14, 19, 24; Moral Criticism: 3, 8, 13, 18, 23; Deconversional Behaviours: 5, 10, 15, 20, 25.