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THE HUNGARIAN MYSTICISM SCALE AND ITS ASSOCIATIONS WITH MEASURES OF RELIGIOSITY, PERSONALITY, AND COGNITIVE CLOSURE

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The purpose of this study was to introduce the Mysticism Scale on a Hungarian population and to investigate the meaning and nature of reported mystical experiences (ME) from three different aspects: their associations with religious attitudes, the big five personality traits, and the need for cognitive closure. The sample consisted of 240 respondents who completed the Mysticism scale, the Post Critical Belief Scale, the Big Five Inventory, and the Need for Cognitive Closure Scale using an online questionnaire. Results indicated that ME positively correlated with the two dimensions of the Post Critical Belief scale, as well as with Openness to Experience. Moderate but significant positive correlations were found between ME and Agreeableness. Finally, ME negatively correlated with the need for cognitive closure (NFC) and with three of the NFC subscales (Close-mindedness, Preference for Order, and Preference for Predictability). Regression analysis using the above as variables highlighted that the acceptance of Transcendence and Openness to Experience were the main predictors of mystical experiences, whilst Symbolic interpretation might also have contributed, although to a lesser extent.

Keywords: Mysticism Scale, mystical experiences, Openness to Experience, Need for Cognitive Closure, religious attitudes, Post Critical Belief scale

1. Introduction

Mystical experience has been an intriguing topic for a long time, the theological and philosophical literature on mysticism is extensive (HOOD 2005). As from an empirical point of view, we may confront ourselves with concerns regarding the nature of mystical experience and its relationship with other forms of religious and non-religious

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experiences (HOOD et al. 2009). Those looking through relevant literature may find terms such as mystical experience, religious, or spiritual experience, interchangeable. INGE (1899) collected 26 different definitions for mystical experience. However, a considerable consensus does exist, according to which an experience of unity is central to mystical experience (HOOD et al. 2009), regardless of how the individual interpreted it.

1.1. On mystical experience

JAMES (1902) listed four criteria which, in his view, distinguish truly mystical experiences from other forms of experience: these being 1) ineffability (cannot be put into words) 2) noetic quality (provides ‘ultimate knowledge’) 3) transiency (cannot be sustained for long) and 4) passivity (being held by a superior power). The extensive work of STACE (1960) shows similarities with the above phenomenology, but further extends it. He states that there are eight universal characteristics/qualities that are common in all mystical experiences and are present regardless of culture and social background. The first, ‘*ego loss*’ refers to a sense of self loss, during which consciousness remains intact. Through the ‘*unifying quality*’ of a mystical experience, the individual perceives the world and the objects around them as “one”. Furthermore, when someone is in a mystical state, they notice the ‘*inner subjectivity*’ of all things, including purely materialistic objects. In Stace’s view all mystical experiences should also have a ‘*noetic quality*’, meaning that they contain revelations, pure knowledge. Through its ‘*spatial and temporal quality*’, a mystical experience is free of the boundaries of time and space. STACE (1960) also kept JAMES’ (1902) ‘*ineffability*’ criterion and added that mystical states will trigger ‘*positive effects*’, such as joy and happiness. Finally, each mystical experience should have a ‘*religious quality*’. STACE (1960) further described mystical experiences as introvertive or extrovertive, referring to whether the individual experiences the unity directly or through their surroundings and objects around them.

This universalist perspective was criticised by KATZ (1977 cited by HOOD 2005), reasoning that all our experiences are socially construed, therefore each religion or culture will have different mystical experiences. Further studies have proven that mystical experiences appear in different parts of the world regardless of culture (HAY & MORISY 1978; HOOD et al. 2001; CHEN et al. 2011). These lead us to the pragmatic reconciliation that interpretive systems, which may change according to culture and social factors, modify universal personal experiences.

1.2. Empirical study of mystical experience

There have been attempts to measure mystical experiences by using open-ended questions (LASKI 1961; THOMAS & COOPER 1978; HAY & MORISY 1985) and by conducting survey research (GLOCK & STARK 1965; GREELEY 1974) before specific scales were developed to measure mystical experiences (HOOD 1970; HOOD 1975; FRANCIS & LOUDEN 2000).

Currently there are two main empirical approaches in the field of mystical experiences: that of Hood and that of Thalbourne (HOOD 2005). While HOOD (1975) based his measure of mysticism on the unity thesis of STACE (1960), Thalbourne developed his phenomenology based on his own experiences, considering mystical experiences to be purely natural phenomena (THALBOURNE et al. 1997, cited by HOOD 2005). Reviewing STACE's (1960) conceptual framework, HOOD (1975) devised a 32-item questionnaire (M scale). A factor analysis of the M scale indicated two major factors – an intense mystical experience factor and a religious interpretation factor. Additional evidence for the stability of these factors is presented in further research (CAIRD 1988; REINERT & STIFLER 1993), which also suggests splitting the religious interpretation factor into religious and noetic interpretations. So far, the M scale has not been used on a Hungarian population.

Correlation studies carried out on the Mysticism Scale (HOOD 1975) highlight a positive correlation with TAFT's Ego Permissiveness Scale (1969), a measure of openness to experience. They further indicate positive correlations with intrinsic religious motivation (HOGE 1972) and intense religious experiences as measured by HOOD's (1970) Religious Experience Episodes Measure (REEM). Nevertheless, religiosity is a complex structure and can be measured not only based on motivation but also on religious attitudes (HUTSEBAUT 1996) and on the nature of religiosity (institutional/personal) – amongst many other things (MARTOS & KÉZDY 2007). A few selected MMPI scales (HATHAWAY & MCKINLEY 1951) also positively correlate with the report of mystical experiences, namely the Hs scale (heightened concerns with bodily states) and the Hy scale (probability of hysterical symptom formation). These findings are in line with the notion that individuals experiencing intense mystical states are highly focused on bodily processes (HOOD 1975). Research on the association between mystical experience and Eysenck's personality questionnaire (EPQ) (CAIRD 1987; SPANOS & MORETTI 1988) report no significant correlations with any of Eysenck's dimensions (psychoticism, neuroticism, introversion/extraversion). Whilst the relationship between mystical experience and the Big Five personality traits has received little attention, SAROGLU (2010) reports significant and positive correlations between Openness to Experience as personality trait and Spirituality. Results also indicate a positive, although insignificant correlation between Openness and Religiosity. Finally, Agreeableness and Consciousness moderately correlated with both constructs, as well as with religious fundamentalism.

HOOD (1977) investigated the relationship between self-actualisation and reported mystical experience. Findings indicate that persons of relatively high self-actualisation – as measured by the Personal Orientation Inventory (SHOSTROM 1974) – were significantly more likely to experience mystical states triggered by drugs or sexual activity. On the other hand, individuals with lower levels of self-actualisation were more likely to have mystical experiences triggered by religious or nature settings.

Religious commitment was investigated through individual interviews. Research participants were divided into three categories: primarily personally religiously committed people, primarily institutionally religiously committed groups, and finally

a group of people who were both personally and institutionally religiously committed (HOOD 1973). All interviews were rated for the presence of mystical qualities as defined by STACE (1960). Findings reveal that individuals with primarily personally religious commitment are more likely to report mystical experiences than those who are primarily institutionally committed.

Further studies (ZINNBAUER et al. 1997) confirm this pattern and report no significant relation between mystical experiences and religion, meanwhile, indicating a positive correlation with spirituality. It can therefore be anticipated that mysticism corresponds strongly with today's spirituality, the more mystical experiences someone has, the more likely they will see themselves as spiritualists (KLEIN et al. 2016). Based on these findings STREIB & HOOD (2016) used Mysticism and Openness to Experience as variables to map spirituality in a two-dimensional space. Their results obtained on US and German populations showed evidence that Mysticism and Openness to Experience most accurately and strongly account for difference between spirituality and religiosity.

Although there has been growing interest in a research examining the association between Mysticism and Openness, it may also be of use to investigate the correspondence between mystical experiences and certain cognitive constructs enveloping open- and close-mindedness. WEBSTER and KRUGLANSKI (1994; KRUGLANSKI et al. 1993; KRUGLANSKI 2005) introduced a construct called the need for closure, a motivated tendency to process information in order to find answers to specific questions. The need for closure scale (NFCS) (WEBSTER & KRUGLANSKI 1994) is a reliable and valid instrument which measures this construct on five facets: a) *preference for order and structure* b) *preference for predictability* c) *decisiveness* d) *discomfort with ambiguity* e) *close-mindedness*. A cross-cultural study of the need for a closure scale revealed that the factor structure was invariant across all samples (MANNETTI et al. 2002). KOSSOWSKA and VAN HIEL (2003) confirmed that the need for closure is related to conservative beliefs on Eastern and Western European samples. Investigating the association between religion and the need for closure, SAROGLU (2002) found that religious fundamentalism positively correlated with the overall NFCS as well as with its two subscales – preference for order and preference for predictability. Furthermore, classic religiosity predicted high need for closure on all facets except for decisiveness; however, spirituality was associated with lower levels of close mindedness and low decisiveness. However, interestingly enough, results also highlighted positive associations between spirituality and intolerance of ambiguity. STALDER (2007) reported correlations between the NFCS and certain factors of the Big Five Inventory (JOHN et al. 1991). While the *Desire for Decisiveness* factor showed a significant negative correlation with *Neuroticism*, it positively correlated with *Extraversion* and *Openness*. However, *Need for Structure* of the NFCS indicated findings opposite to that of the *Decisiveness* factor. The overall NFCS scale indicated a positive correlation with *Neuroticism* and negative correlation with *Openness*, but no significant relation was found with regard to *Extroversion*. Examining religious attitudes, it is confirmed that people who process religious contents in a literal sense

are less likely to be agreeable and open to new experiences (DURIEZ et al. 2007) and are more likely to have a higher need for cognitive closure (SCHWARTZ & HUISMANS 1995) in order to avoid ambiguity. Based on previous findings detailed above, it is clear that mystical experience, as an intense religious experience, is linked to a number of different constructs, which may also be interconnected with each other.

Foremost, the present study introduces the Mysticism Scale (HOOD 1975) on a Hungarian sample. While the validation of the Hungarian version of the scale shall be the focus of a future study, our current research aims to investigate the meaning and nature of reported mystical experiences, using a Hungarian population, from three different aspects.

It explores its association with institutional religiosity using psychological measures of religion, placing particular emphasis on the interpretation of these mystical experiences. It intends to shed light on how the acceptance of transcendence and the symbolic interpretation of religious contents correspond with mystical experiences.

Secondly, this study looks at the Big Five personality traits and how they may be in relation to the experience and interpretation of mystical experiences. Based on a previously reviewed research, it pays particular attention to openness to experience and agreeableness to see whether these traits correspond with experiencing and interpreting mystical states.

Thirdly, it investigates mysticism from a cognitive stand by exploring its associations with the need for cognitive closure. It intends to seek a potential relationship between reported mystical experiences that may or may not be provided with a religious or spiritual interpretation and heightened levels of need for closure.

Finally, the current study attempts to integrate the above aspects into one model in order to test their mediating effects on the report and interpretation of mystical experiences.

2. Methods

2.1. Participants

253 Hungarian participants were recruited through social media; however, the final sample consisted of 240 respondents, as 13 respondents were excluded because they were under 18. This final sample included 61 male (mean age 29.20 ± 10.87) and 179 female respondents (mean age 33.31 ± 12.99). 140 (58.3 %) of them had higher education, 98 (40.9 %) had secondary education and 2 (0.8%) had primary education. 77 (32.1%) reported that they practise their religion and 162 (67.5%) answered no to the question as to whether they practise their religion (1 case [0.1%] missing). 101 (57.5%) reported belonging to a denomination whilst 138 (42.1%) reported that they do not (1 case [0.1%] missing). Participants' mean score on a one item measure of religiosity is 3.64 SD = 2.11, using a 7-point Likert-scale.

2.2. Instruments

Participants were informed about anonymity and consent was sought before respondents completed the online set of questionnaires. This set included the 32-item Mysticism Scale (MS) (HOOD et al. 2001), which measures mystical experiences on three subscales: Introvertive mysticism, Extrovertive mysticism, and Interpretation of mystical experiences. We chose this tool as our measure of mystical experience partly due to its reasonable construct validity, respectable internal consistency, and stable factor structure, as reported in previous studies (HOOD 1975; CAIRD 1988; REINERT & STIFLER 1993) and most importantly because it has proven to be a valid measure of mystical experience in a variety of cultures (HOLM 1982; HOOD et al. 2001). Items on this measure are rated on a 5-point scale from -2 (not at all true) to +2 (very true) and include 16 reversed items. The questionnaire was first translated into Hungarian by two independent interpreters. The translated version was then re-translated back to English.

As we also wanted to explore the associations with certain religious attitudes, our set also contained the shortened Hungarian version of the Post Critical Belief Scale (PCBS) (MARTOS et al. 2009; or the original version see: HUTSEBAUT 1996; HORVÁTH-SZABÓ 2003), which defines religious attitudes along two independent dimensions. These are: the acceptance (vs. rejection) of transcendent reality and the symbolic (vs. literal) interpretation of religious contents. The measure contains 18 items, which are self-rated on a 7-point Likert scale (1 = strongly disagree, 7 = strongly agree). We applied a factor analytic procedure for obtaining the underlying dimensions of transcendence and symbolic interpretation as suggested by MARTOS and colleagues (2009). The two factors showed excellent fit with the structure of previous datasets with Tucker phi indices as high as 0.99 and 0.96 for the dimensions (MARTOS et al. 2009).

In order to measure the respondents' personality traits, the Hungarian version of the 44 item Big Five Inventory (BFI) (JOHN & SRIVASTAVA 1999) was administered. Using this instrument allowed us to assess the five dimensions of personality in an efficient and flexible way whilst keeping our collection of measures fairly short and simple. The self-rated questionnaire used a 5-point Likert scale (1 = strongly disagree, 5 = strongly agree) to score individuals on five personality traits: Extraversion, Agreeableness, Conscientiousness, Emotional Stability and Openness to Experience. The scale has a good convergent validity and is a reliable tool in measuring personality traits (JOHN & SRIVASTAVA 1999). Internal consistency estimates were acceptable in this sample as well, with α -coefficients ranging between 0.645 and 0.849 (*Table 1*).

Finally, the need for cognitive closure was measured by the Hungarian version of the Need for Cognitive Closure scale (NFC) (WEBSTER & KRUGLANSKI 1994; KRUGLANSKI 2005). This tool consists of 42 items, which measure the need for closure on the following five facets: Preference for order, Preference for predictability, Decisiveness, Discomfort with Ambiguity, Close-mindedness. Questions are self-rated on a 6-point scale (1 = not at all true, 6 = very true). Estimates of internal consistency of the subscales and the whole scale were satisfactorily high (alphas ranging from 0.631 to 0.820; *Table 1*).

2.1. Data analysis

Data analysis was conducted using the SPSS software. Descriptive statistics were reported on the above scales and the internal consistency of the Mysticism Scale was computed by running the Cronbach's alpha test. Pearson's correlation coefficients were used to measure the correlations between each scale and their subscales. Finally, multiple linear regression analysis was conducted using the PCBS, BFI and NFC subscales as independent variables to define the regression weights for the Mysticism Scale, and multivariate linear regression analysis was conducted with the same independent variables and the three subscales of the Mysticism Scale as dependent.

3. Results

The internal consistency of the MS was high ($\alpha = 0.937$). Descriptive statistics show that the overall mean score of the Mysticism Scale (MS) was 108.20 (SD = 26.59). Mean scores of the individual subscales of the MS were as follows: $m = 41.08$ (SD = 11.81) on the Extrovertive subscale, $m = 25.98$ (SD = 7.78) on the Introvertive scale and $m = 41.15$ (SD = 9.56) on the Interpretation factor. Religiosity, as measured on a one-item 7-point scale had a mean score of 3.64 (SD = 2.11). Further mean scores of the BFI and the NFC factors are displayed in *Table 1*.

All the presented associations in the text are significant at least at the $p < 0.05$ level. The MS showed significant moderate correlations with the 1-item measure of religiosity ($r = 0.398$). Regarding the factors of the Post Critical Belief Scale, the overall MS scale showed a significant positive correlation with the Transcendence variable ($r = 0.414$) and a slightly weaker but positive correlation with Symbolic meaning ($r = 0.227$). Similarly, there was a significant moderate correlation between MS Extrovertive and Transcendence ($r = 0.308$), and a weak but still significant correlation between the Extrovertive factor of the MS and Symbolic meaning ($r = 0.194$). MS Introvertive correlated positively with both the Transcendence factor ($r = 0.296$) and the Symbolic meaning factor ($r = 0.287$). Finally, the Interpretation factor of the MS showed significant moderate correlations with the Transcendence factor ($r = 0.515$) and very weak ($r = 0.158$) but positive correlations with Symbolic meaning. All bivariate correlations are presented in *Table 1*.

In terms of the Big Five Inventory, the MS showed weak but significant correlations with the Agreeableness factor (MS Full $r = 0.232$, MS Extrovertive $r = 0.170$, MS Introvertive $r = 0.263$ and MS Interpretation $r = 0.247$). A weak but significant negative correlation was found between the MS Extrovertive factor and Neuroticism, but not with the overall MS or any of its other subscales. Openness to Experience indicated significant moderate correlations with the full Mysticism Scale ($r = 0.383$) and its three subscales (MS Extrovertive $r = 0.370$, MS Introvertive $r = 0.379$, MS Interpretation $r = 0.299$).

Looking at the results on the Need for Closure Scale, a significant negative although weak correlation was found between the overall NFC scale and the Mysticism

Scale ($r = -0.267$). The NFC showed similar results with the three subscales of the MS (MS Extrovertive $r = -0.254$, MS Introvertive $r = -0.279$, MS Interpretation $r = -0.201$). Preference for order showed significant negative but weak correlations with the overall MS ($r = -0.196$) and its MS Extrovertive ($r = -0.194$) and MS Introvertive ($r = -0.236$) factors. Similarly, significant negative but weak correlations were found between Preference for predictability and the MS ($r = -0.235$) and all its subscales (MS Extrovertive $r = -0.262$, MS Introvertive $r = -0.171$ and MS Interpretation $r = -0.191$). Finally, significant moderate correlations were found between Close-mindedness and the MS and all its factors (MS Full $r = -0.338$, MS Extrovertive $r = -0.327$, MS Introvertive $r = -0.343$ and MS Interpretation $r = -0.258$).

Table 1
Descriptive statistics of the scales and bivariate Pearson correlation coefficients for the Mysticism Scale (MS) and its subscales ($n = 240$)

		<i>Correlation Coefficients</i>						
		<i>M</i>	<i>SD</i>	<i>alpha</i>	<i>MS Extrovertive</i>	<i>MS Introvertive</i>	<i>MS Interpretation</i>	<i>MS Full</i>
1	<i>MS Extrovertive</i>	41.08	11.81	0.893				
2	<i>MS Introvertive</i>	25.98	7.78	0.825	0.0730***			
3	<i>MS Interpretation</i>	41.15	9.56	0.818	0.770***	0.720***		
4	<i>MS Full</i>	108.20	26.59	0.937	0.935***	0.876***	0.913***	
5	<i>Religiosity (1-7)</i>	3.64	2.11	n.a.	0.311***	0.272***	0.501***	0.398***
6	<i>Transcendence</i>	0.00	1.00	n.a.	0.308***	0.296***	0.531***	0.414***
7	<i>Symbolic interpretation</i>	0.00	1.00	n.a.	0.194**	0.287***	0.158*	0.227***
8	<i>Extroversion (BFI)</i>	27.21	6.02	0.740	0.083	-0.070	0.050	0.034
9	<i>Agreeableness (BFI)</i>	30.96	4.97	0.645	0.232***	0.170**	0.263***	0.247***
10	<i>Consciousness (BFI)</i>	28.33	5.94	0.827	0.020	-0.118	-0.010	-0.029
11	<i>Neuroticism (BFI)</i>	26.09	7.33	0.849	-0.148*	-0.089	-0.049	-0.109
12	<i>Openness to Experience (BFI)</i>	33.89	5.69	0.792	0.370***	0.379***	0.299***	0.383***
13	<i>PO preference for order (NFC)</i>	40.79	8.89	0.813	-0.194**	-0.236***	-0.114	-0.196**
14	<i>PP preference for predictability (NFC)</i>	35.31	6.88	0.777	-0.262***	-0.171**	-0.191**	-0.235***
15	<i>DE decisiveness (NFC)</i>	28.88	7.36	0.806	0.111	-0.064	-0.002	0.030
16	<i>DA discomfort with ambiguity (NFC)</i>	40.53	6.00	0.631	-0.073	0.025	-0.030	-0.036
17	<i>CM close-mindedness (NFC)</i>	23.42	6.68	0.635	-0.327***	-0.343***	-0.258**	-0.338***
18	<i>NFC SUM</i>	168.93	21.07	0.820	-0.253***	-0.279***	-0.201**	-0.267***

Notes: n.a. = not applicable (due to the nature of the variables)

BFI = Big Five Inventory; NFC = Need for Closure scale

*: $p < 0.05$, **: $p < 0.01$, ***: $p < 0.001$

The two dimensions of Transcendence (variable 6) and Symbolic Interpretation (variable 7) are the results of a factor extraction, therefore they are standardised to a mean score of 0.00 ($m = 0.00$) and a deviation score of 1.00 ($SD = 1.00$).

Table 2
Regression weights for the Mysticism Scale and its subscales

	<i>MS Extrovertive</i>			<i>MS Introvertive</i>			<i>MS Interpretation</i>			<i>MS Full</i>		
	B (SE)	beta		B	beta		B	beta		B	beta	
1 Sex (<i>1= male 2= female</i>)	0.007 (0.004)	0.198		0 (0.006)	-0.001		-0.005 (0.005)	-0.112		4.408 (3.592)	0.072	
2 Age	0.163 (0.115)	0.153		-0.616 (0.16)	-0.380***		0.095 (0.141)	0.072		-0.269 (0.128)	-0.127*	
3 Transcendence	-0.018 (0.008)	-0.213*		-0.014 (0.011)	-0.106		0.081 (0.01)	0.773***		9.207 (1.56)	0.346***	
4 Symbolic interpretation	0.002 (0.009)	0.029		0.045 (0.013)	0.351***		-0.012 (0.011)	-0.118		4.056 (1.502)	0.152**	
5 Extroversion (BFI)	0.123 (0.056)	0.241*		-0.237 (0.077)	-0.306**		0.053 (0.068)	0.084		-0.154 (0.27)	-0.035	
6 Agreeableness (BFI)	0.045 (0.045)	0.106		-0.05 (0.063)	-0.079		0.123 (0.055)	0.237*		0.336 (0.348)	0.063	
7 Conscientiousness (BFI)	0.099 (0.055)	0.197		-0.23 (0.077)	-0.301**		0.034 (0.067)	0.055		0.091 (0.309)	0.020	
8 Neuroticism (BFI)	-0.167 (0.068)	-0.268*		-0.015 (0.095)	-0.016		0.131 (0.083)	0.171		-0.37 (0.235)	-0.102	
9 Openness to Experience (BFI)	0.113 (0.049)	0.234*		0.187 (0.068)	0.256**		-0.04 (0.06)	-0.067		1.111 (0.278)	0.237***	
10 Need for closure (NFC)	-0.245 (0.191)	-0.137		-0.61 (0.265)	-0.225*		0.142 (0.234)	0.064		-0.114 (0.083)	-0.090	
R ²	0.261			0.326			0.359			0.339		
F	8.04***			11.04***			12.77***			11.70***		

Notes: MS = Mysticism Scale; BFI = Big Five Inventory regression weights are calculated from a multivariate linear regression model for the MS subscales and a multiple linear regression model for the MS full score R² statistics are calculated as partial eta squared statistics in the GLM model for the MS subscales
*; p < 0.05, **; p < 0.01, ***; p < 0.001

A multiple linear regression analysis was performed with the measures of religion (PCBS), personality (BFI) and the need for cognitive closure (NFC). Demographic variables (sex, age) were entered in the first step, PCBS scales (Transcendence, Symbolic interpretation) were entered in the second step, and the BFI and NFC were entered in the final step. The full model explained 33.9% of the variance in the overall MS scores ($R^2 = 0.339$, $F = 11.70$). Age ($\beta = -0.127$, $p = 0.037$) as well as Transcendence were found to be a significant predictor for the full Mysticism Scale ($\beta = 0.346$, $p < 0.001$), along with Symbolic interpretation ($\beta = 0.152$, $p = 0.007$) and Openness to Experience ($\beta = 0.237$, $p < 0.001$).

A multivariate linear regression analysis was performed using the General Linear Model module of the IBM SPSS program pack, with the scores of the same independent variables and the subscales of the MS, such as MS Extrovertive, MS Introvertive, and MS Interpretation. The full model explained 26.1 % of the variance in the MS Extrovertive scores, 32.6 % of the variance in the MS Introvertive scores, and 35.9 % of the variance in the MS Interpretation scores ($F = 8.04$, 11.04 and 12.77 respectively, all $ps < 0.001$). Transcendence ($\beta = -0.203$, $p = 0.022$), Extroversion ($\beta = 0.241$, $p = 0.028$), Neuroticism ($\beta = -0.268$, $p = 0.015$), and Openness to Experience ($\beta = 0.234$, $p = 0.023$) significantly predicted the MS Extrovertive scores. Age was found to be a significant predictor for the MS Introvertive scale ($\beta = -0.380$, $p < 0.001$), and so was Symbolic interpretation, Extroversion, Consciousness, Openness to Experience and Need for Closure ($\beta s = 0.351$, $p < 0.001$, -0.306 , $p = 0.002$, -0.301 , $p = 0.003$, 0.256 , $p = 0.007$ and -0.225 , $p = 0.022$ respectively). The MS Interpretation score was significantly and powerfully predicted by Transcendence ($\beta = 0.773$, $p < 0.001$) of the PCBS. Moreover, Agreeableness proved to be a significant predictor of the MS Interpretation scale ($\beta = 0.237$, $p = 0.027$).

4. Discussion

The Hungarian version of the Mysticism scale proved to have a strong internal consistency, with an overall mean score similar to that of the American sample (HOOD 1975). It should be noted, however, that in this study, the factors of the Mysticism scale appeared to inter-correlate much more strongly than is typical in other populations. This may be down to the nature of the sample, as approximately only a third of the participants practised their religion. This suggests that the remaining two-thirds were potentially neither religious nor spiritual. As detailed below, those practising some form of religion or spirituality are more likely to have reported mystical experiences, whether extrovertive or introvertive, and would have been able to provide some interpretation concordant with their religious beliefs. Meanwhile, the remaining two-thirds of the sample could have potentially scored low on all aspects of mystical experiences.

The results indicated a moderately strong positive relationship between mystical experiences and reports of religiosity. Whilst we may have anticipated a stronger association between mysticism and religion, it is important to highlight that our

measure of religion did not distinguish between traditional religiosity and spirituality *per se*, which may have resulted in lower scores given by participants. As previous research findings indicate (KLEIN et al. 2016), a strong association exists between mysticism and spirituality, whilst only the interpretation factor of the Mysticism Scale showed significant associations with classic religiosity.

The positive relationship between mystical experiences and the acceptance of Transcendence may appear self-explanatory if we conclude that a mystical experience is an intense religious – or spiritual – experience of unity (JAMES 1902; STACE 1960), which therefore precipitates the acceptance of a transcendental being. Whilst all subscales of mystical experience suggest significant positive correlations with the acceptance of Transcendence, it is the interpretation of these mystical experiences which appears to show the strongest association with it. This is understandable, as items measuring this subscale (for example the reversed item: *I have never experienced anything to be divine*) focus on providing some sort of transcendental meaning for mystical experiences, rather than on the nature of these experiences.

Similarly, the positive correlation between reported mystical experiences and the Symbolic interpretation of religious contents suggests that mysticism corresponds with the ability to view religious or spiritual contents in a symbolic way. Previous research findings report that individuals processing religious contents in a literal sense are less likely to be open to new experiences (DURIEZ et al. 2007). Since mystical experiences are often considered to be ‘ineffable’ (JAMES 1902; HOOD 1975), that is, impossible to describe with words, it is reasonable to assume that the experience of such states would be linked to interpretations of a symbolic kind.

The positive association between mystical experiences and Openness to Experience supports results obtained in previous research (TAFT 1969). Considering that mystical experience may as well be a measure of Spirituality (KLEIN et al. 2016), whilst reviewing a research which indicates positive correlation between Spirituality and Openness to experience as a personality trait (SAROGLOU 2010), our findings are in line with these existing results. Looking at the relationship between mystical experiences and other personality traits, we can conclude that it is only the Agreeableness trait which indicates positive correlations with mysticism, and even these are rather weak. These results support the findings of CAIRD (1987) and SPANOS and MORETTI (1988), whilst the association between mystical experience and Agreeableness could potentially be explained in the light of previous research highlighting positive, although moderate, correlations between Spirituality, as a product of mystical experiences (STREIB, et al. 2016) and Agreeableness (SAROGLOU 2010).

Provided that mystical experiences require the individual to enter a state which is described by an inner subjectivity (STACE 1960), where everyday logic and reasoning may not be able to explain the experience, it can be anticipated that the report of such mystical experiences will negatively correlate with the need for cognitive closure. That is, with the need and motivation to process information in order to find answers to specific questions (WEBSTER & KRUGLANSKI 1994). The negative association found between the need for closure and mystical experience confirmed the

above hypothesis. These results also support previous findings highlighting negative associations between the need for closure and spirituality, as opposed to the positive relationship reported between classic religiosity and the need for cognitive closure (SAROGLOU 2002). Given that mysticism corresponds strongly with today's spirituality (KLEIN et al. 2016), our findings are in line with these research findings. Looking at the different facets of the need for cognitive closure, we can see that all factors were negatively associated with mystical experiences, except Decisiveness and Discomfort with Ambiguity. SAROGLOU (2002) found no significant correlations between spirituality and these constructs of the need for closure scale, and Decisiveness has further been reported to show opposing findings in some further research (STALDER 2007). A moderate negative association between Close-Mindedness and the different subscales of mysticism was found in the present research. This suggests that the unwillingness to have one's knowledge confronted by alternative opinions (WEBSTER & KRUGLANSKI 1994) may be negatively related to experiencing mystical states. Results reveal slightly stronger associations with the two experiential subscales than the interpretation factor. This is not surprising, as people who are inclined to interpret mystical states in a religious way may do so due to a stronger need to possess solid, unquestionable knowledge of the world around them.

Finally, a model to predict mystical experiences was created. Our model shows that the main predictors of mystical experiences are the acceptance of Transcendence and Openness to Experience, although Symbolic Interpretation also contributes, albeit to a lesser degree. It appears that Openness to Experience may act as a facilitator in the direction of both mystical experiences and Symbolic Interpretation of religious contents. Since mystical experiences, as measured by the Mysticism Scale, are experiences within a religious context (HOOD 1975), it is understandable that the acceptance of a transcendent being may well be an important factor of mystical experiences, whether of a religious or a spiritual nature. Exploring the different factors of mystical experience, it is the interpretation of these experiences which appears to be most prominently predicted by the acceptance of Transcendence. Since the belief in the existence of a transcendent reality could itself provide an interpretation for mystical experiences, our results are not surprising. In terms of Openness to Experience as a personality trait, it could be anticipated that mystical states, as ineffable experiences (STACE 1960), would show positive associations with the above trait. The results indicate that being open to experience may to some extent explain the occurrence of mystical experiences. Meanwhile, although the other personality traits appear to have some effect on the individual facets of mystical experiences, once extrovertive and introvertive experiences and their interpretations are integrated into one construct, this influence disappears.

There are a number of limitations to the present research. The sample size was not large enough for a thorough validation of the Hungarian version of the Mysticism scale; therefore, that would be the focus of a future study. Secondly, participants completed the questionnaire online; consequently, the conditions of answering were not controlled and some of the questions were left unanswered. Furthermore,

as spirituality and mysticism appear to be closely related concepts (KLEIN et al. 2016), it may be useful to examine the relationship between the two. Additionally, based on the work of STREIB and HOOD (2016), it would be intriguing to investigate the relation between mystical experiences and Openness to Experience to see how these may form a two-dimensional space in which spirituality may be more accurately mapped. In conclusion, the present research investigated the meaning and nature of reported mystical experiences, using a Hungarian population, and did this by using measures of religiosity, personality traits and measures of human cognition. It confirmed that mystical experiences are positively related to religious attitudes accepting Transcendence and interpreting religious contents in a symbolic way. It also revealed positive associations between mystical experiences and Openness to Experience, whilst suggesting that these experiences are negatively connected to the need for cognitive closure. Finally, the present study showed that the main predictors of mystical experience are the acceptance of Transcendence and Openness to Experience.

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APPENDIX

Miszticizmus Skála*

A következőkben pár tapasztalatról szóló leírást találhat. Lehetséges, hogy ezek közül néhányat még nem élt át. Minden kérdésnél olvassa el figyelmesen a leírást, majd 1-5-ig jelölje, mennyire illik a leírt tapasztalat az Ön által valaha átélt tapasztalatokra.

- 2: Ez a tapasztalat egyértelműen nem igaz a saját tapasztalatomra / tapasztalataimra;
 -1: Ez a leírás valószínűleg nem igaz a saját tapasztalatomra / tapasztalataimra;
 ?: Ez a leírás valamennyire igaz is és nem is a saját tapasztalataimra;
 +1: Ez a leírás valószínűleg igaz a saját tapasztalatomra / tapasztalataimra;
 +2: Ez a leírás egyértelműen igaz a saját tapasztalatomra / tapasztalataimra;

1. Volt már időm és terem kívüli tapasztalatom.	-2	-1	?	1	2
2. Soha nem volt olyan megtapasztalásom, amit ne lehetne szavakkal kifejezni.	-2	-1	?	1	2
3. Volt már olyan tapasztalatom, amikor valami nálam nagyobb létezőbe teljesen beleolvadtam.	-2	-1	?	1	2
4. Volt olyan tapasztalatom, amiben minden eltűnni látszott az elméből, egészen addig, amíg már csak az ürességnek voltam tudatában.	-2	-1	?	1	2
5. Voltam már mélységesen boldog.	-2	-1	?	1	2
6. Soha nem volt olyan tapasztalatom, amely során tökéletesen egynek éreztem magamat a mindenséggel.	-2	-1	?	1	2
7. Voltam már tökéletesen békés állapotban.	-2	-1	?	1	2
8. Soha nem éreztem még úgy, mintha körülöttem minden élő lenne.	-2	-1	?	1	2
9. Soha nem éltem át olyan eseményt, ami szentnek tűnt volna számomra.	-2	-1	?	1	2
10. Soha nem tapasztaltam olyat, hogy körülöttem minden tudatosnak tűnt.	-2	-1	?	1	2
11. Volt már olyan, hogy nem érzékeltem sem teret, sem időt.	-2	-1	?	1	2
12. Volt már olyan tapasztalatom, amiben ráébredtem, hogy egységben vagyok minden más létezővel.	-2	-1	?	1	2
13. Volt olyan megtapasztalásom, amiben egy egészen új valóság tárult elém.	-2	-1	?	1	2

* Translation of Hood 1975

14. Soha nem tapasztaltam, hogy bármi is isteni vagy szent lenne.	-2	-1	?	1	2
15. Soha nem volt olyan megtapasztalásom, amiben az idő és tér megszűntek létezni.	-2	-1	?	1	2
16. Semmi olyat nem tapasztaltam még soha, amit végső valóságnak nevezhetnék.	-2	-1	?	1	2
17. Volt olyan megtapasztalásom, amiben a végső valóság feltárult számomra.	-2	-1	?	1	2
18. Éreztem már úgy, mintha abban a pillanatban minden tökéletes lett volna körülöttem.	-2	-1	?	1	2
19. Volt már olyan tapasztalatom, amiben úgy éreztem, hogy a világban minden egy teljesség része.	-2	-1	?	1	2
20. Tapasztaltam olyat, amiről tudtam, hogy szent dolog.	-2	-1	?	1	2
21. Soha nem volt olyan megtapasztalásom, amit ne tudtam volna a nyelv segítségével pontosan kifejezni.	-2	-1	?	1	2
22. Volt olyan megtapasztalásom, ami áhítat érzésével töltött el engem.	-2	-1	?	1	2
23. Volt olyan megtapasztalásom, amit lehetetlen másokkal közölni.	-2	-1	?	1	2
24. Még soha nem éreztem úgy, mintha beleolvadnék valami nagyobb dologba.	-2	-1	?	1	2
25. Soha nem történt még velem olyan dolog, ami igazán ámulatba ejtett volna.	-2	-1	?	1	2
26. Soha nem volt olyan megtapasztalásom, ami a valóság mélyebb összefüggéseit felfedte volna számomra.	-2	-1	?	1	2
27. Soha nem tapasztaltam még olyan érzést, amikor az idő, hely és távolság jelentés nélküliek lettek volna.	-2	-1	?	1	2
28. Soha nem volt még olyan élményem, amelyben tudatára ébredtem volna annak, hogy egységben vagyok minden létezővel.	-2	-1	?	1	2
29. Éreztem már úgy, mintha minden dolog tudatosnak tűnt volna.	-2	-1	?	1	2
30. Soha nem tapasztaltam még olyat, hogy úgy éreztem volna, mintha minden dolog egyetlen egy közös létezőben egyesülne.	-2	-1	?	1	2
31. Éreztem már úgy, hogy igaziból soha semmi nem hal meg.	-2	-1	?	1	2
32. Volt olyan élményem, amit nem lehet szavakkal kifejezni.	-2	-1	?	1	2