Psychiatr. Pol. 2021; 55(6): 1257–1274
PL ISSN 0033-2674 (PRINT), ISSN 2391-5854 (ONLINE)
www.psychiatriapolska.pl
DOI: https://doi.org/10.12740/PP/125383

Polish adaptation and validation of the Mentalization Scale (MentS) – a self-report measure of mentalizing

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Summary

Aim. The aim of the research was to determine the reliability, factor structure, as well as validity of the *Mentalization Scale* (MentS) – a self-report measure of mentalization.

Method. Two groups of subjects were examined. The first group (N = 202) consisted of students from Poznan universities; the other group (N = 229) consisted of individuals employed in various positions, with different education levels. The following measures were used: *Mentalization Questionnaire*, the *Borderline Personality Inventory*, the *Experiences in Close Relationships Scale-Revised*, the short version of the *International Personality Item Pool NEO Personality Inventory*, short version of *Empathy Quotient* and the *Trait Emotional Intelligence Questionnaire*.

Results. Reliability analysis showed high internal consistency of all three MentS subscales, and the factor analysis supports the three-factor structure of the questionnaire. Mentalization as measured by MentS was positively linked with mentalization-related constructs: empathy and emotional intelligence. Obtained relations between mentalization and attachment dimensions, borderline features and personality traits as well as observed gender differences also support the validity of the MentS.

Conclusions. The verification of the hypotheses formulated in the present study has led to the conclusion that the Polish version of the *Mentalization Scale* (MentS) – a new measure of mentalization – has high psychometric value and may be used for brief yet multifaceted measurement of mentalization.

Key words: questionnaire, mentalization, self-report

Introduction

In recent years, in both worldwide and Polish literature researchers investigating the issues of mental health and psychopathology have readily addressed the subject of mentalization. Analyzing the extensive and constantly growing literature devoted to this area, one can observe the constant need to increase the precision and availability of methods that serve as measures of this ability. This need becomes particularly

important in the Polish context, as few of the methods presented in the literature have been adapted in Poland.

Fonagy et al. [1] define mentalization as a partly unconscious representational mental process that consists in identifying and understanding one's own and other people's behaviors as stemming from intentional mental states. It is a construct related to empathy, emotional intelligence, and theory of mind [2]. The research conducted in recent years has shown a reduced level of mentalizing in individuals with various mental disorders, mainly with borderline personality disorder [3-5], depression [6], eating disorders [7], and PTSD [8]. And conversely: mentalizing is related to mental health and psychological resilience [9]. The theory of mentalization gave rise to mentalization-based treatment (MBT), which is one of several evidence-based psychotherapeutic approaches recommended by the British National Health Service and American Psychiatric Association for treating borderline personality disorder. MBT has been increasingly popular in Poland as well. Mentalization has three essential functions, grounding its importance for the health and psychopathology mechanisms: (1) navigation in the social world – generating representations of mental states, as well as explaining and attributing meaning to behaviors; (2) navigation in one's own inner world – understanding of thoughts, behaviors and emotions; complex self-regulative function linked to emotion regulation and the maintenance of a stable self-image; (3) regulating both the social and the inner world as well as supporting an appropriate connection between them, including ability to differentiate between internal and external reality [see 10]. Optimal mentalizing manifests in the understanding of the symbolic and dynamic nature of mental states (one's own and others) and a stable motivation to reflect upon them, as well as the ability to use advanced regulatory strategies in response to challenging experiences.

Many different measures of mentalization have been presented (for a review, see: [11, 12]). Although in recent years emphasis has been placed on the complex and dynamic nature of mentalization as well as on the need for measurement methods to reflect this nature [13], there is also a considerable demand for a quick and relatively simple method—for instance, one that could be used for screening purposes with large groups in a nonclinical population and with individuals suffering from various mental disorders. Therefore, apart from methods based on interview transcription such as the *Reflective Functioning Scale* [14] or the *Metacognition Assessment Scale* [15], and apart from other complex tools such as the *Movie for the Assessment of Social Cognition* (MASC), which is based on short videos [16], three self-report questionnaires have been developed in recent years: the *Mentalization Questionnaire* (MZQ) [17], the *Reflective Functioning Questionnaire* (RFQ) [18], and the *Mentalization Scale* (MentS) [19]. There is no doubt that methods from the first group—requiring time, a great deal of engagement on the part of subjects, and assessment performed by experts—make it possible to determine mentalization ability relatively accurately. But the more economical self-report methods are also useful; what is particularly important is the awareness of their limitations and the appropriate context of their application. As all self-report methods, they are dependent on self-beliefs regarding the ability to mentalize; as a result, they measure emotional and cognitive repre-

sentations of mentalizing, which do not necessarily reflect the actual mentalization ability. Self-report measures do not take account of the relational and interactional context of mentalizing—namely, the dynamic and changeable nature of this ability, thus reducing it to a relatively stable generalized personality trait [5, 13, 16]. They are, however, certainly more comfortable to use in the case of quantitative studies with large samples. As Dimitrijevic et al. [19] point out, measures of this kind are an important complement to more complex methods, because while the latter indicate what maximum level of mentalization a particular person is capable of achieving, the former specify how much of that the person uses on a daily basis, or at least how much of that the person believes he or she uses.

It was in response to the need discussed above, in view of certain shortcomings of the existing methods of measuring mentalization [cf. 19], that the *Mentalization Scale* (MentS) was developed; it is an instrument that has high psychometric properties, is easy and quick to use, does not narrow down the semantic scope of the mentalization it measures, as it covers its various dimensions, and has been validated with both clinical and nonclinical samples. The aim of this article is to present the validation of the Polish version of MentS, performed on a sample of individuals from the general population.

Material

The aim of the presented research was to determine the reliability, factor structure, as well as convergent and criterion validity of MentS as used with a general population sample. Results similar to those that had been obtained with the original version of MentS were expected: high reliability coefficients and a confirmation of the three-factor structure of the measure. I also formulated specific hypotheses regarding the validity of MentS: (H1) MentS will be positively related to measures of constructs akin to mentalization—empathy and emotional intelligence [20]; (H2) MentS will be negatively related to the insecure attachment: studies show that individuals with secure attachment have a higher level of mentalization than individuals with insecure attachment [21, 22]; (H3) MentS will be negatively related to the level of personality integration: the majority of studies indicate a lowered level of mentalization in borderline individuals [4, 23, 24]; (H4) MentS will be positively related to some dimensions of the Big Five—in the literature a positive relationship has been reported between mentalization and personality dimensions: Extraversion and Openness, as variables associated with better quality of life and more satisfying social relations as well as higher ability to analyze one's own experience [19]; (H5) there will be gender differences in the level of mentalization: in the studies conducted to date, the levels of mentalization and related constructs such as theory of mind, empathy, and emotional intelligence were higher in women than in men [19, 25].

Method

Participants and procedure

The aim of the sample selection was to make it as similar as possible to that which took part in the validation of the original version of the measure, so that the results obtained in the two studies can be compared. Two groups of subjects were examined. The first group ($N = 202$, 59.4% women, 40,6% men; age: 18–46, $M = 21.8$, $SD = 2.95$) were students of law, Polish studies, mathematics, economics, and psychology from universities located in Poznan, Poland. The other group ($N = 229$, 57.4% women, 42,6% men; age: 19–83, $M = 36.9$, $SD = 13$) consisted of individuals employed in various positions in Poznan, with different education levels (51% had master's degrees, 32% had secondary education, 12% had bachelor's degrees, 3% had vocational education, and 1.5% had elementary education). These included clerks, office workers, cleaning personnel, accountants, IT specialists, shop assistants, and others. The study was conducted in accordance with ethical standards concerning research on human subjects. All participants were informed about its aim and about the principle of anonymity; they gave informed consent in writing to take part in the study.

Measures

The *Mentalization Scale* (MentS) [19] was developed to measure mentalization understood as a personality trait and covers its crucial indicators as identified in the theory of mentalization by Fonagy et al. It consists of 28 items—affirmative sentences which the respondent is supposed to rate by choosing one of five possible levels of accuracy (from 1 – *completely incorrect*, to 5 – *completely correct*). Principal component analysis revealed the existence of seven components—MentS subscales. After a parallel analysis, their number was reduced to three. The following scales are distinguished in the final version: (1) Other-Related Mentalization (MentS–O), (2) Self-Related Mentalization (MentS–S), and (3) Motivation to Mentalize (MentS–M). The original version of the questionnaire is the outcome of cooperation of scholars from Serbia and Germany; the participants in the original validation study were Serbs. Further language versions of MentS are currently in preparation: Chinese, Korean, and Lithuanian.

The *Borderline Personality Inventory* (BPI) [26], adapted into Polish by Cierpiałkowska, was constructed based on the structural criteria for borderline personality disorder as described by Kernberg [27] and measures the level of personality structure pathology. It consists of 51 items making up four scales relating to criteria differentiating the level of personality organization (Identity Diffusion, Primitive Defenses, Reality Testing, and Fear of Closeness). In the presented research, the reliability of this measure was acceptable ($\alpha = 0.90$).

The *Experience in Close Relationships Scale–Revised* (ECR–R), adapted into Polish by Lubiewska et al. [28], is a scale measuring the levels of attachment anxiety and avoidance. It consists of 36 items, 18 in each of the two scales: Anxiety and Avoidance. In the presented study, the reliability values were $\alpha = 0.92$ for Anxiety and $\alpha = 0.90$ for Avoidance.

The short version of the *International Personality Item Pool NEO Personality Inventory* (IPIP–NEO–PI–R) is used to assess the personality traits included in the five-factor model (neuroticism, extraversion, agreeableness, conscientiousness, and openness). The inventory was developed by Goldberg, and the authors of its short Polish version are Rowiński et al. [29]. The IPIP–NEO–PI–R–90 consists of 90 items. In research on its adaptation, the values of Cronbach's Alpha ranged from 0.36 to 0.83 ($M = 0.63$).

The short version of the *Empathy Quotient* (EQ–Short), adapted into Polish by Jankowiak-Siuda et al. [30], is a measure of cognitive and affective empathy. It consists of 22 items describing how an individual behaves towards other people. The items relate to the ability to identify other people's thoughts or feelings and to emotionally respond to other people. This measure has high internal consistency ($\alpha = 0.88$ for the original version and $\alpha = 0.78$ for the Polish version).

The *Trait Emotional Intelligence Questionnaire* (TEIQue), adapted into Polish by Szczygieł et al. [31], is a self-report questionnaire developed for the purposes of emotional intelligence measurement. The TEIQue consists of 153 items. The results allow for determining the level of emotional intelligence on 15 subscales, in terms of four factors, and as a global score. The Polish version has good reliability and validity coefficients ($\alpha = 0.90$ for men and $\alpha = 0.87$ for women).

Results

The preparation of the Polish version of MentS—linguistic validation

The test adaptation and validation procedure consisted of several stages. After the authors of the measure granted their official permission for it to be adapted, the items were translated from English into Polish by a team of scholars from the Adam Mickiewicz University, who subsequently performed the first pilot study using this version of the test [32]. The version of the questionnaire thus prepared was reviewed and revised by an expert—a psychologist proficient in English and familiar with mentalization issues. Next, an English translator with experience in translating psychological texts did a back translation of the test (i.e., from Polish back into English). After consulting the authors, a few alterations were made to make sure that the original items and their translations were semantically equivalent.

Descriptive statistics, internal consistency analysis, and confirmatory factor analysis

Statistical analyses were performed using Jamovi 1.1.7 software. Table 1 presents descriptive statistics for all the variables included in the study. The distribution of scores is not normal for any of the scales except TEIQue and EQ-Short. Reliability analysis using Cronbach's Alpha revealed the high internal consistency of all three MentS subscales ($\alpha = 0.74$ for MentS–S, $\alpha = 0.79$ for MentS–M, and $\alpha = 0.80$ for MentS–O) and other measures used in the study. The values of Cronbach's Alpha are also presented in Table 1.

Table 1. **Descriptive statistics, reliabilities, and gender differences of the study variables**

	Sample descriptive statistics						Gender differences	
	M	SD	Range	Skew	Kurtosis	α	U	d
Mentalization								
MentS Self	27.9	5.8	9-40	-0.44	0.07	0.74	22 050	0.01
MentS Other	38.2	5.6	2-50	-0.41	0.29	0.80	17 408**	0.41
MentS Motivation	38.8	6.35	17-50	-0.49	-0.00	0.79	17 030**	0.45
MentS Total	105	13.7	61-137	-0.31	-0.13	0.86	17 963**	0.38
Big Five								
Neuroticism	2.74	0.86	1-9	1.3	6.0	0.87	16 738**	0.45
Extraversion	3.33	0.86	1.3-9	0.51	3.5	0.89	20 027	0.21
Openness	3.64	0.68	1.9-9	1.03	7.81	0.74	22 365	0.02
Agreeableness	3.51	0.64	1.6-9	1.31	11.6	0.75	17 500**	0.39
Conscientiousness	3.39	0.74	1.4-9	0.81	6.88	0.82	21 242	0.07
Emotional Intelligence								
TEIQue	142	23.8	58-204	-0.33	0.32	0.88	21 887	0.05
Empathy								
Empathy Quotient	23	7.71	1-41	-0.09	-0.33	0.87	17 339**	0.43
Borderline Features								
BPI Identity Diffusion	1.57	0.09	0-8	1.39	1.30	0.76	21 774	-0.05
BPI Primitive Defense	1.59	1.85	0-8	1.2	0.65	0.73	21 925	0.09
BPI Reality Testing	0.26	0.77	0-5	3.6	13.4	0.73	20 385*	-0.25
BPI Fear of Closeness	1.44	1.64	0-7	1.4	1.34	0.67	20 102*	-0.21
BPI Total	9.12	7.66	0-31	0.98	0.221	0.90	20 644	-0.16
BPI Cut-off	4.04	3.55	0-15	0.89	-0.03	0.82	18 275	-0.18
Attachment								
ECR–R Anxiety	3.30	1.21	1-6.61	0.25	-0.69	0.92	22 237	-0.01
ECR–R Avoidance	3.04	0.96	1-7	0.80	0.96	0.89	19 009*	-0.25

Note. MentS – Mentalization Scale; TEIQue – Trait Emotional Intelligence Questionnaire; BPI – Borderline Personality Inventory; ECR–R – Experiences in Close Relationships–Revised
** $p < 0.001$; * $p < 0.05$

To verify the three-factor structure of MentS presented in research on the original version of the measure, a confirmatory factor analysis using the maximum likelihood method was performed. The fit indices were as follows: $chi^2(347) = 1244$; $p < 0.001$; CFI = 0.726; TLI = 0.701; RMSEA = 0.077 (CI: 0.073-0.082); SRMR = 0.082. The fit

of this model can be considered acceptable. The analyses revealed moderate and high factor loadings for all items making up the subscales except for item 15 of the MentS–M subscale, which reads: "To understand someone's behavior, we need to know her/his thoughts, wishes, and feelings." In future studies this item should therefore be removed from MentS. The factor structure of the Polish version of MentS is presented in Figure 1. All path coefficients were statistically significant ($p < 0.001$).

Differences in mentalization according to gender, education, and age

The Mann–Whitney *U* test revealed significant differences in the measured variables depending on participants' gender: women scored higher on the mentalization scales except on MentS–S, where there were no significant differences (Table 1). Moreover, women scored higher on the short *Empathy Quotient* as well as *Personality Inventory* scales: Neuroticism, Extraversion, and Agreeableness. Men scored higher on the ECR–RS Avoidance scale as well as on the BPI Fear of Closeness and BPI Reality Testing scales. The effect size of these relationships, measured as Cohen's *d*, is moderate (≈ 0.40), except for differences in extraversion, where it is low (0.20).

In the second group (working people) there was a small proportion of individuals with elementary and vocational education (three and six participants, respectively), which is why comparisons in terms of mentalization were performed in the remaining three groups. The differences found were not statistically significant: the level of mentalization did not differ depending on the participants' education. In the group of working people, by contrast, a significant, though very low, negative correlation of participants' age with self-related mentalizing ($r = – 0.19$) and with MentS overall score ($r = – 0.16$) was observed.

Validity analysis: relations to other variables

To assess the validity of MentS, the relations between MentS scores and the scores on scales measuring other constructs associated with mentalization, namely: empathy and emotional intelligence, attachment, pathological personality organization level, and the Big Five personality dimensions were determined. The results are presented in Table 2.

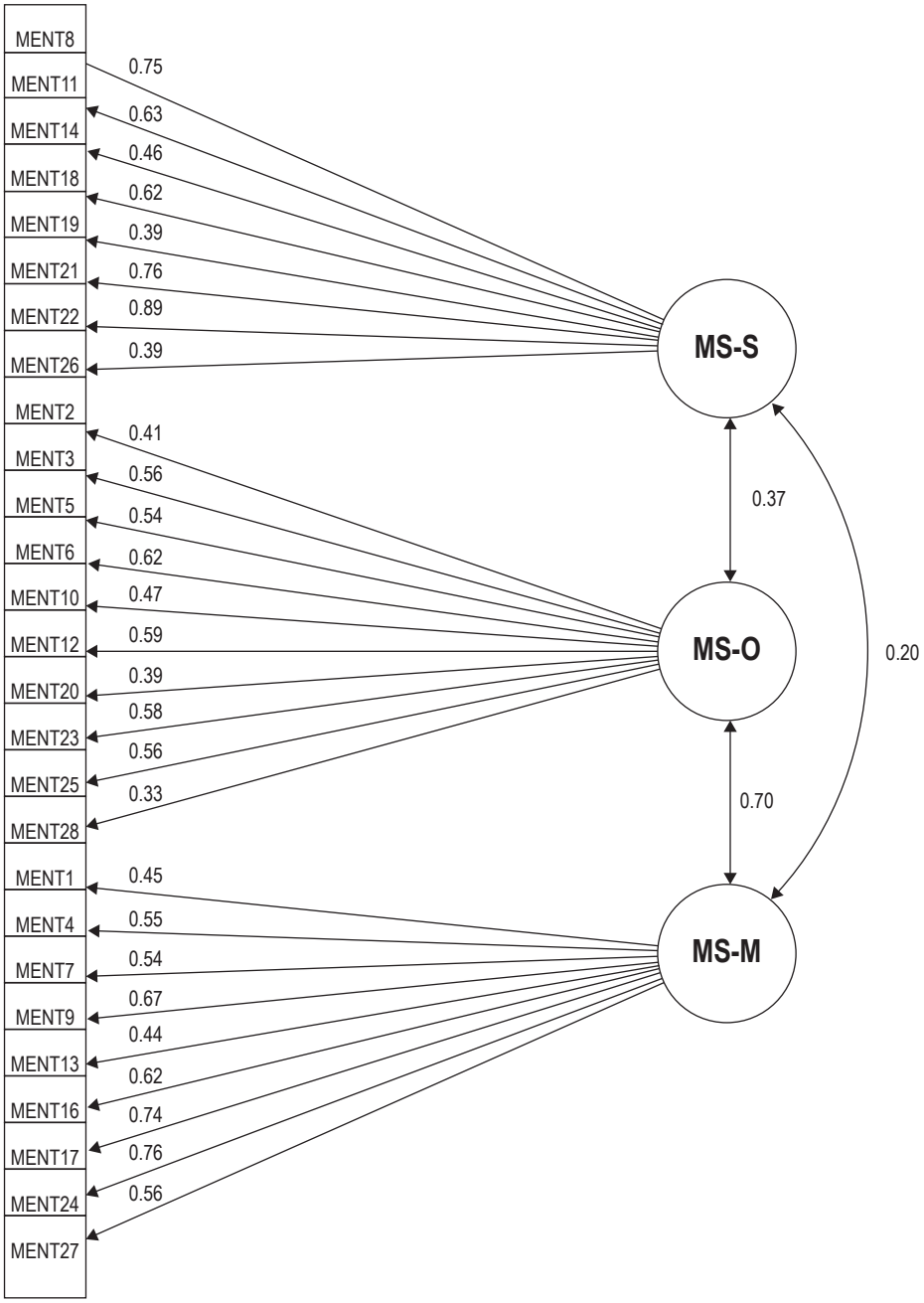

Figure 1. **Three-factor model of the MentS**

Table 2. **Correlations between study variables**

	1	2	3	4	5	6	7	8	9	10	11	12	13	13	15	16	17	18
1. MentS Self																		
2. MentS Other	0.345**																	
3. MentS Motivation	0.245**	0.600**																
4. MentS Total	0.677**	0.831**	0.811**															
5. Neuroticism	-0.302**	-0.116*	0.095*	-0.131**														
6. Extraversion	0.263**	0.369**	0.157**	0.334**	-0.268**													
7. Openness	0.191**	0.255**	0.325**	0.335**	0.229**	0.241**												
8. Agreeableness	0.116*	0.164**	0.182**	0.200**	-0.114*	0.300**	0.219**											
9. Conscientiousness	0.262**	0.173**	0.056	0.207**	-0.198**	0.388**	0.09	0.345**										
10. E. Intelligence (TEIQue)	0.502**	0.455**	0.232**	0.505**	-0.581**	0.634**	0.163**	0.363**	0.462**									
11. Empathy (EQ)	0.336**	0.697**	0.506**	0.659**	-0.07	0.383**	0.288**	0.230**	0.174**	0.510**								
12. BPI Identity Diffusion	-0.172**	0.023	0.194**	0.026	0.421**	-0.210**	0.176**	-0.169**	-0.261**	-0.311**	0.044							
13. BPI Primitive Defense	-0.239**	-0.08	0.086	-0.094	0.599**	-0.306**	0.068	-0.329**	-0.258**	-0.505**	-0.082	0.650**						
14. BPI Reality Testing	-0.089	-0.064	-0.038	-0.081	0.081	-0.083	-0.042	-0.148**	-0.110*	-0.127**	-0.05	0.484**	0.344**					
15. BPI Fear of Closeness	-0.198**	-0.073	0.034	-0.098*	0.377**	-0.231**	0.161**	-0.281**	-0.245**	-0.387**	-0.098*	0.619**	0.519**	0.422**				
16. BPI Total	-0.180**	0.002	0.140**	-0.011	0.445**	-0.202**	0.181**	-0.326**	-0.265**	-0.370**	-0.005	0.867**	0.790**	0.585**	0.775**			
17. BPI Cut-off	-0.206**	-0.034	0.143**	-0.034	0.481**	-0.275**	0.211**	-0.297**	-0.289**	-0.415**	-0.038	0.833**	0.754**	0.472**	0.829**	0.936**		
18. ECR–R Anxiety	-0.426**	-0.146**	0.085	-0.202**	0.476**	-0.263**	-0.004	-0.213**	-0.259**	-0.522**	-0.119*	0.436**	0.503**	0.180**	0.397**	0.484**	0.491**	
19. ECR–R Avoidance	-0.306**	-0.306**	-0.292**	-0.389**	0.267**	-0.352**	0.007	-0.250**	-0.246**	-0.505**	-0.329**	0.230**	0.221**	0.155**	0.442**	0.305**	0.336**	0.270**

Note. MentS – Mentalization Scale; TEIQue – Trait Emotional Intelligence Questionnaire; EQ – Empathy Quotient; BPI – Borderline Personality Inventory; ECR–R – Experiences in Close Relationships–Revised

** $p < 0.01$ * $p < 0.05$

MentS and emotional intelligence

MentS is moderately and positively correlated with the scale measuring emotional intelligence. The correlation is the strongest in the case of the MentS–S score and MentS overall score (r = 0.50). Only for the MentS–M subscale the relationship is weak (r = 0.23).

MentS and empathy

There is a moderate to high positive correlation between MentS and empathy as measured by the EQ. The strongest relationship between the variables is observed for MentS–O (r = 0.70) and for the overall score (r = 0.66). The relationship is the weakest between empathy and the MentS–S subscale (r = 0.34).

MentS and attachment

Nearly all MentS scales are negatively correlated with insecure attachment indicators: ECR–R Avoidance and Anxiety. In the case of Anxiety, the strongest correlation is the negative one with MentS–S (r = – 0.43). In the case of Avoidance, the strength of the relationship oscillates around r = – 0.30; the correlation value is the highest for MentS total score (r = – 0.39).

MentS and borderline personality disorder

MentS shows a low but significant correlation with the indicators of pathological personality organization as measured by the BPI. Most of the relationships concern MentS–S, which correlates negatively with all borderline personality indicators except reality testing, although the strength of these relationships is very low and usually below r = 0.20. The additionally performed Student's t-test confirmed that borderline individuals scored lower on MentS–S than non-borderline respondents (t = 2.802, p < 0.05, Cohen's d = 0.44). Borderline individuals were identified in the sample based on the cut-off score ≥ 10 (N = 45, which was 11% of the sample).

MentS and the Big Five dimensions

As in research on the original version of MentS, the scales of the questionnaire correlated positively with all personality dimensions except neuroticism, which was significantly negatively correlated with MentS. The correlations found were weak to moderate. The highest correlation was between MentS–O and extraversion (r = 0.37).

Discussion

In this article I have presented the results of research on the reliability, structure, and validity of the Polish version of a new measure of mentalization – the *Mentaliza-*

tion Scale, MentS. Reliability analysis showed the high internal consistency of all three MentS subscales—Self-Related Mentalization, Other-Related Mentalization, and Motivation to Mentalize—and of MentS total score. The values are similar to those obtained for the original version of MentS [19]. The factor analysis supports the three-factor structure of the questionnaire that has been described in the literature. One of the items (no. 15) should be excluded from the Polish version of MentS due to its low factor loading.

To determine the construct validity of MentS, I conducted research using measures of various psychological constructs that, according to data provided in the literature, are associated with mentalization. Five research hypotheses were formulated, all of which were confirmed. Mentalization as measured by MentS was positively linked with mentalization-related constructs: empathy and emotional intelligence, and the strength of these links can be regarded as moderate to high, depending on the subscale (H1). Empathy is an emotional response that consists in sharing another person's emotional state, presupposing the cognitive ability to adopt that person's perspective and a permanent distinction between the self and object [20]. Both mentalization and empathy are based on identifying and understanding another person's mental states, but empathy additionally involves sympathy—sharing these states and concern for the other person. Mentalization in turn is distinguished from empathy by the fact that it refers also to understanding and processing one's own mental states. The above similarities and differences between mentalization and empathy are reflected in the results of the present study—the relationship between these variables is strong, but it is the lowest in the case of the Self-Related Mentalization scale, measuring the aspect that is, to a great extent, specific to mentalization. As regards emotional intelligence, measured here as a trait, it is a set of self-beliefs concerning the ability to identify, understand, and regulate one's own and other people's emotions [33]. Mentalization as measured by MentS is moderately positively related to emotional intelligence. Unlike in the case of empathy, the relationship is the strongest for motivation to mentalize. Perhaps emotional intelligence refers to an ability abstracted from the context, with the individual's possible reluctance to use it in particular situations not taken into account, which may be reflected by the scale measuring motivation to mentalize.

The literature on the relationship between mentalization and attachment is very extensive [4, 21, 22, 24, 34]. Fonagy's theory is based on the assumption that non-optimal early childhood experiences with the caregiver result in various deficits in mentalizing, which may manifest themselves in adult life, for instance, in the form of borderline personality disorder. In many places, researchers managed to find a relationship between low mentalizing ability and insecure attachment in developmental and psychopathological contexts, although there have also been studies that did not yield a clear conclusion (for a review, see: [5]). In the presented research, the relations between mentalization as measured by MentS and the anxiety and avoidance in attachment were consistent with expectations in terms of direction (H2)—a low mentalization was related to a higher insecure attachment; however, the strength of the observed relations was not high. This may be due to the type of methods used to measure the two variables—in the literature it is reported that it is better to observe

the complex and dynamic relations between attachment and mentalization using more complex experimental methods or interviews based on coding than using self-report methods of relatively low complexity. What is important, the results obtained in this area are similar to those obtained by the authors of the measure, the difference being that in the original study the strength of the relations was a little higher in some cases. In both studies, the strongest relation was observed between self-related mentalizing and the level of anxiety in attachment as well as between MentS total score and avoidance, and the only statistically non-significant relationship was the one between anxiety and motivation to mentalize.

Because one of the most important research directions is a deficit in mentalizing in individuals with a pathological personality structure, I also tested if mentalization as measured by MentS would be related to indicators of borderline personality organization (H3). The result was positive, particularly for self-related mentalizing, though the observed relationship was not strong. Further analyses confirmed a certain usefulness of the Self-Related Mentalization scale in differentiating between individuals with borderline and non-borderline personality organization. Given that both measures used were questionnaire-based even though they concern complex and dynamic concepts, the obtained results can be regarded as satisfactory. Still, in order to confirm the clinical usefulness of MentS, it is advisable to conduct a study with a clinical sample, the way the authors of the original version of the measure did. Importantly, their research also revealed that what differentiated borderline individuals from the control group the most strongly was the level of self-related mentalizing. Why not the other aspects of mentalization? As regards motivation to mentalize, evidence of its possible high level in borderline individuals is provided by studies on hypermentalizing [35]. It seems that they make attempts to mentalize and show an interest in mental states at least to the same extent as non-borderline individuals do, but the outcome of these attempts remains at a lower level—hence the absence of differences in scores on the scale concerning motivation.

What is more difficult to explain is the lack of observable differences in other-related mentalizing. The literature suggests the high significance of the self-regulatory role of mentalizing in the pathomechanism of borderline personality disorder, where difficulties with identifying one's own mental states lead to abnormal emotion regulation and to a flood of strong emotional states, characteristic of borderline individuals [36, 37]. It has also pointed out that mentalization deficit in borderline individuals is not all-embracing: it is restricted to close relationships and situations involving attachment system activation [4, 5, 22]. Perhaps this is why, particularly in self-report measures, sometimes deficits in identifying other people's mental states are not detected. Few studies devoted to borderline individuals have been conducted to date by means of instruments measuring various aspects of mentalization (e.g., self-related vs. other-related). Fossati et al. [36] examined a nonclinical group of adolescents using various testing instruments that were meant to measure self-related and other-related mentalization separately. Both aspects proved to be lower in individuals with a higher level of borderline characteristics, but it was self-related mentalizing that had higher discriminating value for high-borderline vs. low-borderline groups. In a study by Marszał

[24] a group of borderline individuals was identified in whose case attachment system activation led to a breakdown in mentalizing ability exclusively in the self-related dimension of mentalizing. Perhaps this is a kind of regulatory strategy developed as a response to frustrating experiences in early childhood, when the individual learns to avoid identifying his or her own difficult emotions, thoughts, and experiences in the relationship with the caregiver. On the other hand, the results obtained using the MASC battery and in studies on empathy show disturbances also in the dimension of other-related mentalizing [38, 39]. This direction of research certainly requires further exploration, but these are certain indications suggesting that what may be particularly important in this clinical group is the breakdown of mentalizing ability pertaining to the identification and regulation of one's own mental states, which would be consistent with MentS scores.

Mentalization as measured by MentS shows the expected associations with personality dimensions (H4). High mentalization is associated with lower neuroticism and higher extraversion and openness to experience; to a smaller degree, it is also associated with higher agreeableness and conscientiousness. The relationship to neuroticism concerned only the self-related aspect of mentalizing, whereas extraversion was the most strongly associated with other-related mentalizing, and openness—with motivation to mentalize. The results seem to confirm the validity of the questionnaire used to measure mentalization. Individuals high in neuroticism—emotionally unstable, excitable, oversensitive, with a tendency to experience negative emotions—recognize and process their internal states to a smaller degree, while active and sociable people, self-confident in social interactions, more often show the ability to mentalize about others, and cognitively open and reflective individuals are characterized by a motivation to and engagement in analyzing mental states in general.

The last of the hypotheses tested in the present study concerned gender differences in mentalization (H5). In studies on social cognition understood in a broad sense, women usually score higher than men [25]. The obtained results confirm the hypothesis—as in the validation of the original version of MentS, women scored higher on most dimensions of mentalizing. The exception was the Self-Related Mentalization scale, on which men scored higher in the original study, whereas no differences were observed in the present one. This is an interesting result, suggesting that women's better ability to identify mental states may concern only their orientation towards other people and their high motivation to think about mental states in general, but not necessarily the focus on their own thoughts and emotions. Perhaps as a result of socialization women develop a belief about how important it is in social interactions to be empathic rather than focused on oneself, which is reflected especially in self-report questionnaires, based on beliefs about one's own functioning.

Conclusions

The verification of the hypotheses formulated in the present study has led to the conclusion that the Polish version of the *Mentalization Scale* (MentS)—a new measure of mentalization—has high psychometric value; it has also yielded many interesting

findings concerning mentalization itself and its relations to the variables measured in the study. Further studies on the validation of the MentS should examine a clinical sample of patients with various mental disorders, particularly those that are related to mentalizing. It would also be advisable to test the relations between the MentS and other measures of mentalization—both self-report measures and interview-based or task-based ones.[1]

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[1] An unpublished study by Soroko et al. [32] showed a high correlation between the scores on the Polish version of MentS and on the Polish version of MZQ.

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APPENDIX

MENT(S)

(Dimitrijević et al., 2017; Polish adaptation: M. Jańczak)

Kwestionariusz składa się z 28 pozycji. Przeczytaj uważnie każdą z nich i **ZAZNACZ KÓŁKIEM tę liczbę na skali od 1 do 5, która najlepiej Cię opisuje.**

1	2	3	4	5
całkowicie nieprawdziwe	raczej nieprawdziwe	zarówno prawdziwe jak i nieprawdziwe	raczej prawdziwe	całkowicie prawdziw

1	Zrozumienie przyczyn mojego zachowania jest dla mnie ważne.	1 2 3 4 5
2	Uważnie obserwuję, co mówią i robią inni ludzie, kiedy wyciągam wnioski dotyczące ich cech osobowości.	1 2 3 4 5
3	Potrafię rozpoznawać uczucia innych ludzi.	1 2 3 4 5
4	Często myślę o innych ludziach i ich zachowaniu.	1 2 3 4 5
5	Zwykle potrafię rozpoznać, co sprawia, że ludzie czują się niekomfortowo.	1 2 3 4 5
6	Potrafię empatyzować z uczuciami innych ludzi	1 2 3 4 5
7	Kiedy ktoś mnie denerwuje, staram się zrozumieć, dlaczego reaguję w ten sposób.	1 2 3 4 5
8	Kiedy się zdenerwuję, nie jestem pewien, czy jestem smutny, przestraszony czy zły.	1 2 3 4 5
9	Nie lubię tracić czasu na próby szczegółowego zrozumienia zachowania innych ludzi.	1 2 3 4 5
10	Potrafię dobrze przewidywać zachowanie innych ludzi, gdy znam ich przekonania i uczucia.	1 2 3 4 5
11	Często nie potrafię nawet samemu sobie wytłumaczyć, dlaczego coś zrobiłem.	1 2 3 4 5
12	Czasem potrafię zrozumieć czyjeś uczucia zanim ta osoba cokolwiek mi o nich powie.	1 2 3 4 5
13	Ważne jest dla mnie, aby rozumieć, co dzieje się w moich relacjach z bliskimi osobami.	1 2 3 4 5
14	Nie chcę dowiadywać się o sobie czegoś, co mi się nie spodoba.	1 2 3 4 5
15	Aby zrozumieć czyjeś zachowanie, musimy poznać jego myśli, pragnienia i uczucia.	1 2 3 4 5
16	Często rozmawiam o emocjach z ludźmi, z którymi jestem blisko.	1 2 3 4 5
17	Lubię czytać książki i artykuły na tematy psychologiczne.	1 2 3 4 5
18	Trudno mi przyznać przed samym sobą, że jestem smutny, zraniony lub przestraszony.	1 2 3 4 5
19	Nie lubię myśleć o swoich problemach.	1 2 3 4 5
20	Potrafię szczegółowo i precyzyjnie opisać istotne cechy bliskich mi osób.	1 2 3 4 5
21	Często jestem zdezorientowany co do moich dokładnych uczuć.	1 2 3 4 5
22	Trudno mi znaleźć odpowiednie słowa, aby wyrazić swoje uczucia.	1 2 3 4 5
23	Ludzie mówią mi, że ich rozumiem i udzielam im właściwych porad.	1 2 3 4 5
24	Zawsze interesowało mnie, dlaczego ludzie zachowują się w określony sposób.	1 2 3 4 5
25	Z łatwością przychodzi mi opisywanie tego, co czuję.	1 2 3 4 5

26	Gdy inni mówią o swoich uczuciach i potrzebach, często odpływam myślami.	1 2 3 4 5
27	Nie ma sensu myśleć o intencjach czy pragnieniach innych ludzi, ponieważ wszyscy jesteśmy zależni od życiowych okoliczności.	1 2 3 4 5
28	Jedną z najważniejszych rzeczy, których dzieci powinny się nauczyć, jest wyrażanie swoich uczuć i pragnień.	1 2 3 4 5