



Healthy and Unhealthy Dimensions of Perfectionism: Perfectionism and Mental Health in Hungarian Adults

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Abstract

Perfectionism is a multidimensional personality trait that may covary with both negative and positive indices of mental health. Different components of perfectionism might be associated in different ways with positive and negative aspects of mental health. However, past studies tended to focus only on one covariate at a time. This study aimed to test the association between domains of perfectionism to both positive (self-esteem, wellbeing) and negative mental health indices (narcissism and psychological distress) while testing the structural validity of the *Short Multidimensional Perfectionism Scale* in a large non-English speaking community-based sample in Hungary. A total of 4,340 participants (49.3% male) took part in an online survey that included *Rosenberg's Self-Esteem Scale*, *Narcissistic Admiration and Rivalry Questionnaire*, *World Health Organization Wellbeing Index-5*, and parts of *Brief Symptoms Inventory-18*. Using structural equation modelling analyses, we confirmed the three-dimensional model of perfectionism in our community sample. In the multivariate analyses, all perfectionism factors were related to narcissism. Furthermore, only socially prescribed perfectionism was associated with low self-esteem and lower wellbeing; however, both socially prescribed and self-oriented perfectionism were associated with higher psychological distress. Our findings supported the notion that different domains of perfectionism correlate to mental health indices differently, indicating that socially prescribed perfectionism may be the harmful component of perfectionism.

Keywords Perfectionism · Self-esteem · Wellbeing · Narcissism · Psychological distress · Confirmatory factor analysis

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Perfectionism is a personality dimension characterised by a constant striving for excessively high standards or flawless performance and often accompanied by over concern about evaluations of the behaviour (Frost et al., 1990; Hewitt et al., 1991). Prior research suggested that perfectionism may covary with both negative (Arnkoff & Minarik, 1996; Ashby & Bruner, 2005; Bieling et al., 2003; Cox et al., 2002; Enns et al., 2002) and positive indices of mental health (Bergman et al., 2007; Bieling et al., 2004; Enns et al., 2002; Stoeber & Otto, 2006). Perfectionism correlates with several psychological problems, though the strength of the association varies between studies. For example, two studies presented evidence of a weak to moderate size correlation between perfectionism and indices of negative affectivity such as anxiety and depression (Arnkoff & Minarik, 1996; Cox et al., 2002).

Other researchers suggest that perfectionism links with depression (Accordino et al., 2000; Bergman et al., 2007; Bieling et al., 2004; Enns et al., 2002; McCreary et al., 2004; Moroz & Dunkley, 2015), narcissism (Smith et al., 2016; Stoeber, 2015), eating disorders (Arnkoff & Minarik, 1996; Franco-Paredes et al., 2005), and low self-esteem (Accordino et al., 2000; Moroz & Dunkley, 2015). Perfectionism has also been linked to an increased risk of behavioural addiction problems such as exercise addiction (González-Hernández et al., 2021), problematic internet use (Casale et al., 2014), and work addiction (Kun et al., 2021). The strength of these associations ranged between weak and moderate sizes. Some other studies revealed that perfectionism correlates positively with academic achievement (Accordino et al., 2000), increased self-esteem, and life satisfaction (Moroz & Dunkley, 2015; Stoeber & Stoeber, 2009).

Early perfectionist researchers focused mainly on a characteristic of perfectionism that revolves around overvaluing achievement and setting exceedingly high personal standards that are usually accompanied by irrational beliefs or attitudes at the expense of other things (Hill, 2016). This early approach of perfectionism was criticised for focusing mainly on the intrapersonal factors and neglecting the interpersonal aspects of perfectionism.

In response to early criticism, the multidimensional approach to perfectionism (Hewitt et al., 1991; Hill, 2016) included an interpersonal dimensions such as individuals' beliefs about and attitudes toward others or their surroundings. This Hewitt and Flett model of perfectionism is still among the most commonly used model in perfectionism research (Cox et al., 2002; Hill, 2016; Stoeber, 2018).

Hewitt and Flett proposed three perfectionism domains regarding the different sources and directions of perfectionistic expectations (Cox et al., 2002; Hewitt et al., 1991; Stoeber, 2018). Self-oriented perfectionism (SOP) refers to setting excessively high standards and perfectionistic motivation toward oneself. In contrast, socially prescribed perfectionism (SPP) indicates the beliefs one has about others' expectations for oneself. The third domain, the other-oriented perfectionism (OOP), refers to setting an unrealistic standard for the performance of significant others.

The domains of perfectionism may influence all areas of an individual's life, such as work, education, and social relationships (Stoeber & Otto, 2006). Studies have shown that the three domains have different patterns of association with other psychological constructs (Cox et al., 2002; Stoeber, 2015; Stoeber & Otto, 2006; Stoeber & Stoeber, 2009). A study with university students demonstrated how the three domains of perfectionism differ in social relation settings (Stoeber, 2015), thus individuals with high OOP score more frequently used aggressive humour, i.e. enhancing oneself at the expense of other people. Furthermore, they had more difficulty in consenting to commonly accepted standards and tended to be 'individualists' who are more interested in their own performance or output while not caring about the performance of others. In contrast, individuals with high SOP

score used humour that enhances the relationship with others more frequently and used aggressive humour less frequently (Stoeber, 2015). They also showed interest in other people's performance or output. Individuals with high socially prescribed perfectionism utilised humour that was lowering themselves more often and often had difficulty expressing their emotions to others. They also showed signs of feeling inferior to others.

Another study with university students revealed that students with high SOP score had a higher intrinsic motivation to study and more confidence about tests while still showing more significant worries about test results (Stoeber et al., 2009). Students with high SPP score showed higher extrinsic motivation to study and more anxiety about exams.

As researchers continued to investigate how domains of perfectionism correlate with different psychological constructs, a measurement problem occurred. Studies have employed different instruments to measure dimensions of perfectionism. One of the most widely used instruments is the Hewitt-Flett Multidimensional Perfectionism Scale (HF-MPS) (Hewitt et al., 1991; Stoeber, 2018). The HF-MPS has 45 items, 15 items measuring each of the three domains of perfectionism. The HF-MPS has been translated and applied in different countries and cultures (Stoeber, 2018). However, due to its length, the HF-MPS is not suitable for certain situations (e.g. assessing a clinically distressed population), which require a shorter time to administer (Cox et al., 2002).

Cox and colleagues devised a shorter version of the HF-MPS using five (of the 15 original items per domain) with the highest loading to construct a shorter Multidimensional Perfectionism Scale (SMPS) (Cox et al., 2002; Stoeber, 2018). The confirmatory factor analysis of the SMPS resulted in a good fit for the three-factor measurement model. Since then, the SMPS has been used in various studies (e.g., Cox et al., 2009; Mackinnon et al., 2013). While researchers use the SMPS frequently, there has been a dearth of studies that validated the SMPS in a non-English speaking sample, to the authors' knowledge. Only one study has been conducted using a clinically distressed sample in an English-speaking country (Cox et al., 2002). Hence, it is imperative to test its structural and construct validity especially in a non-English and non-university student population.

Another goal of this study was to explore each SMPS domain's association with different mental health indices. As previously mentioned, researchers have suggested that SOP, OOP, and SPP could relate to different mental health indices (Stoeber, 2015; Stoeber & Otto, 2006; Stoeber & Stoeber, 2009). However, previous studies focused on one covariate at a time. SOP, which is often construed as part of a positive aspect of perfectionism (Cox et al., 2002; Stoeber & Otto, 2006), was found to be moderately linked to academic achievement (Cox et al., 2002) and increased self-esteem (Accordino et al., 2000), while SPP might predict stress and burnout (Childs & Stoeber, 2012). OOP seems to correlate with narcissism (Stoeber, 2015, 2018). The current study will focus on several covariates (both positive and negative) at the same time while using on Hewitt and Flett's conception of perfectionism. The current study intends to investigate how domains of perfectionism (SOP, OOP, and SPP) correlate with different mental health indices, namely narcissism, self-esteem, psychological distress, and wellbeing.

Methods

Participants and Sampling Procedure

We used a convenience sampling procedure with an online survey platform in Hungary. Two of the leading Hungarian news portals shared our survey and invited their readers to participate in the study. The inclusion criteria were age (≥ 18 years), understanding the Hungarian language, and providing informed consent. All the participants were ensured anonymity and confidentiality. A total of 8,511 individuals opened the survey, and 1,929 (22.7%) declined to participate in the study. Two thousand two hundred forty-two participants (26.3%) were excluded from further analysis because they had not completed all the questionnaires. Included participants were 4,340 Hungarian adults. 49.3% of the participants were male (mean age = 37.8 years, $SD = 9.8$), and 50.7% were female (mean age = 37.6 years, $SD=10.1$). 76.8% of the sample were university graduates or higher, and the rest were secondary or lower graduates. The present study obtained approval from the institutional review board (IRB) of the research team's university, and the study followed the guidelines of the Declaration of Helsinki.

Measures

All measures used in the current study were not already available in Hungarian. We adapted the questionnaires using a translation and back translation procedure. The questionnaires were translated from English to Hungarian by two bilingual experts. Both translators were familiar with the terminologies of the area, and one was a native English speaker. Inconsistencies were discussed. In the second step, the instruments were back translated to English by different independent translators, both of whom were unfamiliar with the initial questionnaire. Like the translation process, one of the experts was a native speaker of English. Finally, all inconsistencies were discussed and resolved.

Perfectionism

The Short Multidimensional Perfectionism Scale (SMPS) comprises 15 statements derived from the 45-item Hewitt-Flett Multidimensional Perfectionism Scale (HF-MPS) (Cox et al., 2002). The five highest loading items for each factor (SOP, OOP, and SPP) from the HF-MPS made up the SMPS (Rice et al., 2018; Stoeber, 2018). The SMPS was adapted using a translation and back-translation procedure.

The participants must respond to the statements (e.g. 'One of my goals is to be perfect in everything I do.') to reflect their agreement on a scale from 1 (disagree) to 7 (agree) (Cox et al., 2002; Rice et al., 2018). The SMPS showed appropriate reliability and validity in previous research (Rice et al., 2018).

In this sample, the McDonald's ω were acceptable for all three factors (self-oriented perfectionism = 0.84, other oriented perfectionism = 0.79, and socially prescribed perfectionism = 0.81). The ω values were indicative that the SMPS had acceptable reliability index. We used the McDonald's ω instead of Cronbach's α which is more suitable to

estimate associations between test items and the test's construct in factor analytic studies like the current study (Flora, 2020).

Self-Esteem

The 10-item Rosenberg Self-Esteem Scale (RSES) was used for the current study (Rosenberg, 1965; Urbán et al., 2014). The RSES has a balance of positively and negatively worded items. Participants responded to the items (e.g. 'At times I think I am no good at all.') on a scale ranging from 1 (strongly disagree) to 4 (strongly agree). The RSES is a widely used measure of self-esteem due to its simplicity (Schmitt & Allik, 2005). Despite the instrument's brevity, the RSES also offers a good measure of reliability and validity across the world (Robins & Trzesniewski, 2001; Schmitt & Allik, 2005). The Hungarian version of RSES showed excellent internal consistency ($\omega = 0.88$).

Narcissism

The Narcissistic Admiration and Rivalry Questionnaire short form (NARQ-S) was used to assess participants' narcissism (e.g., 'I deserve to be seen as a great personality.') (Leckelt et al., 2017). The NARQ-S measures two domains of narcissism: admiration (focusing on self-enhancement sphere of narcissism) and rivalry (self-defence characteristic of narcissism). Each domain is measured using three items on a 6-point Likert-type scale. This results in a total of six items questionnaire.

NARQ-S is a reliable brief measure of narcissism, which can be applied in to assess global tendency of narcissism or analysing the admiration and rivalry aspect of narcissism (Leckelt et al., 2017). In the current study, we focus on how the global aspect of narcissism is impacted by domains of perfectionism. Our analysis showed that the NARQ-S had a close to acceptable internal consistency ($\omega = 0.68$), with the admiration factor which had higher internal consistency ($\omega = 0.78$) than the rivalry factor ($\omega = 0.57$).

Wellbeing

The current study used the five-item World Health Organization Well-Being Index (WHO-5). The instrument consists of exclusively positively worded items (e.g., 'I have felt cheerful and in good spirits.'), which should be rated by the participants how each statement applies to them in the last 2 weeks (Bech, 1999; Topp et al., 2015). The response may vary from 5 (all of the time) to 0 (none of the time). Since the development, the WHO-5 has been widely used and translated into 30 languages, including Hungarian (Bonsignore et al., 2001; Kuriyama et al., 2007; Topp et al., 2015). The internal consistency of WHO-5 was good ($\omega = 0.83$) in this research.

Psychological Distress

Psychological distress was measured with the anxiety and depression factors from the Brief Symptom Inventory 18 (BSI-18). The BSI-18 is a self-report scale that requires the respondent to assess their distress level during the previous 7 days (e.g. 'How much were you were distressed by faintness or dizziness in the past 7 days including today') on a 5-point Likert scale (from 0, not at all to 4, extremely) (Asner-Self et al., 2006; Franke

et al., 2017). Although the BSI-18 was initially used in substance abuse patients, it is often used as a screening tool for depression, anxiety, and somatisation in the general population (Franke et al., 2017). Studies have found that the BSI-18 has acceptable internal consistency and concurrent validity (Asner-Self et al., 2006; Meachen et al., 2008; Wang et al., 2010). In the current study, only the depression and anxiety factors were used which consist of 12 items. The internal consistency was acceptable ($\omega = 0.89$), with anxiety factors had slightly higher index of reliability ($\omega = .88$) than the depressive symptom ($\omega = .87$).

Statistical Analyses

As the first step, we applied confirmatory factor analysis (CFA) to test the original three-factor measurement model. To test gender invariance, we estimated a series of nested models with increasing constraints: (1) the measurement model was estimated freely in men and women separately; (2) the measurement model was estimated in men and women together without any constraints; (3) the factor loadings were constrained to be equal in men and women; finally (4) the factor loadings and intercepts were constrained to be equal in men and women.

As the second step, we estimated confirmatory factor analysis with the covariates model to test the covariates of different domains of perfectionism. This model extends the measurement model with a structural model, including the explanatory variables (covariates) (Posey et al., 2015; Tekwe et al., 2014)

During the evaluation of model fit, the χ^2 statistic, root mean square error of approximation (RMSEA), standardised root mean square residual (SRMR), comparative fit index (CFI), and Tucker-Lewis index (TLI) were applied (Byrne, 2013; Kline, 2006, 2016). A non-significant χ^2 value is an indication of a good model fit. However, since the χ^2 value is sensitive to sample size, it is complementary with other indices. An RMSEA score closer to 0 is preferred with $RMSEA < 0.05$ is indication of good fit and $0.05 < RMSEA \leq 0.08$ is an indication of adequate fit. $CFI > 0.95$ indicates a good fit, while a score between 0.90 and 0.95 indicates adequate fit. TLI should show 0.95 to indicate a good fit, while SRMR below 0.08 indicates a good fit.

Results

Descriptive Statistics

Table 1 provides the summary of descriptive statistics for the domains of the SMPS, self-esteem, narcissism, well-being, and psychological distress of the participants.

Testing the Three-Factor Model of Perfectionism: a Confirmatory Factor Analysis

A confirmatory factor analysis using a maximum likelihood estimation which is robust to the deviation from the normal distribution (MLR) showed that the three-factor model had close to adequate model fit ($\chi^2=1821$, $df = 87$, $p < 0.001$, $RMSEA = 0.07$, $SRMR = 0.06$, and $CFI = 0.91$, $TLI = 0.89$). The significant χ^2 value reflects a large discrepancy; however, this fit index is sensitive to large sample sizes. Other fit indices indicated close to an acceptable degree of fit. To further investigate the source of local misfit, we inspected the modification indices and the item contents. After allowing the error covariance between

Table 1 Descriptive statistics

Variable	Mean	SD	Range	Cronbach's α^*	McDonald's omega
Age	37.8	9.8	18–82	-	
SOP	26.5	5.8	5–35	0.84	0.84
OOP	20.4	6.1	5–35	0.79	0.79
SPP	17.1	7.0	5–35	0.81	0.81
Self-esteem (RSES)	28.6	5.4	10–40	0.88	0.88
Narcissism (NARQ-S)	19.2	5.3	6–36	0.67	0.66
Well-being (WHO-5)	12.5	3.2	5–20	0.83	0.83
Psychological distress (BIS-18)	11.6	3.4	6–24	0.89	0.89

$N=4340$. *SOP* self-oriented perfectionism, *OOP* other-oriented perfectionism, *SPP* socially prescribed perfectionism, *RSES* Rosenberg Self-Esteem Scale, *NARQ-S* The Narcissistic Admiration and Rivalry Questionnaire short form, *WHO-5* World Health Organization Well-Being Index, *BIS-18* the anxiety scale in the Brief Symptom Inventory 18

*Based on unstandardized items (Falk & Savalei, 2011)

item 10 ('My family expects me to be perfect') and 11 ('People expect nothing less than perfectionism from me') and between item 12 ('I set a very high standards for myself') and 13 ('I must always be successful at school or work') increased model fit to the acceptable level ($\chi^2 = 1488.37$, $df = 85$, $p < 0.001$, $RMSEA = 0.06$, $SRMR = 0.06$, and $CFI = 0.93$ $TLI = 0.91$) (Fig. 1).

Gender Invariance of the Three-Factor Measurement Model

We tested the gender invariance of the three-factor measurement model. Three-factor models with increasing constraints, including equal loadings and equal loadings and intercepts, were estimated using the usual testing measurement equivalence method (Vandenberg & Lance, 2000). The fit indices are reported in Table 2. First, the unconstrained multi-group model testing the configural invariance fitted the data satisfactorily. In the test of metric invariance, the factor loadings were constrained to be equal between both sexes, which yielded a significant increase in the χ^2 value; however, the change in other fit indices remained lower than the suggested cutoff value for the metric invariance test ($\Delta CFI = \leq -0.01$; $\Delta RMSEA \geq 0.015$; $\Delta SRMR \geq 0.030$) (Chen, 2007). In the test of scalar invariance, factor loadings and item intercepts were set as equal. The model fit decreased significantly. However, the changes in the other fit indices were lower than the proposed cutoff values ($\Delta CFI = \leq -0.010$; $\Delta RMSEA \geq 0.015$; $\Delta SRMR \geq 0.010$) (Chen, 2007).

When the nested three-factor model was used for males, the model fit indices showed adequate fit in $RMSEA$ (0.06), CFI (0.92), and $SRMR$ (0.06). The TLI score was 0.90, and there was a significant χ^2 value of 822.69 ($df = 85$). In females, the model fit indices produced a similar result. The $RMSEA$ (0.06), CFI (0.93), and $SRMR$ (0.05) indicated that the model works adequately for females, although the χ^2 value was 761.86 ($df = 85$) and TLI was 0.91. These results were similar to the results when we did not compare males and females.

Further analysis showed that the SMPS showed good invariance between males and females. Not only that, the whole factor structure was similar in both groups (configural

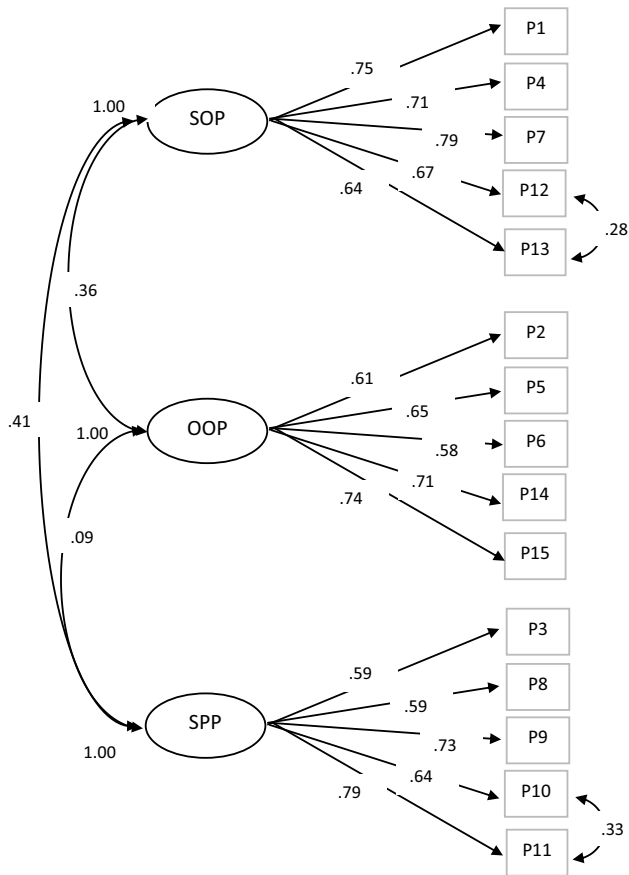


Fig. 1 Three-factor models of the SMPS. Note: Average variance extracted: SOP=0.51 ($\sqrt{0.51} = 0.71$); OOP =0.44 ($\sqrt{0.44} = 0.66$); SPP=0.45 ($\sqrt{0.45}=0.67$). Based on the Fornell and Larcker (1981) criterion the discriminant validity of the three factors is supported.

invariant), loading of the factor to each of the sexes was similar (metric invariance), and the intercept was also similar (scalar invariance). The scale invariance indicates that the SMPS can compare perfectionism in males and females in a just manner.

Correlation of Perfectionism Dimensions to Different Mental Health Indices

When regression analysis was conducted to the three dimensions of the SMPS, different patterns emerged. Different dimensions of perfectionism have a varied relationship with mental health indices. Table 3 summarises the regression and correlation coefficients of the dimensions with other mental health indices.

SOP had a significant positive correlation with narcissism and psychological distress. This means that individuals who impose high standards on themselves tend to show more narcissism and higher levels of distress. However, no relationship exists between SOP and self-esteem or wellbeing (Table 4).

Table 2 Invariance analyses and model fit indices of the SMPS

Model	χ^2 (df)	RMSEA	CFI	TLI	SRMR
Nested 3-factor model for males	822.7* (85)	.06	.92	.90	.06
Nested 3-factor model for females	761.9* (85)	.06	.93	.91	.05
	χ^2 (df)	RMSEA	CFI	TLI	SRMR
Configural invariance	1584.8* (170)	.06	.93	.91	.06
Metric invariance	1618.3* (182)	.06	.92	.91	.06
Scalar invariance	1767.4* (194)	.06	.92	.91	.06
	Differences χ^2	RMSEA	CFI	TLI	SRMR
	35.2*	.00	-.01	.00	.00
	155.1*	.00	-.00	.00	.00

* $p < .001$

Table 3 Confirmatory factor analysis with covariates: partial regression coefficients of SMPS to different mental health indices

	Standardized multiple regression coefficients		
	SOP	OOP	SPP
Self-esteem	.04	.08**	-.41**
Narcissism	.23**	.25**	.21**
Wellbeing	.01	.02	-.07**
Psychological distress	.18**	.03	.24**
Gender	.07**	.04*	.02
Age	-.06**	.05**	.03
Education	.02	.05**	-.03*
R^2	10.7%	8.0%	40.8%

$N=4,340$; *SOP* self-oriented perfectionism, *OOP* other-oriented perfectionism, *SPP* socially prescribed perfectionism. Gender is coded as 1 for male and 2 for female

*Significant at $p < .05$

**Significant at $p < .01$

Table 4 Zero-order correlation matrix of the variables included in the present study

	SOP	OOP	SPP	Gender	Narcissism	Wellbeing	Self-esteem	Psychological distress	Age
SOP									
OOP	.37								
SPP	.40	.08							
Gender	.09	.04	.07						
Narcissism	.26	.26	.16	-.01					
Wellbeing	-.06	.06	-.38	.00	.03				
Self-esteem	-.05	.12	-.55	-.08	.15	.50			
Psychological distress	.20	-.01	.53	.14	.09	-.50	-.59		
Age	-.12	.04	-.12	-.01	-.10	.09	.17	-.20	
Education	.03	.07	-.08	.14	.03	.09	.10	-.03	.05

$N=4,340$; *SOP* self-oriented perfectionism, *OOP* other-oriented perfectionism, *SPP* socially prescribed perfectionism. Gender is coded as 1 for male and 2 for female

Bolded texts indicate significant at least at $p \leq 0.05$

OOP correlated with self-esteem and narcissism but did not correlate with overall wellbeing and psychological distress. This means that the higher one sets an expectation to others, the more likely the individual has higher self-esteem and shows more narcissism.

The last domain, the SPP, was correlated with the four mental health indices. It was found that SPP negatively correlated with self-esteem and overall wellbeing and had a positive correlation with narcissism and psychological distress. Individuals who perceived that their surroundings demand perfection out of them will likely have lower self-esteem and overall wellbeing, while showing more symptoms of distress and narcissism. It is also important to note that the association between SPP and psychological distress was significantly stronger than the correlation between SOP and psychological distress ($r = 0.53$ versus 0.20 ; $z = 17.88$ $p < .001$). On the other hand, the link between SOP and narcissism was significantly stronger than the correlation between SPP and narcissism ($r = 0.26$ versus $r = 0.16$; $z = 4.78$ $p < .001$).

The three dimensions of perfectionism were also influenced by gender, age, and level of education. Women are more likely to impose higher standards for themselves and have higher standards for people around them. When it comes to age, the older the individuals, the lower they set high standards on themselves, but they expect more from their surroundings. Education had a negative correlation with SPP but a positive correlation with OOP. The lower the education, the more likely the individuals feel pressured to be perfect.

The proportion of SPP's variance explained by the covariates was the largest among the three dimensions ($R^2 = 40.8\%$). Only 10.7% SOP variance can be explained, while the same covariates can explain only 8% of OOP.

Discussion

This study supported the three-factor measurement model of the Hungarian version of the SMPS on a large non-English speaking population (Cox et al., 2002; Hewitt et al., 1991; Stoeber, 2018). Furthermore, we demonstrated that the factor structure of the Hungarian version of SMPS is invariant in men and women.

The findings of current study are in accordance with previous findings that perfectionism is not only related to psychopathology or seen as unfavourable but owning an adaptive function as well (Bergman et al., 2007; Bieling et al., 2004; Enns et al., 2002). This study also demonstrated the different patterns of correlation between each domain of perfectionism and mental health indices (Cox et al., 2002; Enns et al., 2002; Stoeber, 2015; Stoeber et al., 2009; Stoeber & Otto, 2006).

Our findings support the notion that SPP is related more strongly to psychological distress and narcissism than the other two dimensions. Furthermore, the SPP also showed a negative association with self-esteem and wellbeing. The findings of the current study seem to support the notion that SPP is the 'unhealthy' or 'maladaptive' aspect of perfectionism (Bieling et al., 2004; Casale et al., 2014; Stoeber, 2015). One plausible explanation for this is that individuals with high SPP score, i.e. believing that others have high expectations of them, may have more concern that their performance will be evaluated negatively, which later affects their self-esteem and overall wellbeing negatively (Casale et al., 2014). We can assume that the link between perfectionism and psychopathology such as social phobia (Dobos et al., 2020), eating disorders (Franco-Paredes et al., 2005), alcohol use (Sherry et al., 2012), and work addiction (Kun et al., 2020) can be explained with the maladaptive nature of SPP.

Interestingly, only gender, age, narcissism, and anxiety were related to SOP. It is worth noting that our study revealed that even though both SOP and SPP correlate positively with anxiety, SPP has a significantly stronger correlation with anxiety. Moreover, as our analysis reveals, SOP has a significant association with narcissism, but not with overall wellbeing and self-esteem. Our finding that SOP is not associated with wellbeing contradicts conclusion from prior research (Birch et al., 2019; Childs & Stoeber, 2010) which found that SOP predicted subjective wellbeing positively. At the same time, the current study showed a positive association between SOP and psychological distress, which also repudiates past research (Chang, 2006). These assertions are in line with a recent meta-analytic finding that questioned if SOP is 'healthy perfectionism' (Smith et al., 2016).

Chang (2006) suggested that perhaps the SOP might neither be exclusively 'healthy' nor 'unhealthy' facet of perfectionism. A self-oriented perfectionist has a strong desire to achieve an exorbitant standard, which could have either motivating or debilitating

impact on the individual. If the individual could achieve good performance, then it might result in an enhanced wellbeing. But the striving for high standards could also lead to heightened distress, as the current study suggest.

Another plausible explanation why SOP is linked with narcissism might be related to the possible adaptive value of narcissism. Scholars suggested that narcissism could also have adaptive value in moderate degree (Cai & Luo, 2018). Adaptive narcissism is characterized by the authority and self-sufficiency which are closely linked to the items of the NARQ-S. However, NARQ-S was not intended to measure adaptive or pathological aspect of narcissism.

OOP in this study was significantly associated with self-esteem and narcissism. This result corroborates findings from a previous study in which individuals high in OOP also showed a high tendency toward narcissism and high self-evaluations (Smith et al., 2016; Stoeber, 2015).

Our findings that the three SMPS domains positively correlated with narcissism align with the assumption that all three factors of perfectionism should be linked to narcissism, though the mechanisms behind the associations might differ (Smith et al., 2016). Whereas SOP place great importance of talent and achievements, to a point where they might impose dissatisfaction with others' flaws (OOP) and think that they are special (grandiose narcissism), socially prescribed perfectionists might lead to the other type of perfectionism, i.e. vulnerable narcissism (Smith et al., 2016). However, the lack of studies between narcissism and socially prescribed perfectionism warrants further investigation.

The current study supports the use of SMPS as a brief measure for perfectionism. To the authors' knowledge, this is the first study to perform confirmatory factor analysis of the scale since its development in 2002. This study also used a substantial sample ($\geq 4,000$ participants) with a relatively equal proportion of women and men, which was not often the case in previous studies of perfectionism (Stoeber & Otto, 2006). Our sample was also not limited to university students, as often found in other perfectionism studies.

Even though the current study is the first psychometric study using the SMPS on a large non-English and non-university student participant, it has its limitations. One possible limitation of the study is related to the use of the online platform. This practice limits the generalisation of the result to those who have internet access, so the sampling may be biased toward more educated and more affluent participants. Another limitation might stem from the self-report measures. When people report on their own experiences, they are frequently biased due to social desirability. Future research might consider using an alternative measure for narcissism with better reliability index than the NARQ-S employed in the current study.

Despite its limitations, the study supports continued use of the SMPS as it has adequate structural fit and invariance across gender. Furthermore, as our study suggests, each domain of the SMPS has a varied association with different mental health indices, which highlight the importance of perfectionism in understanding the mental health condition of everyone.

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Declarations

All procedures followed were in accordance with the ethical standards of the responsible committee on human experimentation (institutional and national) and with the Helsinki Declaration of 1975, as revised in 2000 (5). Informed consent was obtained from all patients before being included in the study.

Conflict of Interest The authors declare no competing interests.

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