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MEASUREMENT OF HAPPINESS IN THE CONTEXT OF THE SCHOOL

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For adults, there are many questionnaires available to measure subjective well-being and mental health, but for children there is a shortage of such tests. Measuring subjective well-being in a school setting is also important, but no test is available in English for primary school age. The aim of the present study is to adapt Ivens' (2007) test (IGYBH), which was developed for this purpose to Hungarian language, and to adapt a five-pillar (well-being, savoring, creative-executive efficiency, self-regulation, resilience) Hungarian adult mental health test, the MET, for 10-14 year olds. The psychometric analyses performed demonstrated the construct adequacy of both tests above the age of 10 years and positive results were obtained regarding the validity of both tests. An interesting result was that the subjective well-being levels of the pupils were lower in higher classes.

Keywords: *happiness measurement, subjective well-being, mental health, IGYBH, METGy*

INTRODUCTION

Happy people are healthy and recover faster (Veenhoven, 2008), live longer (Diener and Chan, 2011), work more efficiently (Zelenski, Murphy and Jenkins, 2008), are empathetic and helpful (Hauser, Preston and Stansfield, 2014), and are creative (Myers, 2000). Ordinary happiness - in scientific terms subjective well-being (cf. Ivens, 2007) - is a mental state of global well-being[1] . A happy person is a person who is happy in all aspects of his or her human nature, i.e. biological, psychological, social and spiritual terms, while also feeling comfortable in their own skin (Oláh and Kapitány-Fövény, 2012).

[1] The global adjective here does not refer to a scale of global relevance, but to the fact that the scale measures an overall well-being that includes biological, psychological, social and spiritual well-being.

For adults, there are several tests available to measure subjective well-being and mental health (see e.g. Diener, Emmons, Larsen and Griffin, 1985; Szabó, 2019). Such tests have also been developed for adolescents aged 14-18 (e.g. Láng, 2019), but for children younger than this age the range is not as rich. Only Ivens' (2007) School Children's Happiness Inventory (SCHI), which can be used in a school setting, is of interest in the matter. But why is it important to measure subjective well-being and mental health in schools? Beyond the obvious moral reason, let us mention two additional reasons.

1. Pupils with mental disorders also have poorer academic performance and their behaviour often has a negative impact on their classmates (Roeser, Van der Wolf and Strobel, 2001).

2. Learners with high levels of subjective well-being are mostly in a positive, optimistic and confident state, and thus open to absorbing new knowledge and experiencing flow in the school environment (Fredrickson and Branigan, 2005; Reinhardt, 2009).

Recognising the importance of these reasons, we set out to develop psychological tests in Hungarian that could measure subjective well-being and mental health in a school setting. To measure subjective well-being, we adapted Ivens' (2007) English-language School Child Happiness Questionnaire (IGYBK) into Hungarian, and to measure mental health, we adapted the Mental Health Test (MET, cf. Oláh, Nagy, Magyaródi, Török and Vargha, 2018; Vargha, Diósi, Pásztor, Ódor and Csengődi, 2018), which is currently being developed for the adult Hungarian population, for the 10-14 age group. This paper describes our work on these studies and their results.

The Ivens School Child Happiness Questionnaire (SSCQ)

Designed to measure the subjective well-being of children aged 8-15 at school, the IGYBK consists of 30 items and asks the respondent to rate on a 4-point Likert scale how true the statement is (1: very unlikely, 4: very likely). The items of the questionnaire all ask how the respondent felt at school in the past week (e.g. I was full of energy; I was nervous; I wanted to come to school; I was moody, etc.). The test design concept of the IGYBK follows the principle that subjective well-being has a positive and a negative component (Diener, 1984). For this reason, half of the items are positive (e.g. I was full of energy) and half are negative (e.g. I was moody). The positive (IGYBpoz) and negative (IGYBneg) subscales of the IGYBK are given as the sum of the scores of the positive and negative items, respectively, and the total IGYB score is given as the sum of the scores of all items after the negative items have been converted.

One of the reasons for creating this measure was the lack of a scale to identify children who have been bullied at school. This was also considered to be one of the criteria for the validity of the IGYBK, and a competing predictive study by Ivens (2007) found that the IGYBK met this criterion. Hierarchical regression analysis on a cross-sectional sample, they found that IGYB explained 11% of the variance of a combined abuse scale.

In another study (Ivens, 2007, Study 2), using a sample of 77 participants, it was also found that IGYB was moderately or strongly positively related to self-esteem (r = 0.49) and the PANAS-C (Laurent et al., 1999) emotion (Affect) subscale (r = 0.71), and moderately strongly negatively related to depression (r = -0.55), as expected.

The Mental Health Test (MET)

One of the missions and tasks of positive psychology is to develop a theoretically grounded and valid test for measuring mental health. In the Hungarian population, Oláh et al. (2018) developed a new questionnaire measuring mental health, the *Mental Health Test* (MET). Mental health encompasses the skills with which an individual lives and maintains positivity. It includes the ability to cope effectively, the tendency to savoir faire, and the presence of resilience and dynamic self-regulation. Hence the 5 pillars of mental health for which the MET was developed to measure:

1. Global well-being: a high level of well-being experienced in emotional, psychological, social and spiritual domains (Oláh and Kapitány-Fövény, 2012).
2. Savoring: the experience, awareness and processing of positive experiences and feelings of pleasure (Szondy, Martos, Szabó-Bartha, Pünkösty, 2014).
3. Creative-executive individual and social efficacy: the competence with which an individual is able to change the circumstances of a difficult adaptive situation, to reach his or her chosen goals according to his or her needs, and to implement his or her plans to change either the self or the physical or social environment according to his or her intentions (Oláh, 2005).
4. Self-regulation: control over attention and consciousness, persistence in goal achievement, control of emotional states, ability to self-regulate (Oláh, 2005).
5. Resilience: mental resilience, psychological resilience (Block and Kremen, 1996; Smith et al., 2008). It includes factors that facilitate successful adaptation to stressful situations, rapid and effective recovery from psychological pits and shocks (Campbell-Sills and Stein, 2007; Connor and Davidson, 2003; Southwick, Bonanno, Masten, Panter-Brick and Yehuda, 2014; Southwick and Charney, 2018).

With the 5 scales developed for these 5 pillars, the Mental Health Test has been shown to be a good model in the adult Hungarian population through construct item analysis and confirmatory factor analysis (CFA) (Oláh et al., 2018). The model combines the concept of flourishing with the skills of coping, savoring, resilience, dinamental self-regulation, psychological immunity), which play a role in maintaining mental health.

Vargha and colleagues (2018) examined the reliability of the Mental Health Test scales with sociodemographic variables. Spearman's rank correlations were calculated for ordinal sociodemographic variables, and group averages were compared for nominal variables (gender and family status). The main results of their analyses on a large sample (N = 554) are: (1) Age is positively correlated with self-regulation and resilience; (2) Education is positively correlated with well-being, creative- executive efficacy and resilience; (3) Number of children is positively correlated with well-being, resilience and self-regulation. (4) Financial status is positively correlated with well-being and creative-executive efficacy. (5) Men score higher on self-regulation but lower on savoring. (6) Married men score higher on well-being and savoring compared to single men, and score higher on self-regulation and savoring compared to cohabiting men. Those in a couple showed higher levels of well-being compared to singles.

MODE

Participants

The valid study sample[2] 1415 pupils in grades 3-8 from 28 different primary schools across the country, from Zala to Békés. The common feature of the schools was that all of them had Happiness Lessons[3] in at least one class. The number of pupils in these classes was 1172 (579 boys and 590 girls, 3 children's gender was not given), and the number of participants was 243 (111 boys and 131 girls, 1 child's gender was not given) in classes that did not participate in the Happiness Lessons programme. In 2018-2019, the tests were mostly conducted during Happiness Lessons, rarely during other lessons (e.g. singing lessons). The questionnaires were sent to the schools via email[4] in collaboration with the World is Better With You Foundation, where the staff printed them out locally, administered the tests and returned the completed questionnaires by post.

Ethical implications

The study was carried out with the permission of the Research Ethics Committee of the Institute of Psychology of the KRE (IKEB 177/2018/P).

[2] Contact details sample

[3] Cf. http://boldogsagora.hu/ in English: http://worldhappinesslessons.com

[4] The authors would like to thank Adrienn Lengyel, who liaised with the schools on behalf of the Foundation.

Measuring instruments

The Hungarian version of the Ivens School Child Happiness Questionnaire (IGYBKH)

The original 30-item English questionnaire (see Ivens, 2007, Appendix) was translated into English by the first author of this article, verified by two competent language proofreaders[5] (see the appendix of this article). For each of the 30 items, the respondent is asked to rate on a 4-point Likert scale how true the statement is: 1 - "very unlikely", 4 - "very likely". Both item 15 (I enjoyed myself) and item 21 (I felt good) of the questionnaire were reversed with the statement "I felt good", both because of the essentially identical feeling and in order to have a control statement in the 30-item questionnaire to filter out those who were indifferent or too uncertain and therefore unrated. Of our respondents, 28 respondents answered the two identical 4-item statements with a difference of 2 units and 20 with a difference of 3 units, i.e. 48 respondents marked the opposite answer for statements 16 and 21, which are only five stops apart. These individuals were of course excluded from the analyses - they were not included in the valid sample given above, nor were those who did not give a valid response to at least five of the 30 items (N = 26).

After dropping the invalid protocols, the scores of items 16 and 21 were replaced by the mean of their scores, and the resulting 29 variables were used to identify the positive (IGYBpoz) and negative (IGYBneg) subscales of the School Child Happiness Questionnaire, following the path described in Ivens (2007), and were named *Positive Emotions and Negative Emotions* scales, respectively, based on their content. Following a principal factor analysis (cf. Vargha, 2019, subsection 5.3), we performed a Varimax rotation on the first two factors.[6] Of the factors rotated, the first was stretched by the 15 negative items (with weights ranging from 0.334 to 0.628) and the second by the 14 positive items (with weights ranging from 0.369 to 0.621). Although the Cronbach's alpha values of the two subscales defined by smooth summation of the point values of these items (0.863 and 0.855, respectively) indicated excellent internal consistency, the confirmatory factor analysis (CFA; cf. Vargha, 2019, Chapter 6) testing the smooth two-scaling model - run with the Mplus program - led to a difficult to accept, mixed result. Although the absolute fit indicators suggested a good model (RMSEA = 0.051 < 0.06; C95 = [0.048; 0.053] is 0.05; pClose = 0.359 > 0.05 n.s.; SRMR = 0.058 < 0.08), the model fit was significantly poor (χ^2 = 1612.8, f = 376, p < 0.0001), the parsimony index exceeded 3.5 (χ^2 /f = 4.2), and the value of the relative fit indicators (CFI = 0.807; TLI = 0.792) was far from the minimum acceptable level of 0.90 (cf. Vargha, 2019, Table 6.3). This result was obtained with the robust MLMV method[7], which, according to our own experience, is the best robust ML alternative in the case of normality violation, and we could not obtain a better result than that of either the MLR or the MLM robust method.

[5] The authors would like to thank Miklós Kontra and György Varga for proof-reading the translation and correcting several places.

[6] Number of valid cases: 1131.

[7] Maximum likelihood model estimation with robust standard errors and mean- and variance-corrected chi-square test statistics (using a scaled shift method), cf. http://lavaan.ugent.be/ tutorial/est.html

The fit did not improve even when a bifactor model was specified or when the GYBpoz and GYBneg scales were brought under a single common second-order factor.

Then, in order to improve the test in the CFA, we dropped the items with the lowest factor weights from both subscales in several steps, staying with the MLMV method. Thus, both subscales were finally shortened to 6 items, which is in line with Karl Wuensch's expectation that each factor should contain at least 6 variables.[8] In this model[9], all items already had factor weights above 0.50 (IGYBpoz: 0.51-0.78; IGYBneg: 0.52-0.71) and the fit indicators were all at excellent levels (ta- ckability index = 2.55; RMSEA = 0.035; C95 = [0.027; 0.042]; pClose = 1; SRMR = 0.026; CFI = 0.974; TLI = 0.968), except for the fit statistic (χ^2 = 135.0, f = 53, p < 0.0001). The main reason for the significance of the χ^2 statistic is the sample element count above 1000, which over-emphasizes the small deviations from the theoretical model. Note that when the MLR method was chosen instead of MLMV, the values of the goodness-of-fit indicators differed only to the 3rd decimal place from those obtained for MLMV.

With this test shortening, IGYBpoz will be used for the 6th, 11th, 16th, 23rd, 26th and 30th IGYBneg and IGYBneg will be used for the Items 4, 5, 12, 13, 15 and 25 have been added (see Annex). In order to filter out invalid questionnaires, we still recommend repeating item 16 in the questionnaire (with a slight modification to avoid problems with verbatim repetition) and averaging these two items for the survey. The abbreviated 13-item test is thus given with the item numbers: 16, 4, 6, 5, 11, 12, 23, 13, 16 (modified as follows: I felt good today), 15, 26, 25 (corrected as follows: I wanted to give up, I was discouraged), 30. In our analyses, because of occasional missing data, the two subscales were calculated as the average of their items, and the master scale (IGYB) combining the two subscales of the test was calculated as the average of IGYBpoz and IGYBneg, which was translated into positive.

With this test reduction, the Cronbach's alpha of the scales remained at an excellent level (IGYB: 0.85; IGYBpoz: 0.78; IGYBneg: 0.80). In the resulting model, the latent factors IGYBpoz and IGYBneg were correlated at 0.715, indicating their strong dependence and the essentially one-dimensional nature of the test. Finally, we note that the correlations between the same IGYBpoz, IGYBneg, IGYB scales of the full and shortened test were 0.911, 0.906 and 0.943, respectively (N = 1415), i.e., reducing the number of items did not change the meaning of the scales.

Mental Health Test for Children (METGy)

The 20-item questionnaire for mapping mental health was adapted from the adult MET questionnaire (Oláh et al., 2018) and adapted for children (see Appendix). In this work, we also took into account feedback from primary school pupils and teachers. For each of the 20 items, the respondent is asked to decide on a 6-point Likert scale how typical the statement is for him or her: 1 - "not at all likely", 6 - "very likely".

[8] Cf. core.ecu.edu/psyc/wuenschk/MV/FA/FA-SPSS.pptx

[9] Number of valid values: N = 1288

Of the 20 items, 19 were included in the five scales of METGy, and one (item 9) is a Flow item that can be used as a control.

In the original version of the MET (Oláh et al., 2018), the scale was renamed the *Global Well-being* scale in METGy, because the three items measuring this (1,16. My state of mind is good, 20. Overall, how happy would you say you are?) is not adequate to cover all four components of global well-being - biological, psychological, social and spiritual. With these items, this scale can be considered more as a measure of subjective well-being.

In the appendix, after each item, we indicate which scale it belongs to (J: Well-being, S: Savoring, AV: Creative-executive individual and social efficacy, Ö: Self-regulation, R: Resilience), although this was not indicated in the questionnaire given to the subjects. Items to be translated were marked with a minus (-) sign (such as items of the R scale and with one exception for the Ö scale).

Since many of the items in the questionnaire are more difficult to understand than the items in the IGYB, the METGy was only completed with students in grades 5-8. Those who did not answer more than 3 out of 20 questions were excluded from the analyses, leaving a total of N = 707 items (339 boys, 365 girls, 3 children's gender not specified).

First, we looked at the Cronbach's alpha values of the scales (J: 0.789; S: 0.675; AV: 0.708; Ö: 0.396; R: 0.700). It turns out that for Ö, the only non-inverted item (13. My emotions and impulses seldom lead me to act rashly) with a negative (-0.11) item residual correlation was markedly out of the self-regulation scale and was therefore omitted, raising the Cronbach's alpha of the scale to 0.623. Although this value is still lower than the usually expected level of 0.70, it gives some hope that the CFA testing the five-way model will be acceptable. As it was, the fit indicators of t h e 5-factor model in the CFA - also estimated using the MLMV method - are the fit statistics (χ^2 = 235.76, f = 124, p < 0.0001) were all at excellent levels (saving index = 1.90; RMSEA = 0.037; C95 = (0.030; 0.044); pClose = 0.999; SRMR = 0.043; CFI = 0.948, TLI = 0.935). Again, the main reason for the significance of the χ^2 statistic is the large sample size. A better fit was not obtained with either the MLR or the MLM robust method. The fit was noticeably worse when the five scales were brought under a single common second-order factor (e.g. RMSEA = 0.049, CFI = 0.905), and the fit is not even converged when a bifactor model is specified. We note that in the CFA model we allowed the two the (items 3 and 11 in the questionnaire), the residuals should be correlated because of the very similar wording.

As with the IGYB variables, the five scales of the METGy were constructed by transposing the items in the scale (of course, reversing the scores of each reversed item using the 7 - x transformation), and the General Mental Health (GMH) composite scale was constructed by averaging the five scales.

STATISTICAL ANALYSES AND THEIR RESULTS

Basic statistics for the scales of the two tests are shown in *Table 1.*[10] When the IGYBneg average is transformed to the IGYBpoz scale (using the linear transformation y = 5 - x, taking into account the 1-4 set of values), we obtain a value of 3.345, which is significantly higher than the IGYBpoz mean of 3.086 (t = 18.443; f = 1414; p < 0.0001). Since Cohen's d = 0.474, there is a professionally moderate difference between the two means. This implies that for the IGYBH (and presumably for other similar tests), students are more willing to mark values close to the lower bound, with low negativity, i.e. low positivity, for inverted items, which they are less willing to do for direct-worded items by marking high values. In other words, it is easier to obtain high values - and harder to obtain low values - using negatively worded items than using positively worded ones. Using a significance test, we also see that beyond significance (z = 15.668, p < 0.0001), the translated IGYBneg value is higher than the IGYBpoz value in 65.2% of cases and lower than the IGYBpoz value in only 25.4% of cases. This should serve as an important lesson for the design of verbal questionnaires. It is noted that this phenomenon i s more pronounced in boys (Cohen's d = 0.574) than in girls (Cohen's d = 0.395), as indicated by the significance of the interaction in a two-tailed mixed analysis of variance (VA-) analysis [F(1; 1409) = 4.720; p = 0.03].

From the significance of the skewness and slope values in *Table 1,* it can be seen that the IGYBH and METGy scales are all highly non-normally distributed, except for one (AV), which will need to be taken into account in further statistical analyses. The lower number of items (707) for METgy is due to the fact that this test was only taken with upper secondary school students.

1. table. Basic statistics for the IGYBH and METGy scales

Changing	N	Average	Source	Slant	Simplicity
IGYBpoz	1415	3,086	0,565	-0,662***	0,224
IGYBneg	1415	1,655	0,547	1,027***	1,100***
IGYB	1415	3,215	0,489	-0,932***	1,080***
Well-being	707	4,396	1,000	-0,589***	0,306
Savoring	707	4,439	1,027	-0,489***	-0,009
AV	707	3,662	0,863	0,140	0,204
Self-regulation	707	3,887	1,027	-0,491***	0,152
Reciprocity	707	4,446	0,834	-0,792***	1,039***
TSI	707	4,166	0,648	-0,456***	0,959***

Notes: *: p < 0.05 **: p < 0.01 ***: p < 0.001; AV = Creative-Executive Individual and Social E f f i c a c y , GEM = General Mental Health

We then calculated the pairwise correlations within and between the scales of the two tests, using Spearman rank correlations instead of Pearson's linear correlations due to normality violation (see *Table 2*).

[10] These and further analyses were carried out using the ROPstat software (Vargha, 2016).

2. table. Spearman's rank correlation matrix of the IGYBH and METGy scales (item numbers: N = 1415 within IGYBH, N = 707 for all other comparisons)

Changing	IGYBneg	IGYB	J	S	AV	Ö	R	TSI
IGYBpoz	-0,494**	0,871**	0,674**	0,463**	0,412**	0,187**	0,445**	0,644**
IGYBneg		-0,843**	-0,544**	-0,248**	-0,180**	-0,383**	-0,552**	-0,572**
IGYB			0,697**	0,410**	0,340**	0,321**	0,570**	0,698**
J				0,512**	0,395**	0,220**	0,530**	0,795**
S					0,425**	0,091*	0,220**	0,679**
AV						0,076*	0,151**	0,583**
Ö							0,444**	0,549**
R								0,670**

Notes: *: $p < 0.05$ **: $p < 0.01$; J = Wellbeing, S = Savoring, AV = Creative-Executive Individual and Social Efficacy, Ö = Self-Regulation, R = Resilience, GEM = General Mental Health

Based on *Table 2*, the following observations can be made.

1. Both the positive and negative subscales within the IGYBH are correlated with the main IGYB scale above 0.8, confirming the unidimensional nature of the test. However, the correlation between them, with a closeness of only around 0.5, i.e. a mutually explained variance of only around 25% (the calculated Pearson's r value is also only -0.55), suggests that the scales calculated from the straight and inverted items may differ not only in their magnitude but also in their interpretation. In our case, it is therefore not enough to restrict ourselves to the main scale of the IGYBH IGYB, but it is worth examining the meaning of the subscales separately.

2. Within the METGy scales, intercorrelations are widely scattered between 0.076-0.530, which gives them a range of specific meanings.

3. Within the METGy, the GPA correlates most strongly with the Well-being scale at a level of nearly 0.80, so the GPA primarily informs on the level of well-being (subjective well-being). The Self-Regulation and Executive Efficiency scales may have the most different meanings.

4. The correlations between the IGYBH and METGy scales lead to the following conclusions.

a) There is always a stronger correlation with IGYBpoz for the METGy scales built from straightforward items (Well-being, Savoring, Creative-Executive Efficiency) than with IGYBneg (e.g. for Creative-Executive Efficiency 0.412 vs. -The situation is reversed for the scales constructed from the inverse items (Self-Regulation, Resilience), where we always find a stronger correlation with IGYBneg (e.g. -0.383 vs. 0.187 for Self-Regulation).

b) Of the METGy scales, the strongest correlation of 0.70 is seen with Well-being and SES, confirming that the IGYB scale is essentially a subjective indicator of well-being, as is the METGy Well-being scale.

We also looked at the effect of gender and class, and the results were as follows.

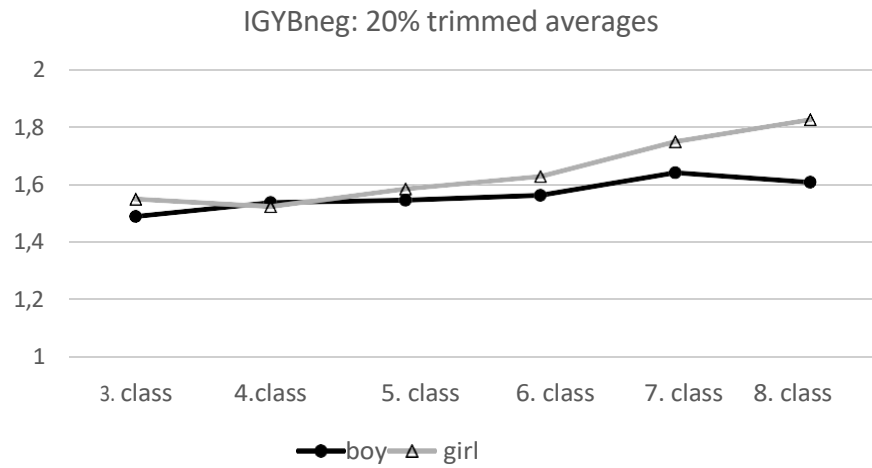
In the IGYBH, boys' Cronbach's alphas are lower (0.755; 0.776; 0.831) than girls' (0.804; 0.818; 0.867) on all three scales, similar to the data in *Table 3*, but there was no significant difference in the magnitude of the scales using the Mann-Whitney test ($p > 0.05$).

1. To detect possible interactions, we performed two-way analyses robust t o gender and class (20% trimmed VA and rank-VA) and obtained a significant interaction effect for IGYBneg ($p < 0.05$ for both analyses). This is because in higher classes, girls' IGYBneg levels gradually increase and become more and more superior to boys' (see *Figure 1*). Hence, overall, the effect of gender became significant with the superiority of girls (at the $p < 0.001$ level in both analyses) and also the IGYBneg-raising effect of education in girls (Spearman's $r_S = 0.161$, $p < 0.001$). It should be added that these significant effects are at the limits of professional interpretation.

2. At the same time, IGYBpoz and IGYB are also significantly negatively correlated with class in the whole sample ($r_S = -0.207$ and $r_S = -0.185$, respectively; $p < 0.001$), i.e. students in higher classes have lower subjective well-being. Examining the effect of class on IGYBpoz with a robust rank-VA also yielded a highly significant effect, with a 5.4% coefficient rank η .[2]

3. Boys' Cronbach's alphas in METGy are also lower than girls' for all scales (see *Table 3*). However, no professionally relevant differences were found in the magnitude of the scales (the Cohen's calculated from means and rank averages did not exceed 0.20 in any case), although both Savoring and Creative-Driving Efficiency were significantly higher for girls than for boys (Mann-Whitney test, $p < 0.01$).

4. In the case of AV, we even found a significant class effect (in two-point trimmed VA and rank-VA, the class effect is significant at the $p < 0.001$ level; see *Figure 2*), although the effect size is small (rank $\eta^2 = 0.02$).

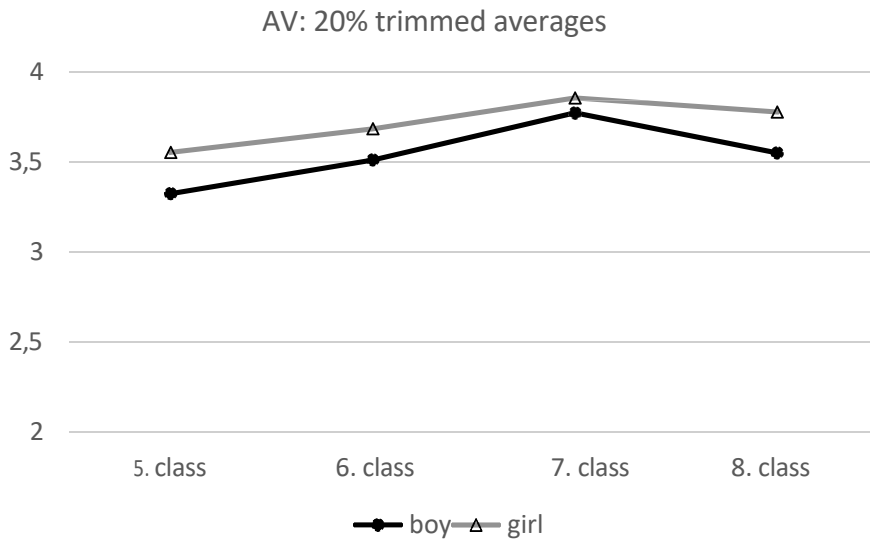


1. Figure 1. Trimmed means of the IGYBneg scale at 20% by gender and class

3. table. Internal consistency of METGy scales with Cronbach's alpha for boys and girls

	J	S	AV	Ö	R	TSI
Boys	0,783	0,648	0,704	0,600	0,644	0,803
Girls	0,798	0,699	0,712	0,635	0,738	0,860

Note: See Table 2 for full names of scales



2. Figure 1. The METGy Creative-Executive Individual and Social Efficiency (AV) scales' 20% trimmed means by gender and class

We also correlated the scales of the two tests with the scores of the Flow item *("If something really engages me, I can do it with pleasure and concentration even in difficult situations.") of the* METGy questionnaire, and the results are shown in *Table 4.* These are in line with the positive relationship between flow and mental health that has been demonstrated by many studies (Oláh, 2005). Finally, we note that the magnitude of our scale variables did not depend on whether the student had attended happiness classes or not.

Finally, in order to examine the relationship between IGYBH and METGy in a more differentiated way, the scales (subscales) of the two tests were correlated with the items of the other test and the most highly correlated items were identified. With IGYBpoz, items 1 ("I *feel more joy than sorrow in my everyday life*" = r = 0.603; tau-b = 0.481), 20. (*"All things considered, how happy would you say you are?"*: r = 0.577; tau-b = 0.432) and 16 (*"My state of mind is good"*: r = 0.572; tau-b = 0.450). The same results were obtained for IGYBneg, with slightly weaker correlations.

4. table. Correlations of IGYBH and METGy scales with METGy questionnaire item 9 (Flow) score (N = 706)

Scale	Pearson r	Kendall dew-b
IGYBpoz	0,317**	0,246**
IGYBneg	-0,214**	-0,161**
IGYB	0,296**	0,231**
Well-being	0,366**	0,276**
Savoring	0,369**	0,296**
AV	0,392**	0,309**
Self-regulation	0,023	0,015
Reciprocity	0,176**	0,112**
TSI	0,387**	0,288**

Notes: *: $p < 0.05$ **: $p < 0.01$; AV = Creative-Executive Individual and Social Efficiency, GEM = General Mental Health

In the case of METGy, the strongest correlations were obtained with the Well-being scale:

- *"I had a good time."* (r = 0.597, tau-b = 0.472);
- *"I had positive feelings."* (r = 0.556, tau-b = 0.458);
- *"I was in a bad mood."* (r = -0.516, tau-b = -0.408);
- *"I was in a bad mood."* (r = -0.513, tau-b = -0.389).

Meaningful correlations consistent with their meaning were also obtained with the sub-executive efficiency (*"I did a good job"*: r = 0.423, tau-b = 0.337; *"I concentrated*": r = 0.389, tau-b = 0.314) and self-regulation (*"I was nervous, tense"*: r = -0.423, tau-b = -0.337; *"I was angry"*: r = -0.318, tau-b = -0.252). All these r and Kendall's tau-b correlations were significant at the $p < 0.001$ level.

CONCLUSIONS

Measuring subjective well-being is also important in a school setting, but there is no test available in Hungarian for primary school age. The aim of the present study was to adapt Ivens' (2007) test for this purpose (IGYBH) and an adult Hungarian mental health test (MET) for 10-14 year olds (METGy). While the IGYBH is designed to measure subjective well-being in a school setting, the Children's version of the Child Mental Health Test is a broader test based on the five pillars of mental health (well-being, savoring, creative-executive efficiency, self-regulation, resilience).

The psychometric analyses carried out (CFA, item analysis) confirmed the structural adequacy of both tests. The IGYBH positive and negative emotion subscales (IGYB-pos and IGYB-neg) span the same common construct (subjective well-being), with only a moderate correlation of around 0.5, which may be due to their independent nature (Watson and Tellegen, 1999) and to the fact that the subjects do not respond in the same way to straight and reversed statements. It is certainly worthwhile to further clarify the differences between the presence of the two subscales of IGYBH in new studies using different variables.

The present study added that our results show that it is easier to obtain high scores and harder to obtain low scores using negatively worded items than with positively worded items, especially for boys. The gender difference may be due to the fact that boys find it harder to admit their weaknesses, faults and negative emotions - which may be a consequence of their upbringing (boys are more likely than girls to be brought up not to express negative emotions and pain). The importance of the form of wording is also reflected in the fact that, when the scales of the School Child Happiness Questionnaire and the Mental Health Test were correlated, systematically closer relationships were found for scales with items of the same wording than for scales with items of opposite wording (see the *first* two rows of *Table 2*).

In addition, the increase in IGYBneg levels is more pronounced in girls between grades 3-8 than in boys (see *Figure 1*), while in line with this, IGYBpoz levels decrease to a similar extent in both sexes. In other words, in Hungarian schools, the well-being and subjective well-being of pupils in the higher grades of primary school tend to be lower than in the lower grades, perhaps due to the increasingly demanding academic requirements in the higher grades. Similar results were found for Finnish pupils by Uusitalo-Malmivaara (2014). It is possible that girls are more sensitive to this, as reflected more credibly by their responses to less socially demanding items with negative wording. Of course, it may simply be that as children grow and mature, they become more aware of the difficulties of life and the burdens of adult life responsibilities. In other words, 10-year-old children are more carefree and happier than their older counterparts, even as a result of their age and fewer responsibilities.

The validity of the examined tests is partly confirmed by the content of the test items (surface/face validity), the correlations between the scales of the two tests (most notably between the IGYB and the Well-being scale; cf. *Table 2*), and the professionally assessable level of correlations obtained with flow (cf. *Table 4*), where, in addition to the level of subjective well-being, other components of mental health (in particular, creative-directive efficiency and savoring) also play an important role. The meaning of the subscales of the two tests was confirmed by the correlations calculated with the items of the other test.

Within the METGy, the Self-Regulation scale, which indicates the success of emotional and impulse control, appears to be a fairly independent pillar. We also mention that in a study of high school students (N = 127) by Vargha, Korényi, Pomsár and Váits (2019), Emotional IQ was significantly correlated around 0.25 with IGYBpoz and IGYB and significantly correlated around -0.20 with the IGYBneg scale, and was also positively correlated with Well-Being (r = 0.22) and Resilience (r = 0.19) in the METGy. Of course, further studies are needed to fully elucidate the five scales of the METGy, as well as the usefulness of the IGYBH in schools. Such studies in other cultures have been reported, for example, by Allodi (2009), Navarro, Ruiz-Oliva, Larrañaga and Yubero (2013), and Wang and Wang (2015).

In addition, a study conducted in Hungary confirmed the validity of the two tests (Török, Bene-Kovács, Gőbel and Vargha, 2019), in which the effects of Kodály concept use on mental health and subjective well-being were examined in 5th and 6th grade primary school students classes, based on data collected from 224 students.

Students in a Kodály-concept school had significantly better creative-executive performance [F(2; 221) = 6.900; p = 0.0012] than students in the general curriculum and the sports class. The study also asked children to plot mood curves, which confirmed the validity of the quantitative analyses. Pupils who felt well at school and at home scored significantly better on the IGYBH and METGy scales (excluding Self-Regulation).

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ANNEX

School Child Happiness Questionnaire (IGYBH)

The following statements are about how you felt at school last week. Be as honest as you can, and for each statement, indicate the extent to which it was true of you last week by putting an X in the appropriate column.

Last week at school	Very unlikely	Not likely	Somewh at likely	Very likely
1. I was full of energy				
2. I was nervous, tense				
3. I wanted to come to school				
4. I was in a bad mood				
5. I was sad				
6. I felt relaxed, relaxed				
7. I felt ill				
8. I felt that school was a safe place				
9. I focused				
10. I felt weak				
11. I had positive feelings				
12. I was angry				
13. I wanted to cry				
14. I got on well with everyone				
15. I was in a bad mood				
16. I had a good time				
17. I was tired				
18. I felt at ease				
19. I enjoyed the work				
20. I felt sorry for myself				
21. I had a good time				
22. I was confused				
23. I was confident				
24. I was impetuous				
25. I wanted to give up				
26. I felt fully awake				
27. I had headaches				
28. I did a good job				
29. I was scared				
30. I felt comfortable in the company of others				

Mental Health Test for Children (METGy)

The following statements describe people's general perception of life, their typical characteristics and their outlook on life. There are no right or wrong answers. Please be as honest as you can and indicate the extent to which each item is typical of you by ticking (X) in the appropriate column.

	not at all likely	not likely	a bit likely	Indifferent	very likely	likely to a full extent
1. There is noticeably more joy than sorrow in my everyday life (J)						
2. I get impatient easily. (Ö-)						
3. I can easily relive the joy of pleasant memories of the past (S)						
4. I am dissatisfied or indifferent to everything. (R-)						
5. Often I have ideas that others can relate to effectively and it makes them think further (AV)						
6. I'm too tired to do anything. (R-)						
7. Other people think I'm a good problem solver (AV)						
8. I have an impulsive nature (I act first, think later).						
9. If I am really engaged in something, I can do it with pleasure and concentration even in difficult situations (Flow)						
10. I often have the feeling that the world is passing me by (R-)						
11. I like to store up memories of joyful times I have experienced, so that I can recall them later (S).						

	not at all likely	not likely	a bit likely	Indifferent	very likely	typical to a full likely
12. Other people seem to change, I feel like I'm stuck in one place. (R-)						
13. My emotions, my impulses rarely lead me to act rashly. (Ö)						
14. I can cheer myself up by imagining a happy time ahead (S)						
15. I often blame myself. (R-)						
16. My state of mind is good (J)						
17. I'm good at jobs where new and original ideas are needed (AV)						
18. I get nervous if something doesn't go as planned (Ö-)						
19. I often have good insights into how people think and feel (AV)						
20. Overall, how happy would you say you are? (Between 1 and 6, 1 = Totally unhappy, 6 = Totally happy): ..... (J)						

MEASURING SCHOOL HAPPINESS

VARGHA, ANDRÁS - TURK, REGINA - DIÓSI, KAROLA - OLÁH, ATTILA

Subjective well-being (SWB) and mental health have been studied amongst adults using a variety of self-reported methods. However, there are available relatively few tests of SWB for children. Measuring SWB is also important in the school environment, but there is no valid and reliable Hungarian scale for elementary schoolchildren. The aim of the study presented in this paper was to adapt the School Children's Happiness Inventory (Ivens, 2007) to Hungarian, and to adapt the Mental Health Test developed for adults and based on five pillars (well-being, savoring, creative-executive effectiveness, self-regulation and resilience) for schoolchildren aged 10 to 14. Above the age of 10, the psychometric properties of both tests confirmed their structural reliability and supported their validity. An interesting result is that SWB is in a negative rela- tionship with age among school children.

Keywords: *happiness tests, subjective well-being, mental health, SCHI*