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MEASURING SCHOOL HAPPINESS AMONG HUNGARIAN ELEMENTARY SCHOOLCHILDREN

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Abstract

Subjective well-being (SWB) has been studied among adults using a variety of self-reported methods. However, there are relatively few tests of SWB available for children. Measuring SWB is also important in the school environment, but there is no valid and reliable Hungarian test 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 construct a shorter version of the test. A multistep test reduction yielded a 12 items version that had excellent fit measures in confirmative factor analysis and high level Cronbach's alphas in all grade groups. The validity of the new test was confirmed by means of a mental health test also developed for children. Concordant validity was confirmed by the significant correlations between the subscales of the new test and the Flow item of the mental health test. An interesting additional result is that SWB is in a negative relationship with age among schoolchildren.

Keywords: Happiness tests, mental health, SCHI, subjective well-being

Abbreviations

CEeff: Creative and executing efficiency scale of MHT
CFA: confirmatory factor analysis
GMH: General Mental Health scale of MHT
MHT: Mental Health Test
MHT-C: Children's version of Mental Health Test
Res: Resiliency scale of MHT
Sav: Savouring scale of MHT
SCHI: School Children's Happiness Inventory
SCHI-S: Short Version of School Children's Happiness Inventory
SCHN: Negative subscale of School Children's Happiness Inventory
SCHP: Positive subscale of School Children's Happiness Inventory
SCHT: Total score of School Children's Happiness Inventory
Sreg: Self-regulation scale of MHT
SWB: subjective well-being
WB: Well-being scale of MHT

INTRODUCTION

Happy people live longer and recover faster from diseases (Diener and Chan, 2011, Veenhoven, 2008), they work harder and are more efficient (Zelenski, Murphy and Jenkins, 2008), empathic and helpful (Hauser, Preston and Stansfield, 2014), and creative (Myers, 2000). The everyday happiness or subjective well-being (SWB) is the individual's overall appraisal of his or her affective state (Ivens, 2007).

For adults there are available several tests of SWB (Caprara et al. 2012, Diener, Emmons, Larsen and Griffin, 1985, Huppert and So, 2013, Milyavskaya and Koestner, 2011, Szabó, 2019). However, for children the repertoire is not so rich. The positive psychological markers of children and adolescents have only recently gained attention.

It should be pointed out that no strong relationships are demonstrated between life satisfaction in children and demographic variables such as age or grade level (Huebner, 2004). Nonetheless, there may be some differences in the recurrence of positive feelings, which reveals that higher positive affect is present in children of elementary schoolchildren than in high school students (Greene, 1990). In this present study, the age parameters were properly designed for middle childhood age range. Moreover, the self-rating measure of life satisfaction and happiness show considerable validity in children over 8 years of age (Ivens, 2007).

However, the happiness of schoolchildren is characterized as a positive emotional state that exists as a result of harmony between specific environmental factors and the student's needs and expectations from the school (Engels, Aelterman, Petegem & Schepens, 2004). It means social relationships, school conditions, health status and self-fulfilment are all related factors regarding school well-being.

Ideally, children should be happy and content while being educated: not only after leaving the school benches or on the weekends. Furthermore, enjoyment and satisfaction of school is related to the demonstration of competencies and school performance (Shernoff and Csikszentmihalyi, 2009).

The study of children's well-being has lagged behind the research of adults. However, the progress for research on children and adults seems the similar: after a long period of focus mainly at psychopathology, recently the issues of positive psychology have yielded more interest. In the 1990s it started to be developed to assess children's and youth's life satisfaction (Huebner, 1991), hope (Snyder et al. 1997) and happiness (Ivens, 2007). These measures take into consideration the developmental differences between children and adults such as interest, life circumstances, psychological and social maturity (Huebner, 2004).

One of the few scales is Ivens' School Children's Happiness Inventory (SCHI) (Ivens, 2007), which has already gained an international reputation. The findings from other research obtained that regarding the reliability and validity of the

inventory were consistent with the results obtained in the original sample where the scale was developed (Telef, 2014, Uusitalo-Malmivaara, 2012, Navarro, Ruiz-Oliva, Larrañaga, and Yubero, 2013, Allodi, 2010).

It was demonstrated that there are significant negative relations between SCHI and depression and negative experiences, besides that significant positive relations between the inventory and positive affections (Telef, 2014, Uusitalo-Malmivaara, 2012). Girls and boys are general equally happy (Uusitalo-Malmivaara, 2012), global happiness between them is the same high magnitude that has been obtained in previous studies with adult (Lyubomirsky and Lepper, 1999). Good and satisfied relationships with other people (not just with family members) seem to be closely related to global and school happiness more often among girls than among boys (Uusitalo-Malmivaara, 2012).

Noddings (2003, p. 2) declares it clearly: happy children learn the best. So why is it so important to assess the level of SWB in school environment? Beyond evident moral reasons we mention that students characterized with a high level of SWB are dominantly in positive, optimistic, confidential conditions, they are eager to acquire knowledge and prone to experience flow in school (Fredrickson and Branigan, 2005, Suldo et al, 2015).

INTERNATIONAL WELL-BEING EDUCATION NETWORK[1]

Most of the effort put into schooling has been directed to improving academic achievements and knowledges, not to promoting students' emotional and social well-being. All the same, happy children form better the future because they can find the purpose of their lives sooner, have meaningful goals and are ready to act. They are lively and throw themselves into life with more enthusiasm. Therefore education for well-being is not simply a goal, it is a mission for teachers, parents and governments.

The IWEN (International Well-Being Education Network) Happiness Lessons Programme in schools was launched in Hungary in 2014. The program affects positively the mental and psychological development of schoolchildren, and due to its strict methodological system it also helps to build the class into a solidary team, it strengthens social connections, improves the adult-child relationships. Those who take part in the process, whether parents or teachers, schoolchildren, will experience positive feelings such as joy, gratitude, happiness, autonomy, self-efficacy, confidence. These experiences come from their own and others' rich personalities and their interactions.

The Happiness Lessons Programme consists of ten consequent topics based on positive psychology for primary and secondary school children (such as

[1] see more at http://iwenhappinesslessons.com/

kindness, gratitude, tolerance, resilience…). On each level they are meant to unveil the different components and practices of happiness. The Programme provide experience-rich and cheerful tasks, exercises and games which are dedicated to gradually increase joy and happiness of live.

The project embraces a number of various methods whilst focusing on supporting individual and teamwork in many different ways. The lessons are founded on encouraging and supportive pedagogical attitude which using techniques like stress relief, recollection of own experiences, relaxation, common brainstorming and experience-based construction of new knowledge. Happiness Lessons incorporate lots of creative activities like doing music, drawing, improvisations and playing. Each topic has theoretical background, lessons plan and task to choose from.

PURPOSE OF THE CURRENT STUDY

The purpose of this study was to adapt SCHI into Hungarian, confirming its reliability and making the first steps in validating the inventory in Hungarian schoolchildren population. Our purpose was also to shorten the 30-item long questionnaire so as making it be more convenient for pupils of lower grades, whose literacy is not so developed as those of pupils of higher grades.

METHOD

Participants

The sample consisted of 1415 schoolchildren from 28 different elementary schools of 22 settlements of Hungary, representing all seven regions, the capital (Budapest) and 13 out of the 19 counties of the country. The number of inhabitants of the 22 settlements varied largely. Six of them were less than 3,000; three between 5,000 and 20,000; eight between 25,000 and 75,000; four between 100,000 and 220,000; and finally one (the capital) above 1.7 million. This heterogeneity with necessarily strongly diverse students insured a kind of areal representativity of the sample and strengthened our statistical results.

The participants studied at the following grades: 237 (16.7%) students at 3rd grade, 446 (31.5%) students at 4th grade, 178 (12.6%) students at 5th grade, 279 (19.7%) students at 6th grade, 158 (11.2%) students at 7th grade and 117 (8.3%) students at 8th grade. All of the schools involved participated in the Happiness Lessons Program with at least one class. 1172 children (in 64 classes 579 males, 590 females, and 3 with unidentified gender) were enrolled during at least one semester in such lessons, whereas 243 (in 16 classes 111 males,

131 females, and 1 with unidentified gender) were not enrolled. Students with different types of disabilities were not excluded from the investigation unless they were totally unable to fill the two questionnaires even with the help of the attendant teacher.

Procedure

A Hungarian translation of SCHI (Vargha, Török, Diósi and Oláh, 2019), and a Mental Health Test adapted for children (Vargha et al., 2019; Vargha, Zábó, Török and Oláh, 2020) were used as data collection instruments in the research. The electronic versions of the two questionnaires were sent to the school principals by means of Foundation Jobb Veled a Világ[2]. They were printed at schools and filled by the students anonymously in paper-and-pencil form during appropriately chosen classes.

We asked for written parental permissions and the consent of the participating students. The research gave each participant the opportunity to refuse to participate in the investigation and to decline any time if they wanted.

The filled questionnaires were obtained by the researchers via regular mail. The investigation was carried out in 2018-19. Since the items of Mental Health Test were a bit difficult to understand under 10, it was not administered at grades 3 and 4. Children who did not answer more than four questions in SCHI or more than three questions in SCHI were dropped from the analyses. Sample sizes indicated above do not include these children.

In order to check the validity of the inventory, structure validity (item analysis with Cronbach alpha and confirmatory factor analysis[3]) and criterion related validity were checked. The data of the research were analysed with ROPstat 2.0 (Vargha, Torma and Bergman, 2015) and Mplus 7.3 (Muthén and Muthén, 2011).

Measuring Tools

SCHI, which is especially useful in assessing the effect of school-based interventions and influences on schoolchildren's well-being, consists of 30 items of 4 point Likert scales (1 = I agree a lot, 4 = I disagree a lot). All items refer to feelings of the pupil during the last week in school. The questionnaire was translated from English to Hungarian first by the first author. Then the translation was checked and corrected by professional translators (see the final Hungarian version of the 30-item SCHI in the Appendix of Vargha et al., 2019).

[2] In English: World is Better With You Foundation (see http://jobbveledavilag.hu/)
[3] Denoted by CFA in the following

SCHI has a positive (SCHIP) and a negative subscale (SCHIN) based on the idea that SWB includes a positive and a negative component (Diener, 1984). SCHI consists of a balanced number of positive (e. g., I felt good) and negative (e. g., I wanted to cry) SWB items. SCHIP and SCHIN were defined as the averages of the scores of the corresponding items. The total score (SCHIT) was defined as the average of the scores of the 30 items after converting the scores of the negative items.

An important mission and duty of positive psychology is to develop reliable and valid tests of mental health. For the Hungarian adult population Vargha et al. (2020) developed such a questionnaire, called Mental Health Test (MHT). Mental health implies a skill by means of which the individual experiences and maintains its positivity. This needs efficient coping, the capability for savoring, resilience and the presence of dynamic self-control. For this reason MHT is based on the following five pillars of mental health.

1. Well-being (WB): SWB as explained above (Diener, 1984).

2. Savoring (Sav): the conscious and active experience of positive moments in life (Bryant and Veroff, 2007).

3. Creative and executing efficiency (CEeff): the competence by which the individual is capable to change physical and social circumstances in order to reach aspired goals and a better accommodation to the surrounding environment (Oláh, 2005).

4. Self-regulation (Sreg): the capacity to control attention, emotional states and mental processes, the persistence in attaining goals (Oláh, 2005), to bring thoughts and behaviour in line with goals and intentions (Wagner and Heatherton, 2015).

5. Resiliency (Res): the capacity of resistance to illness, adaptation, and thriving, the ability to bounce back after encountering difficulty and to recover from stress and mental pits (Block and Kremen, 1996, Smith et al, 2008, Southwick and Charnes, 2018).

MHT with its five subscales corresponding to these five pillars, has a reliable construct confirmed by item analysis and confirmatory factor analysis (CFA) both in adult (Vargha et al., 2020) and young (Vargha et al., 2019) population. The original children's version of MHT (MHT-C) consisted of 20 6-point items, 19 of which belonged to one of the five subscales[4], whereas 1 item referred to the capability of feeling flow. Since one item of subscale Sreg had a nonsignificant item-remainder correlation, it was omitted from the test. With this modification MHT-C indicated an excellent fit in CFA (RMSEA = .037; C95 = [.030; .044]; pClose = .999; SRMR = .043; CFI = .948, TLI = .935).

The English translations of the remaining 19 items with their scale belongingness are listed in Appendix 1. In this final version subscales WB, SReg,

[4] Short name of subscales are WB: Well-being; SReg: Self-regulation; Sav: Savouring; CEeff: Creative and executing efficiency; Res: Resiliency.

Sav, CEeff, and Res included 3, 3, 3, 4, and 5 items, respectively. The scores of the subscales were computed as the averages of the scores of the corresponding items, and the total score, GMH[5], as the average of all five subscales. Since mental health and SWB are closely related constructs (Antaramian, Huebner, Hills, and Valois, 2010), MHT seems to be a perfect tool in validating SCHI.

RESULTS

Cronbach's alpha values of subscales SCHIP and SCHIN (.863 and .855) indicated an excellent level of internal consistency. However, the fit to a two-dimensional latent factor model based on the two subscales and tested by CFA yielded inconsistent results. Though the absolute fit indices indicated a good model (RMSEA = .051 < .06; C95 = [.048; .053] includes .05; pClose = .359 > .05; SRMR = .058 < .08), the relative fit indices indicated a poor model (CFI = .807, TLI = .792). In Mplus the robust MLMV method[6] was applied, which seems to be one of the best ML-alternative under the violation of normality (Gao, Shi, and Maydeu-Olivares, 2020). The fit did not improve by using another robust alternatives (MLR or MLM), or applying a bifactoral or second-order hierarchical model.

In line with this poor fitting and our initial aim to shorten the 30-item SCHI, we reduced the 30 items in several steps of CFA omitting in each step one or two items having the lowest standardised factor loadings. Finally both subscales were reduced to six items conforming to the requirement proposed by Wuensch for each factor to include at least six items7. In this model8 all factor loadings exceeded .50 (SCHIP: .51–.78; SCHIN: .52–.71), and though the test of fitting was significant due to the large sample size ($\chi 2 = 135.0$, df = 53, $p < .0001$), all fit indices were excellent (RMSEA = .035; C95 = [.027; .042]; pClose = 1; SRMR = .026; CFI = .974, TLI = .968). Using MLR method instead of MLMV in CFA the obtained fit indices differed only occasionally in the 3rd decimals. In the obtained CFA model the latent factors beyond SCHIP and SCHIN had a correlation of .715 (R2 = .511), which justifies both the meaningfulness of the two subscales, SCHIP and SCHIN separately, and the meaningfulness of a common scale consisting of all test-items.

With this test reduction the shortened form of SCHI (SCHI-S) subscale SCHIP included items 6, 11, 21, 23, 26, 30 and subscale SCHIP included items 4, 5, 12, 13, 15, 25, using the original test indices (see Appendix 2). SCHIP and

[5] Short name for General Mental Health

[6] Maximum likelihood estimation with robust standard errors and a mean- and variance adjusted test statistic (using a scale-shifted approach); see http://lavaan.ugent.be/tutorial/est.html

[7] See core.ecu.edu/psyc/wuenschk/MV/FA/FA-SPSS.pptx

[8] Number of complete cases: *Ncomp* = 1288

SCHIN were computed as the averages of the scores of their items. The total score, SCHIT was computed as the average of the scores of all 12 items after converting the scores of items in SCHIN.

The internal consistency of the SCHI-S subscales was still good, especially in higher grades (see Table 1). It is also important to mention that the correlations between the original and shortened forms of SCHIP, SCHIN, and SCHIT were .911, .906, and .943, respectively (N = 1415), that is the test reduction preserved the meaning of the test scales.

The internal consistency of the MHT-C subscales was a bit weaker but still acceptable (for WB, Sav, CEeff, Sreg, Res, and GMH the Cronbach's alpha values were .789, .675, .708, .625, .700, and .835, respectively).

Basic statistics of the scales of SCHI-S and MHT-C are summarized in Table 2. Transforming the mean of SCHIN to the scale of SCHIP (using the $y = 5 - x$ linear transformation), 3.345 is obtained, which is significantly greater than the SCHIP mean, 3.086 (t = 18.443; df = 1414; $p < .0001$). Cohen's d = .474 indicates a medium size difference between the two means. This means that in the case of the negative items of SCHI-S (and probably of other questionnaires as well) children are more willing to choose options close to the smallest possible value (in SCHI-S it is always 1) than to choose options close to the largest value in case of the positive items. Performing a sign test (z = 15.668, $p < .0001$) it turns out also beyond the strong significance that the converted SCHIN value is greater than the corresponding SCHIP value in 65.2% of the children and less than in 25.4% of the children. This result is an important take-home message for those who construct verbal questionnaires with Likert scale items. It is interesting that this phenomena is more typical for males (Cohen's d = .574) than for females (Cohen's d = .395), confirmed also by the significance of the Gender (male vs. female) by Subscale type of SCHI-S (SCHIP vs. SCHIN) interaction effect in a two-way mixed ANOVA (F(1; 1409) = 4.720; p = .030).

Based on the values and significances of Skewness and Kurtosis in Table 2 one can conclude that SCHI-S and MHT-C scales (except for CEeff) are all heavily nonnormal, which circumstance has to be taken into account in the subsequent statistical analyses.

In the next step intercorrelations were computed for all pairs of test scales. Due to the strong violation of normality assumption Spearman rank correlation *rho* values were computed instead of Pearson correlation r values (see Table 3).

Based on Table 3 the following conclusions can be drawn.

1. Within SCHI-S both the positive and the negative subscale correlate with the total score with at a high level above .8, underlining the importance of the main SCHIT scale in evaluating SCHI-S test results. However, the medium size correlation between SCHIN and SCHIT (*rho* = -.494) with an about 30% explained variance (Pearson r = -.55) indicates that SCHIN and SCHIT differ not only in their value level but also in their psychological

meaning. This implies the practical advice: in evaluating SCHI-S it is not enough to interpret the value of SCHIT.

2. Within MHT-C intercorrelations vary in a wide range (from .076 to .530) that confirms the multidimensional feature of MHT-C as a mental health test and opens room for specific meanings of the individual subscales.
3. However, GMH, the total score of MHT-C correlates most strongly and a very high level (*rho* = .795) with subscale WB, indicating that GMH is primarily an SWB measure.
4. Based on correlations between SCHI-S subscales and MHT-C subscales the following conclusions are worth mentioning.
   a. Correlations are always stronger between SCHIP and MHT-C subscales consisting of only directly formulated positive items (WB, Sav, CEeff) than between SCHIN and the same MHT-C subscales (e.g., in case of CEeff *rho* = .412 vs. *rho* = -.180). However the situation is just the opposite with MHT-C subscales consisting of only indirectly formulated negative items (Sreg and Res). For these subscale correlations with SCHIN are always stronger than with SCHIP (e.g., between SCHIN and Sreg *rho* = -.383, whereas between SCHIP and Sreg *rho* = -.187).
   b. SCHI-S scales correlate most strongly with WB and GMH out of MHT-C scales, which validates SCHI-S as an SWB measuring tool. The strongest such correlations (obtained between SCHIT and WB, and SCHIT and GMH) are around the .70 level.

Regarding the impact of gender and grade the following results were obtained.

1. All three scales of SCHI-S had a lower level of Cronbach's alpha for males (.755, .776, and .831) than for females (.804, .818, and .867). However, the two genders did not differ in the level of these scales (in Mann-Whitney rank test $p > .05$ for each comparison).
2. SCHIP and SCHIT are in a significant negative (*rho* = -.207, and *rho* = -.185; $p < .001$) and SCHIN in a significant positive (*rho* = .105; $p < .001$) relationship with the grade indicating a tendency that in higher grades the SWB of children is at a lower level. This was confirmed by a significant group effect of grade (grouped according to Table 1) in Kruskal-Wallis test on SCHIP ($H(2) = 73.494$, $p < .001$) and on SCHIN ($H(2) = 18.567$, $p < .001$). The rank means of SCHIP and SCHIT in the three grade groups show clearly an opposite trend: while SCHIP shows a gradual decrease with grade, SCHIN shows a gradual increase (see Graph 1). Conducting pairwise comparisons of the rank means with robust Brunner-Munzel rank test (Brunner and Munzel, 2000) applying Bonferroni's correction on the *p*-values (Rupert, 1981), a significant decrease of the rank mean of SCHIP occurred from Grades 3-4 to Grades 5-6 ($p < .001$), and Grades 3-4 to Grades 7-8 ($p < .001$). Also, a significant increase of the rank mean

of SCHIN occurred from Grades 3-4 to Grades 7-8 ($p < .001$), and from Grades 5-6 to Grades 7-8 ($p = .0257$).

We computed correlations also between the Flow item of MHT-C *(If I am really interested in something, I can do it with joy and with close attention, even in difficult conditions."*), and the scales of both tests (see Table 4). The obtained results (significant positive correlations with SCHIP and SCHIT, and significant negative correlation with SCHIN) are consistent with the often justified positive relationship between SWB and flow (Csikszentmihalyi, Abuhamdeh and Nakamura, 2005). We have to mention also that the levels of SCHI-S subscales did not depend on whether the child belonged to a class participating in the Happiness Lessons Program or not.

As the final step of validation analyses Pearson and Spearman correlations between SCHI-S subscales and individual test items of MHT-C were computed. It is only worth mentioning that SCHIP correlated most strongly with all three items of WB subscale of MHT-C: 1. (*„Joy is present more than sorrow in my everyday."* $r = .603$; *rho* = .594), 15. (*„My general psychological state is good."*: $r = .572$; *rho* = .557), and 19. (*„How you feel about your life as a whole?"*: $r = .577$; rho = .539). All these correlations were significant at $p < .001$ level. The same results were obtained also for SCHIN, but with somewhat weaker correlations.

DISCUSSION

Measuring SWB is important also in school environments, but such a test has not been available for Hungarian children so far. The purpose of the present paper was to present a study on the first steps of the test adaptation of Ivens' School Children's Happiness Inventory (Ivens, 2007) to Hungarian schoolchildren population along with a shortening of the original 30-item long questionnaire. A multistep test reduction yielded a 12-item long version of SCHI (called SCHI-S), yielding excellent fit measures in CFA and high level Cronbach's alpha values in each grade group (see Table 1).

This result is consistent with the findings from other research with SCHI (Telef, 2014, Uusitalo-Malmivaara, 2012, Navarro et al,, 2013, Allodi, 2010). Furthermore it is also shown that the self-rating measure of SWB is valid and reliable in children over 8 years of age (Ivens, 2007).

Though the positive and negative subscales of SCHI-S, SCHIP and SCHIN fit to the same construct of SWB, they correlate with each other only at a moderate (about .5) level. This justifies both the meaningfulness of the two subscales, SCHIP and SCHIN separately, and the meaningfulness of a common scale consisting of all test-items (SCHIT). This implies the practical advice: in evaluating SCHI-S it is not enough to interpret the value of SCHIT alone. In order to clarify the

unique psychological meaning of SCHIP and SCHIN and the way to interpret these subscales further investigations are needed. Other adaptation of SCHI do not mention any results concerning the separate treatment of the positive and negative subscales (Eloff, 2008, Telef, 2014, Uusitalo-Malmivaara, 2012). A special result obtained in our study concerning the difference between positive and negative subscale is that in case of negative items children are more willing to choose options close to the smallest possible value than to choose options close to the largest value in case of the positive items. This phenomena is more typical for males than for females and the reason for this gender difference may be that boys are more reluctant to admit their weakness, mistakes, and negative emotions than girls (Chaplin, 2015).

The relevance of formulated items in positive or negative form may also be reflected in the result that the subscales of MHT-C consisting of only positive items (WB, Sav, and CEeff) correlate always more strongly with SCHIP than with SCHIN, and the subscales of MHT-C consisting of only negative items (Sreg and Res) correlate always more strongly with SCHIN than with SCHIP (see first two lines in Table 3).

An important result is that SWB of Hungarian elementary schoolchildren measured by SCHI-S is steadily decreasing from grade 3 to grade 8 (see Graph 1). A similar result was obtained also with Finnish schoolchildren (Uusitalo-Malmivaara, 2012), and as Greene (1990) states positive emotions are more dominant in children of elementary school than in high school student. This result may be due to the gradually increasing demands in the upper grades of the elementary schools. Another possible explanation is that children around 10 feel less responsibility, and therefore are happier than older children. It can be also considered that year by year the children grow and mature, and they become more capable to distinguish between the frequencies of positive and negative feelings.

Beyond psychometric structural validation the strong, often around .70 level correlations between SCHI-S scales (mainly SCHIP and SCHIT) and the WB subscale of MHT-C (see Table 3) confirm that SCHI-S is an SWB test. Here the WB subscale can be regarded as a criterion measure of SWB. Criterion validity was further confirmed by the strong correlations between the subscales of SCHI-S and all items of the WB subscale. Concordant validity was confirmed by the significant correlations between the subscales of SCHI-S and the Flow item of MHT-C (see Table 4).

CONCLUSIONS

In conclusion, the presented study provided convincing proof that the Hungarian adaptation of Ivens' School Children's Happiness Inventory (Ivens, 2007) was successful. Both structural validity with a well-fitting model, and criterion and convergent validity confirmed the construct of the original English version. However, further investigations are needed for clarifying the special meaning of positive and negative scales of SCHI-S. A weakness of our study is that external validation with a self-report verbal mental health questionnaire was only preformed with schoolchildren of grade 5 to 8. We suggest for younger children a validation with rating scales. We plan also to investigate whole class groups with the method of sociogram and relate individual SCHI-S scores to the position in the social structure.

CONFLICT OF INTEREST

There were no financial interests or any conflict of interest with regard the present paper.

BIBLIOGRAPHY

Allodi, M. W. (2010). Goals and values in school: A model developed for describing, evaluating and changing the social climate of learning environments. *Social Psychology of Education, 13*(2), 207-235.

Antaramian, S.P., Huebner, E. S., Hills, K. J., & Valois, R. F. (2010). A dual-factor model of mental health: Toward a more comprehensive understanding of youth functioning. *American Journal of Orthopsychiatry, 80*(4), 462-472.

Block, J., & Kremen, A. M. (1996). IQ and ego-resiliency: conceptual and empirical connections and separateness. *Journal of Personality and Social Psychology, 70*(2), 349-371.

Brunner, E., & Munzel, U. (2000). The nonparametric Behrens-Fisher problem: Asymptotic theory and a small-sample approximation. *Biometrical Journal, 42*(1), 17-25.

Bryant F. B., & Veroff, J. (2007). *Savoring: A new model of positive experience*. Mahwah, NJ: Lawrence Erlbaum Associates Publishers.

Caprara, G. V., Alessandri, G., Eisenberg, N., Kupfer, A., Steca, P., Caprara, M. G., Yamaguchi, S., Fukuzawa, A., & Abela, J., et al. (2012). The Positivity Scale. *Psychological Assessment, 24*(3), 701–712.

Chaplin, T. M. (2015). Gender and Emotion Expression: A Developmental Contextual Perspective. *Emotional Review, 7*(1), 14–21.

Csikszentmihalyi, M., Abuhamdeh, S., & Nakamura, J. (2005). Flow. In Elliot AJ and Dweck CS (Eds.), *Handbook of competence and motivation* (pp. 598–608). New York: Guilford Publications.

Diener, E. D., & Chan, M. Y. (2011). Happy people live longer: Subjective well-being contributes to health and longevity. *Applied Psychology: Health and Well-Being, 3*(1), 1-43.

Diener, E. D. (1984). Subjective well-being. *Psychological Bulletin, 95*(3), 542–575.

Diener, E. D., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The satisfaction with life scale. *Journal of Personality Assessment, 49*(1), 71-75.

Eloff, I. (2008). In pursuit of happiness: How some young South African children construct happiness. *Journal of Psychology in Africa, 18*(1), 81-87.

Engels, N., Aelterman, A., Petegem, K. V. & Schepens, A. (2004). Factors which influence the well-being of pupils in Flemish secondary schools. *Educational Studies, 30*(2), 127-143.

Fredrickson, B. L., & Branigan, C. (2005). Positive emotions broaden the scope of attention and thought action repertoires. *Cognition and Emotion, 19*(3), 313–332.

Gao, C., Shi, D., & Maydeu-Olivares, A. (2020). Estimating the maximum likelihood root mean square error of approximation (RMSEA) with non-normal data: A Monte-Carlo study. *Structural Equation Modeling. Multidiscip. Res. J., 27*(2), 192–201.

Greene, A.L. (1990). Patterns of affectivity in the transition to adolescence. *Journal of Adolescent Child Psychology, 50,* 340-356.

Hauser, D. J., Preston, S. D., & Stansfield, R. B. (2014). Altruism in the wild: When affiliative motives to help positive people overtake empathic motives to help the distressed. *Journal of Experimental Psychology: General, 143*(3), 1295-1305.

Huebner, E. S. (1991). Initial development of the students' life satisfaction scale. *School Psychology International, 12,* 231–240.

Huebner, E.S. (2004). Research on assessment of life satisfaction of children and adolescents. *Social Indicators Research, 66,* 3-33.

Huppert, F. A., & So, T. T. (2013). Flourishing across Europe: Application of a new conceptual framework for defining well-being. *Social indicators research, 110*(3), 837-861.

Ivens, J. (2007). The Development of a Happiness Measure for Schoolchildren. *Educational Psychology in Practice, 23*(3), 221–239.

Lyubomirsky, S., & Lepper, H. S. (1999). A measure of subjective happiness: Preliminary reliability and construct validation. *Social Indicators Research, 46*(2), *137–155*

Milyavskaya, M. & Koestner, R. (2011). Psychological needs, motivation, and well-being: A test of self-determination theory across multiple domains. *Personality and individual differences, 50*(3), 387-391.

Muthén, L. K., & Muthén, B. O. (1998-2011). *Mplus User's Guide. Sixth Edition*. Los Angeles CA: Muthén & Muthén.

Myers, D. G. (2000). The funds, friends, and faith of happy people. *American Psychologist, 55*(1), 56-67.

Navarro, R., Ruiz-Oliva, R., Larrañaga, E., & Yubero, S. (2013). The Impact of Cyberbullying and Social Bullying on Optimism, Global and School-Related Happiness and Life Satisfaction Among 10-12-year-old Schoolchildren. *Applied Research in Quality of Life, 10*(1), 15–36.

Noddings, N. (2003). *Happiness and education*. New York: Cambridge University Press

Oláh, A. (2005). *Anxiety, Coping, and Flow: Empirical studies in interactional perspective*. Budapest: Trefort Kiadó.

Rupert, G. M. (1981). *Simultaneous statistical inference*. Springer Science & Business Media.

Shernoff, D. J., & Csikszentmihalyi, M. (2009). Flow in schools. In R. Gilman, E. S. Huebner, & M. J. Furlong (Eds.), *Handbook of positive psychology in schools (pp. 131–145).* New York: Routledge

Snyder, C. R., Hoza, B., Pelham, W. E., Rapoff, M., Ware, L., Danovsky, M., et al. (1997). The development and validation of the children's hope scale. *Journal of Pediatric Psychology, 22*(3), *399–421.*

Smith, B. W., Dalen, J., Wiggins, K., Tooley, E., Christopher, P., & Bernard, J. (2008). The Brief Resilience Scale: Assessing the Ability to Bounce Back. *International Journal of Behavioral Medicine, 15,* 194-200.

Southwick, S. M., & Charney, D. S. (2018). *Resilience: The science of mastering life's greatest challenges*. New York: Cambridge University Press.

Suldo, S. M., Hearon, B. V., Bander, B., McCullough, M., Garofano, J., Roth, R. A., & Tan, S. Y. (2015). Increasing elementary school students' subjective well-being through a classwide positive psychology intervention: Results of a pilot study. *Contemporary School Psychology, 19*(4), 300-311.

Szabó, A. (2019). Validity of the Hungarian Version of the Subjective Happiness Scale (SHS-HU). *Journal of Mental Health and Psychosomatics, 20*(1), 180–201.

Telef, B. B. (2014). School Children's Happiness Inventory: The Validity and Reliability Study. *International Online Journal of Educational Sciences, 6*(1), 130-143.

Uusitalo-Malmivaara, L. (2012). Global and school-related happiness in Finnish children. *Journal of Happiness Studies, 13*(4), 601-619.

Vargha, A., Torma, B. & Bergman, L. R. (2015). ROPstat: a general statistical package useful for conducting person-oriented analyses. *Journal for Person-Oriented Research, 1*(1-2), 87-98.

Vargha, A., Török, R., Diósi, K., & Oláh, A. (2019). Boldogságmérés az iskolában. *Magyar Pszichológiai Szemle, 74*(3-4), 327-346.

Vargha, A., Zábó, V., Török, R., & Oláh, A. (2020). A jóllét és a mentális egészség mérése: A Mentális Egészség Teszt. *Mentálhigiéné és Pszichoszomatika, 21*(3), 281–322.

Veenhoven, R. (2008). Healthy happiness: Effects of happiness on physical health and the consequences for preventive health care. *Journal of Happiness Studies, 9*(3), 449-469.

Wagner, D. D., & Heatherton, T. F. (2015). Self-regulation and its failure: The seven deadly threats to self-regulation. In: Mikulincer, M. and Shaver, P. R. (Eds.), *APA handbook of personality and social psychology, Volume 1: Attitudes and social cognition* (pp. 805-842). Washington DC: American Psychological Association.

Watson, D., & Tellegen, A. (1999). Issues in dimensional structure of affect–effects of descriptors, measurement error, and response formats: Comment on Russell and Carroll (1999). *Psychological Bulletin, 125*(5), 601–610.

Zelenski, J. M., Murphy, S. A., & Jenkins, D. A. (2008). The happy-productive worker thesis revisited. *Journal of Happiness Studies, 9*(4), 521-537.

TABLES

Table 1. Cronbach's alpha values of the scales of SCHI-S for different grade groups

Grade groups	Sample size	SCHIP	SCHIN	SCHIT
Grades 3-4	683	.724	.751	.812
Grades 5-6	457	.745	.828	.853
Grades 7-8	275	.762	.833	.864
Total sample	1415	.780	.799	.851

Table 2. Basic statistics of the scales of SCHI-S and MHT-C

Scale	Sample size	Mean	SD	Skewness	Kurtosis
SCHIP	1415	3.086	0.565	-0.662***	0.224
SCHIN	1415	1.655	0.547	1.027***	1.100***
SCHIT	1415	3.215	0.489	-0.932***	1.080***
WB	707	4.396	1.000	-0.589***	0.306
Sav	707	4.439	1.027	-0.489***	-0.009
CEeff	707	3.662	0.863	0.140	0.204
Sreg	707	3.887	1.027	-0.491***	0.152
Res	707	4.446	0.834	-0.792***	1.039***
GMH	707	4.166	0.648	-0.456***	0.959***

Notation: *: $p < .05$ **: $p < .01$ ***: $p < .001$

Table 3. Spearman's rank correlation matrix of all scales of SCHI-S and MHT-C (sample sizes: within SCHI-S *N* = 1415, for all other couples of variables *N* = 707)

Scale	SCHIN	SCHIT	WB	Sav	CEeff	Sreg	Res	GMH
SCHIP	-.494**	.871**	.674**	.463**	.412**	.187**	.445**	.644**
SCHIN		-.843**	-.544**	-.248**	-.180**	-.383**	-.552**	-.572**
SCHIT			.697**	.410**	.340**	.321**	.570**	.698**
WB				.512**	.395**	.220**	.530**	.795**
Sav					.425**	.091*	.220**	.679**
CEeff						.076*	.151**	.583**
Sreg							.444**	.549**
Res								.670**

Notation: *: p < .05 **: p < .01

Table 4. Pearson and Spearman correlations of SCHI-S and MHT-C scales with the Flow item of MHT-C (N = 706)

Skála	Pearson *r*	Spearman's *rho*
SCHIP	.317**	.316**
SCHIN	-.214**	-.205**
SCHIT	.296**	.301**
WB	.366**	.348**
Sav	.369**	.372**
CEeff	.392**	.386**
Sreg	.023	.020
Res	.176**	.145**
GMH	.387**	.376**

Notation: *: p < .05 **: p < .01

APPENDIX 1: THE MENTAL HEALTH TEST FOR CHILDREN (MHT-C)

	Very Strongly Disagree	Strongly Disagree	Slightly Disagree	Slightly Agree	Strongly Agree	Very Strongly Agree
1. Joy is present more than sorrow in my everyday. /WB						
2. I easily become impatient. /SReg-						
3. It's easy for me to revive the joy from pleasant memories. /Sav-						
4. I am dissatisfied or bored with everything. /Res-						
5. I often have ideas that are taken further by others. /CEeff						
6. I am too tired to do anything. /Res-						
7. Others describe me as a problem solver. /CEeff						
8. I am impulsive: I act first and think second. /SReg-						
9. If I am really interested in something, I can do it with joy and with close attention, even in difficult conditions. /Flow						
10. It often feels like the world is just passing me by. /Res-						
11. I like to store memories of fun times that I go through so that I can recall them later. /Sav						
12. Other people seem to change but I feel like I am walking in circles. /Res-						
13. I can make myself feel good by imagining what a happy time that is about to happen will be like. /Sav						
14. I feel I am a complete failure as a person. /Res-						
15. My general psychological state is good. /WB						
16. I am good at jobs that need new and original ideas. /CEeff						
17. I become nervous if things turn out differently than I expected. /Sreg-						
18. I often know, how people think and feel. /CEeff						
19. How you feel about your life as a whole? (1=very strongly unhappy, 6=very strongly happy) /WB						

Abbreviations of the subscale names: WB: Well-being; SReg: Self-regulation; Sav: Savouring; CEeff: Creative and executing efficiency; Res: Resiliency (items suffixed by a minus sign are to be converted)

APPENDIX 2: THE SUGGESTED ITEMS OF THE SHORT VERSION OF SCHI, WITH THEIR ORIGINAL INDICES

During the last week in school:
4 I was cross
6 I felt relaxed
5 I was sad
11 I felt positive
12 I felt angry
21 I felt good
13 I wanted to cry
23 I was confident
15 I was in a bad mood
26 I felt wide awake
25 I wanted to give up
30 I liked being with other people