Adolescent Social Emotional Health, Empathy, and Self-esteem: Preliminary Validation of the Lithuanian Version of the SEHS-S Questionnaire

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Background. The priority for today's educational psychologists in Lithuanian schools is to promote psycho-educational activities aimed at fostering children's well-being. School psychologists are to provide services for, and consult with, children and adolescents with mental health challenges, in order to facilitate their transitions to positive developmental trajectories. Therefore, it is important to test the construct validity of the adolescent social emotional health survey (SEHS-S) in a Lithuanian sample.

Objective. To investigate the social emotional health, empathy, and self-esteem of a Lithuanian adolescent sample using the adolescent Social Emotional Health Survey (SEHS-S), as well as to perform regression and confirmatory factor analysis.

Design. We used the Social Emotional Health Survey-Secondary (SEHS-S) (Furlong et al., 2014), the Interpersonal Reactivity Index (*IRI*) (Davis, 1980), and the Rosenberg Self-Esteem Scale (SES) (M. Rosenberg, 1989). The sample was comprised of 935 students (12–18 years old) from various Lithuanian schools: 482 boys and 453 girls.

Results. The self-esteem of the adolescent boys was higher than that of the adolescent girls. A positive correlation between the adolescents' social emotional health and their self-esteem and empathy was identified. The strongest predictors of the adolescents' social and emotional health included empathic concern, self-esteem, and perspective-taking. The confirmatory factor analysis confirmed the validity of the structural model of the Lithuanian version of the SEHS-S survey.

Conclusion. The findings of the regression and confirmatory factor analysis supported the use of the SEHS-S as a valid and reliable instrument for mental health research with Lithuanian adolescents. School psychologists will be able to use the Lithuanian version of SEHS–S survey to monitor adolescent social emotional health.

Introduction

At present psychologists working in Lithuanian schools have been encountering increasing rates of various dependencies and suicide, a growing number of bullying incidences, and more instances of adolescent behavioral and emotional problems. Currently educational psychologists have been prioritizing psycho-educational and preventive activities targeted at the emotional and social well-being of children. Some scholars (Kalpokienė, 2005; Ramanauskienė, Matulionienė, & Martinkienė, 2002; Valantinas, 2009; Petrulytė & Guogienė, 2018) have stated that adolescent mental health has been mainly investigated from the deficit-oriented perspective, *i.e.,* the investigated factors are related to the youth's problems, various impairments, or related risks. It is particularly relevant to conduct research on the positive development of adolescents, paying specific attention to their ability to address the crises of psychosocial development in adolescence. Strengths developed in adolescence lead to an increased sense of happiness and improvement in their academic achievements (Park & Peterson, 2008). The more strengths an adolescent gains, the more positive development that individual exhibits.

The present research study was carried out from the perspective of a positive psychological and holistic approach to mental health, which focuses on the emotional social health domains of the family, the school, and peers. Our approach treats adolescents' emotional and social health as a multi-dimensional construct, which embraces a combination of psychological strengths, or positive dispositions possessed by an individual: belief-in-self, belief-in-others, emotional competence, and engaged living (Furlong, You, Renshaw, Smith, & O'Malley, 2014; Furlong, 2015). The concepts of adolescent social and emotional health include the adolescent's relations with family, school, and peer group, and the formation of a sense of identity together with self-respect and belief-in-self, not excluding their interaction and synergy. Scientific research conducted in the USA, Australia, Japan, Korea, and Turkey showed the model of social and emotional health to be appropriate (You, Furlong, Felix, & O'Malley, 2014; Furlong, 2015). Our surveys revealed that the construct of social emotional health and strengths is interrelated with a high level of mental health, psychological resilience, and well-being. The value of enhancing the mental health of children and adolescents has been prioritized all over the world.

Over recent years M. Furlong has been the principal investigator in theoretical and practical research studies striving to design and implement the use of a universal and convenient psychometric tool for predicting the social emotional health of adolescents (Furlong et al, 2014; Furlong, 2015). We are partners at the international "Project CoVitality", a school-based mental wellness and thriving student development initiative (Project CoVitality, 2018). More than 20 countries worldwide have been applying the Social Emotional Health Survey (SEHS) to evaluate adolescents. The social emotional measures of adolescents positively correlate with measures of subjective well-being, life satisfaction, and the Big 5 personality constructs; they are negatively correlated with measures of internal emotional distress and involvement in-risk behavior. The Social Emotional Health Survey System includes three conceptually-linked measures that assess the core psychological and social mindsets associated with positive youth development from childhood through the post-high

school transition (primary, secondary, and higher education). All three SEHS measures assess the general construct called "CoVitality" (Project CoVitality, 2018).

A large number of researchers refer to *empathy* as a relevant aspect of social emotional health. Our study approaches empathy as a multi-dimensional construct, which embraces emotional and cognitive processes (Davis, 1980; Batson, 2009; Decety & Cowell, 2014). A high level of empathy in an adolescent creates favorable conditions for that adolescent to express positive emotions and is a signal of prosocial behavior (Pukinskaitė & Guogienė, 2010).

The positive correlation between adolescents' emotional competence and various aspects of empathy has been previously identified (Petrides, Frederickson, Sangareau, & Furnham, 2006; Hoffman, 2000; Kradin, 2005; Carr & Lutjemeier, 2005, and others). Adolescent girls' understanding of their own feelings, their playfulness, and their ability to easily establish conversation and communicate with people more frequently, as well as the level of girls' empathy, are greater than those of boys (Strayer and Roberts, 2004; Katyal & Awasthi, 2005; Shulte-Rüther, Markowitsch, Shah, Fink, & Piefke, 2008; Žukauskienė, Malinauskienė, & Erentaitė, 2011). Petrulytė & Guogienė (2018) found that empathy is higher among senior adolescents (16-18 years old) compared to younger ones (12–15 years old), and in the group of girls compared to boys.

Positive self-esteem is of particular importance to adolescent well-being, and is linked to better social relations and higher levels of academic achievement (Bos, Muris, Mulkens, & Schaalma, 2006), emotional intelligence (Schutte, Malouff, Simunek, Hollander, McKenley, & Hollander, 2002; Žukauskienė, et al., 2011), and lower levels of emotional problems (Dutton & Brown, 1997). Self-esteem in adolescence becomes a motivating factor and encourages an adolescent to act and seek self-realization.

The research studies on the strengths of adolescents' positive development, and adolescents' social emotional health, empathy, and self-esteem are few, and the above-mentioned dimensions can be successfully developed. The results of the present study will provide additional evidence about the utility of the SEHS-S model in Lithuania, and will contribute to cross-cultural research on adolescent social emotional health.

Objective

The main goal of our research was to investigate the social emotional health of Lithuanian adolescents and its links with their empathy and self-esteem, and to obtain additional evidence about the utility of the SEHS-S model in a Lithuanian sample.

The specific objectives of the research were:

1. To investigate and compare the self-esteem of adolescents in Lithuanian groups of younger (12–15 years old) and senior (16–19 years old) adolescents, as well as to compare that of girls and boys.
2. To investigate the links of adolescents' dispositions of social emotional health with empathy and self-esteem.
3. To carry out a regression analysis on adolescents' social emotional health, empathy, and self-esteem.
4. To perform a confirmatory factor analysis of adolescent social emotional health in a Lithuanian sample.

Methods

Participants

Our sample was comprised of 935 adolescents from secondary schools in various Lithuanian regions (cities and districts): 483 junior adolescents (12–15 years old) and 452 senior adolescents (16–18 years old); 482 boys and 453 girls.

Procedures

The Social Emotional Health Survey-Secondary (SEHS-S) (Furlong et al., 2014). This questionnaire survey includes a wide range of social emotional psychological dispositions associated with the positive development of young people. The construct validity of this questionnaire was confirmed after a factor analysis of its invariance in groups based on sociocultural and gender principles (You et al., 2015). The permission to use the questionnaire was granted to A. Petrulytė and V. Guogienė. The double translation was done by A. Petrulytė and J. Bagdonavičiūtė.

The questionnaire consists of four dispositions/scales: belief-in-self, belief-in-others, emotional competence, and engaged living. Each disposition embraces three unique sub-scales of mental health. The belief-in-self consists of *self-efficacy, self-awareness,* and *persistence*; the belief-in-others comprises *school support, peer support,* and *family support*; emotional competence consists of *emotion regulation, empathy,* and *behavioral self-control*; and engaged living embraces *gratitude, zest,* and *optimism*.

This instrument (SEHS-S) was validated using samples of students from California (Furlong et al., 2014; You et al., 2015), Korea (Lee, You & Furlong, 2015), and Japan (Ito, Smith, You, Shimoda, & Furlong, 2015). M. Furlong emphasizes that this research is directed toward the optimal exploration of human functions on the basis of the hypothesis that the combination of the first-order positive psychological dispositions (*belief-in-self, belief-in-others, emotional competence,* and *engaged living*) builds a second-order synergic meta-construct of "covitality," which is a good tool for understanding the quality of teenagers' and youth's lives, as well as predicting their success and well-being now and in later life (Furlong et al., 2014).

The SEHS-S questionnaire includes 36 items. The students' self-reports are completed using a four-point scale (1 = not at all true of me; 2 = a little true of me; 3 = pretty much true of me; and 4 = very much true of me). The following are examples of SEHS-S items: "I enjoy reading books;" "I usually expect to have a good day." The internal reliability of the results from the Lithuanian adolescent group (Cronbach's alpha) is presented in *Table 1*.

Table 1

Cronbach's alpha indicators of SEHS-S constructs in the Lithuanian adolescent group.

SEHS-S constructs	*Cronbach's* alpha
Belief-in-self	.73
Belief-in-others	.76
Emotional competence	.73
Engaged living	.85
General index	.80

Interpersonal Reactivity Index (IRI), (Davis, 1980). This scale investigates various aspects of empathy and evaluates emotional reactions to the negative experiences of other people. The scale consists of 28 items. The respondents were asked to rate every item on a 4-point scale (from 0 to 4) in respect to their suitability for characterization of own attitude and feelings. The respondents evaluated the statements while the supervisor was reading additional instructions. The scores of the sub-scales were calculated and the evaluations of all 7 items added up.

The scale of *Interpersonal Reactivity Index* (IRI) consists of four sub-scales that aim to evaluate different aspects of empathy:

1. *Empathic concern scale.* This scale assesses emotional empathy, *i.e.,* the ability to feel compassion for others, or express tenderness toward them;
2. *Perspective-taking scale.* The scale establishes the cognitive aspect of empathy, *i.e.,* the ability to understand and adopt the attitude of other people;
3. *Personal distress scale.* This scale evaluates the ability to experience distress and discomfort in reaction to the distress of others;
4. *Fantasy scale.* This scale evaluates the ability of respondents to transpose themselves imaginatively into the feelings of others.

The sum of the sub-scales of perspective-taking and empathic concern makes up the index of empathy. The author M.H. Davis granted permission to use the *Scale of Interpersonal Reactivity Index* to V. Guogienė. The internal reliability of the scores of the Lithuanian adolescent group (Cronbach's alpha) is as follows (see *Table 2).*

Table 2

Cronbach's alpha indicators of empathy (IRI) in the Lithuanian adolescent group

IRI constructs	*Cronbach's* alpha
Empathic concern	.62
Perspective-taking	.67
Personal distress	.58
Fantasy	.66
Empathy index	.77

Rosenberg Self-Esteem Scale (RSE). M. Rosenberg (1989) defined global self-esteem as the overall attitude one has toward oneself. High self-esteem entails the belief that one is "good enough," whereas low self-esteem is associated with self-rejection and a general lack of self-respect. There are 10 RSE items with a 4-point rating scale. Cronbach's alpha coefficients for scores based on the 10 Rosenberg items are usually above .80, and values above .90 have been reported in the literature (Boyle, Saklofske, & Matthews, 2014). Self-esteem is positively correlated with psychological well-being and life satisfaction. These coefficients range from .30 to .60 or higher (*e.g.,* Buhrmester et al., 2011; Robins et al., 2001; Rosenthal et al., 2011). The internal compatibility of the Lithuanian adolescent group's scores on self–esteem (Cronbach's alpha) is .72.

Microsoft Excel 2003, SPSS (17.0 for Windows), and LISREL were used for data processing. To establish the link between the adolescents' social emotional health (SEHS-S), empathy, and self-esteem, correlation analysis was applied, and the coefficient of Spearman's rank correlation was calculated. The regression analysis was performed to examine the relationship and influence of independent variables on the dependent variable, *i.e.*, on adolescent social emotional health (SEHS-S). The confirmatory factor analysis was carried out to verify the structure of the adolescents' social emotional health survey (SEHS-S) (Brown, 2015; Čekanavičius, 2009).

Results

In the previous research on adolescents' *social emotional health* (SEHS-S) conducted by the two authors of this article (Petrulyte & Guogiene, 2018), statistically significant higher values in the dispositions of *belief-in-self* (p ≤ 0.01), *engaged living* (p ≤ 0.01), and general index of *social emotional health* were found among *junior* adolescents (12–15 years old) compared to *senior* ones (16–18 years old). Also, higher values of *social emotional health* (SEHS-S), dispositions of *belief-in-others, emotional competence,* and *general index of social emotional health* (p ≤ 0.01) were observed among adolescent *girls* compared to *boys*. The indicators of adolescents' *empathy* (IRI) revealed statistically significantly higher values of the *fantasy, personal distress,* and *empathy* indices among *senior adolescents* (p ≤ 0.000), compared to those of *junior adolescents*; the higher values of the indicators of *empathic concern, perspective-taking, personal distress, and general index* (IRI) (p ≤ 0.000) were disclosed in the group of girls compared to that of boys.

However, in this research the comparison of self-esteem indicators of junior (12–15 years old) and senior (16-18 years old) adolescents did not show any statistically significant differences (see *Table 3*).

Table 3

Self-esteem of junior (12-15 years old) and senior (16-18 years old) adolescents (Mann-Whitney U test)

	Age	N	Mean Rank	Z	P
Self-esteem	12–15 years	483	454.74	−1.55	0.120
	16–18 years	452	482.17		

Statistically significant differences were identified in the values of self-esteem in the groups of girls and boys: the self-esteem of adolescent boys was higher than that of girls (see *Table 4*).

Table 4

Self-esteem of boy and girl adolescents (Mann-Whitney U test)

	Gender	N	Mean Rank	Z	P
Self-esteem	boys	482	506.10	−4.46	0.000
	girls	453	427.46		

The correlation analysis of the adolescents' *social emotional health* (SEHS-S) and *empathy* (IRI) allowed us to conclude that the scales of *empathic concern, perspective-taking,* and the *empathy index* positively correlate with all the dispositions of SEHS-S (p ≤ 0.01), whereas *fantasy* (IRI) and *personal distress (IRI)* demonstrated *positive correlations* only with the scale of *emotional competence* (SEHS-S) (r = 0.22; p ≤ 0.01) (see *Table 5*).

Table 5

Correlations of the adolescents' social emotional health (SEHS-S) and empathy (N=935)

SEHS-S	Belief-in-self	Belief-in-others	Emotional competence	Engaged living	General index
Empathic concern scale	0.17**	0.27**	0.49**	0.23**	0.35**
Perspective-taking scale	0.13**	0.17**	0.45**	0.23**	0.30**
Fantasy scale	0.00	0.05	0.22**	0.01	0.06
Personal distress	−0.25**	-0.06	0.10**	−0.12**	−0.10**
Empathy index	0.03	0.16**	0.44**	0.12**	0.21**

*Note. **p ≤ 0.000*

On the basis of the correlation analysis, it was established that adolescents' self-esteem significantly positively correlates with the following dispositions of social emotional health (SEHS-S): *belief-in-self* (r = 0.38; p ≤ 0.00), *engaged living* (r = 0.35; p ≤ 0.00), *belief-in-others* (r = 0.29; p ≤ 0.00) and *emotional competence* (r = 0.09; p ≤ 0.00) (see *Table 6*).

Table 6

Correlation of adolescents' social emotional health (SEHS-S) and self-esteem (N=935)

SEHS-S	Belief-in-self	Belief-in-others	Emotional competence	Engaged living	General index
Self-esteem	0.38**	0.29**	0.09**	0.35**	0.39**

*Note. **p ≤ 0.000*

To examine the relationship and influence of independent variables on the dependent variable, *i.e.,* on adolescent social emotional health, a regression analysis on the data was performed which tested various models to identify the most suitable one. It was determined that adolescents' empathic concern, perspective-taking, personal distress, and self-esteem had an impact on their overall social emotional health. The formula for a regression line is as follows:

$$Y = 86.232 + 0.665^{*}X1 + 1.276^{*}X2 + 0.486^{*}X3 + 0.614^{*}X4,$$

where Y = social emotional health, X1 = self-esteem, X2 = empathic concern, X3 = perspective-taking, and X4 = distress.

The coefficient of determination (R^2) for this model is 0.36. Y is significantly more influenced by the variable X2 (its standardized Beta value is 1.276) than by others: for X1 the standardized Beta value is 0.665; for X3 it is 0.486; and for X4 it is -0.614.

The confirmatory factor analysis aimed to test the construct validity of the adolescent social emotional health survey (SEHS-S). Its first stage focused on testing the appropriateness of the SEHS-S questionnaire model, which consists of 12 latent (12 sub-scales loaded on to the four dispositions – belief-in-self, belief-in-others, emotional competence, and engaged living – and 36 observed factors (questionnaire statements/questions). The obtained results confirmed the structure of the questionnaire: χ^2 (DF = 528, N = 935) = 2411.78, p>0.05; RMSEA = 0.062; SRMR = 0.06; CFI = 0.93; NFI = 0.91; and GFI = 0.92.
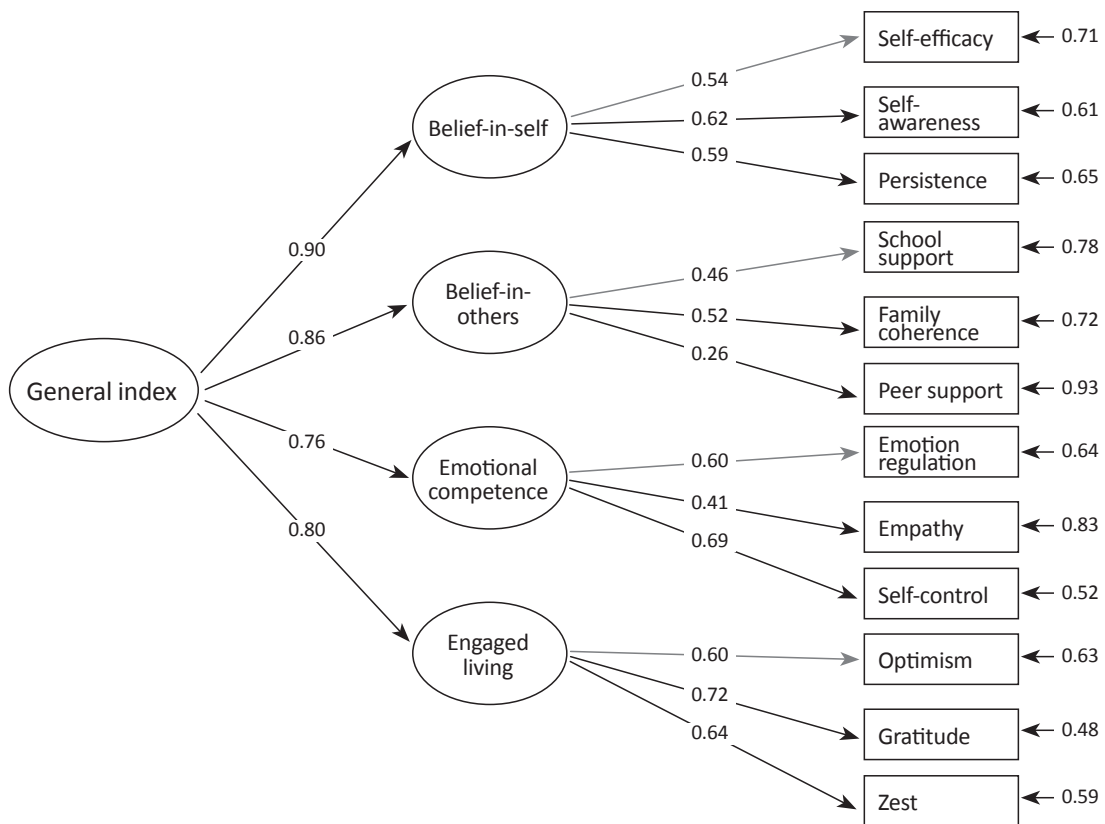

Figure 1. Social Emotional Health Survey-Secondary (SEHS-S) measurement model in a Lithuanian sample.

In the second stage, 12 sub-factors as measured variables (self-efficacy, self-awareness, persistence, school support, family coherence, peer support, emotion regulation, empathy, self-control, optimism, gratitude, zest) and four latent factors (belief-in-self, belief-in-others, emotional competence, engaged living) were employed. The degree of model fit was assessed using several criteria, the combination of which brought informed judgments about the overall adequacy of the model fit: χ^2 (DF = 50, N = 935) = 351.64, p>0.05; the standardized root-mean-square error of approximation (RMSEA) = 0.079; standardized root mean square residual (SRMR)=0.053; comparative fit index (CFI) = 0.94; normed fit index (NFI) = 0.95; and goodness of fit index (GFI) = 0.94.

Discussion

The data resulting from the SEHS-S taken by the 12–18 year-old Lithuanian adolescents presented in this study coincide with the results obtained by M. Furlong et al. (2014) and S. Lee et al. (2015), and with those from the previous research by the authors of this article (Petrulytė & Guogienė, 2018).

The data obtained only partially corresponded to the data acquired by T. Timofejeva, G. Svence, and A. Petrulyte (2016). The statistically significant difference in adolescents' social emotional health (SEHS-S) in terms of age and gender are in line with trajectories of adolescent development: a growing need for peer support and independence. The adolescent girls' emotional competence, self-confidence, and social relations are higher, whereas activity, sports, and other social competencies are better expressed in the group of boys (Cheng & Chan, 2004; Way & Greene, 2006; Mayer, Salovey, Caruso, & Sitarenios, 2001; Petrides, Frederickson, Sangareau, & Furnham, 2004; Petrides, Frederickson, Sangareau, & Furnham, 2006; Pukinskaitė, 2006; Strayer & Roberts, 2004; Katyal et al., 2005, Schulte-Rüther et al., 2008; Furlong, et al, 2014; Žukauskienė et al., 2011). These results allow us to conclude that girls tend to attach more importance to interpersonal relations and emotions in socialization than do boys.

The present research has not disclosed any statistically significant differences in adolescents' self-esteem according to age, but the self–esteem of adolescent boys was higher than that of adolescent girls. When analyzing adolescents' *self-esteem* in terms of gender and age, it can be noticed that a considerable number of research studies on gender- and age-related differences in self-esteem have been conducted over the last two decades (Feingold, 1994; Kling, Hyde, Showers, & Buswell, 1999; Orth, Robins, & Widaman, 2012; Orth, Trzesniewski, & Robins, 2010; Robins et al., 2002; Shaw, Liang, & Krause, 2010; Trzesniewski, Donnellan, & Robins, 2003; Twenge & Campbell, 2001; Orth, Robins, & Roberts, 2008; Mares, Leeuw, Scholte, & Engels, 2010; Kularski, 2010; Buhrmester, Blanton, & Swann, 2011), which have shown that men demonstrate higher levels of self-esteem than women. This gender-based difference appears in adolescence and continues throughout early and middle adulthood until it declines and even disappears in old age (Kling, et al., 1999; Robins, et al., 2002; Zeigler-Hill & Myers, 2012). Other authors claim that the self-esteem of girls and boys does not statistically differ (Galambos, Barker & Krahn, 2006; Tam, Lee, Har, & Pook, 2011; Orth, Maes, & Schmitt, 2015). Thus, slightly contradictory results are available.

The positive correlations between the dimensions of adolescents' social emotional health and *empathy*, as well as positive correlations with *self-esteem* revealed in the present research, are in line with the data of other studies on the development of *emotional competence of mental health, emotional intelligence,* and *self-esteem* and correlations of these dimensions (Petrides et al., 2006; Hoffman, 2000; Marsh, Parada, & Ayotte, 2004; Kradin, 2005; Carr et al., 2005; Abbas, 2011; Petrulytė & Guogienė, 2017, 2018).

The findings of the regression analysis and confirmatory factor analysis supported the use of the SEHS-S as a valid and reliable measurement instrument in mental health research with Lithuanian adolescents. The results replicated the findings reported in previous studies (Telef & Furlong, 2017). The results of the re-

gression analysis revealed the main factors predicting adolescent social emotional health: empathic concern, perspective-taking, self-esteem, and personal distress (negative). Similar results were obtained in other studies as well (Stern & Cassidy, 2017; Telef & Furlong, 2017).

Limitations and future research

The research presented in this article possesses some limitations: the authors of the methodology conducted their research with much larger groups of respondents (Furlong et al., 2014), whereas the sample size of the respondents is smaller in the present study. The age norms for the use of the SEHS-S survey have not been specified in Lithuania yet, and this is the initial stage of SEHS-S survey adaptation procedures in Lithuania. More precise support for the methodology would require a much wider survey of respondents from Lithuanian cities and regions, including not only general and secondary schools, but also other types of educational institutions; we need to produce exploratory factor analysis and collect information about adolescents' academic achievement, their observable school and family behavior, and their participation in class activities.

In our opinion, in future research, after all the validation and adaptation of the SEHS-S as a tool in Lithuania, it would be necessary to identify a risk group of adolescents with a low SEHS-S general index, as well as a group with potentially high scores. This could enable school counsellors to work on specific measures to facilitate improvement in the indicators in the group with a low SEHS-S general index, as well as to provide more opportunities for the development of the group with the high SEHS-S index. School psychologists will be able to apply the version adapted for Lithuania in monitoring the mental health of adolescents.

Conclusions

First, the *self–esteem* of adolescent boys was higher than that of adolescent girls, but the analysis of the adolescents' self-esteem did not reveal any statistically significant differences in terms of age (younger and senior adolescents).

Second, the correlation analysis allowed us to conclude that the *social emotional health* (SEHS-S) dispositions of adolescents positively correlate with *self-esteem: belief-in-self* (r = 0.38; p ≤ 0.01); *belief-in-others* (r = 0.29; p ≤ 0.01); *engaged living* (r = 0.35; p ≤ 0.01); and social emotional health in general (r = 0.39, p ≤ 0.01). The sub-scales of *empathic concern, perspective-taking,* and *empathy index* positively correlate with all the dispositions of SEHS-S (p ≤ 0.01), whereas *fantasy* (IRI) and *personal distress* (IRI) demonstrated *positive correlation* only with the scale of *emotional competence* (SEHS-S) (r = 0.22; p ≤ 0.01).

Third, the regression analysis of the research data allowed us to select the model where the impact of independent variables was most significant. The strongest social and emotional health predictors included empathic concern, self-esteem, and perspective-taking. Distress had a negative impact.

Fourth, the confirmatory factor analysis, conducted in two stages, confirmed the structural model of the Lithuanian version of the SEHS-S questionnaire. All the indices indicated a good model fit.

On the basis of the research data, we can state that developing adolescents' empathy and self-esteem, and promoting their social emotional health, can be achieve at the same time, thus creating the prerequisites for positive development of young people into adulthood.

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