

Preliminary Validation of the *Holistic Experience of Motivation Scale (HEMS): An Empirico- Philosophical Approach*

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Abstract

The aim of this study is to test the reliability and validity of the instrument known as Holistic Experience of Motivation Scale (HEMS) that has been used to examine the foundation of holistic experience of motivation in adolescents. Analyzing current research, theories, and practices in positive psychology, it is assumed that the need for purpose, i.e. recognition of the purpose, is a common need manifested differently in different constructs of human motivation.

The HEMS is proposed after a theoretical and comparative analysis of various constructs of motivation, philosophies, and educational theories. Holistic Experience of Motivation (HEM) is measured in adolescents (age 14-15, total 50) after the intervention program (IP) in physical education that shows positive effects on intrinsic motivation, self-determination, achievement of goals, flow, thriving, and mindfulness. In the preliminary validation of the instrument, reliability and validity were measured using descriptive and principal component factor analysis for the case 1:5 with the Monte Carlo method. In the final instrument of 10 variables, three preliminary factors emerged: purpose, focus and example/role-model, but with the application of the Monte Carlo method only one factor emerged.

The preliminary results show that the basis of the HEM can be the factor of “purpose”. The purpose or meaning may be a common need that is presented through different constructs of motivation in positive psychology. Different philosophical paradigms and constructs of motivation are shown to be connected. It is shown that the purpose or meaning in question is of spiritual/religious nature and that it is manifested through satisfying the basic psychological needs of self-

determination and through the realization of motivational sparks that are markers of deep personal interests.

The results show that the HEMS requires an upgrade with an additional validation on a larger sample and its correlation with other constructs in positive psychology. Also, they confirm that relationships have a significant role in motivation and recognition of personal purpose. The study presents the IP that can be used for making an environment for a holistic experience of motivation, which can also be applied in programs that aim toward the development of leadership and moral and ethical values in youth.

Key words: *flow; intrinsic motivation; mindfulness; positive youth development; sparks.*

Introduction

Studying the self and positive psychology is the mark of psychological studies in the 21st century (Csikszentmihalyi, 2014), while physical activity, even though the fundamental characteristic of a human being, is scarcely present in human life (Badrić et al., 2015). Relatedly, depression among youth was the most prevalent disease in the world in 2018 (World Health Organization, 2018). Moreover, the lack of physical activity negatively affects youth's well-being and learning, causing delinquency, consumption of addictive substances, suicides, unhealthy diet, early pregnancy (Hallfors et al., 2005; World Health Organization, 2018). At the same time, we are flooded with motivation programs. In this respect, one can mention programs based on flow theory (Rijavec et al., 2017), mindfulness (Granovac et al., 2011), Maslow's (1971) hierarchy of needs, growth mindset (Yeager & Dweck, 2012), self-determination theory (SDT) (Deci & Ryan, 2001), and thriving theory (Benson & Scales, 2009), to which most attention is devoted to within the Positive youth development (PYD) programs (Lerner et al., 2011). Briefly, we are living in an age of unclear intrinsic motivation or "meaninglessness", "unknown purpose" or "spiritual crisis", as Viktor Frankl (1905 - 1997), Erich Fromm (1900 - 1980) and Daisetsu Teitaro Suzuki (1870 - 1966) have noted at the end of the 20th century, which altogether negatively affects physical health.

Literature review – towards a holistic experience of motivation

Thriving theory shows that sparks, empowerment and relationships deepen current knowledge about the needs in SDT (autonomy, competence, and relatedness) (Scales, Benson, Oesterle et al., 2015), and indicates additional, higher aspects of intrinsic motivation, namely spirituality/religiosity. When a person finds "spark" which is the synonym for a talent, interest, personal value, self, or spirit/breath as manifestations of something higher (Benson et al., 2012; Scales, Syvertsen & Roehlkepartain, 2012), he/she experiences intrinsic motivation. However, sparks are maintained and realized through empowerment – support to apply them in society for a common good, and through building mutual healthy relationships with family and all people. The

studies show that education in which spirituality/religiosity is present through sparks, empowerment and relationships affects well-being, SDT soul needs and PYD (Scales et al., 2015; Scales, Syvertsen, Benson et al., 2014). Also, PYD studies (Lerner et al., 2011; Yale Youth Ministry Institute, 2017) show that participants who devotedly practice moral, valuable and spiritual/religious behaviors (e.g. reading great books, social responsibility with a greater goal, prayer, meditation, philanthropy, etc.) recognize more easily their own sparks, they are more empowered and they have closer relationships because the atmosphere of sincerity, connectivity and trust dominates, which is the key for the development of sparks (Scales, Benson & Roehlkepartain, 2010). Moreover, practical and intrinsic religiosity (non-ideologized religiosity) contributes positively to well-being and the offset of depression (Plante & Sharma, 2001; Yale Youth Ministry Institute, 2017).

Programs based on universal values are a growing trend today, and two of them are *Olympic Values Education Program*, where “excellence, respect and friendship” are practiced in everyday life (International Olympic Committee, 2018), and *A Mindfulness-Based Kindness Curricula* (Centre for Healthy Minds, 2019), whose goal is to spark empathy and compassion through mindfulness and prevent depression. Also, the PYD indicates the importance of spirituality and religiosity aspects that are negated in world views such as post-modernism. At the same time, there is a growing interest in the study of Philosophy of Nothingness (see Heisig, 2001; Standish & Saito, 2012), Perennial Philosophy of the Traditionalist School (see Schuon, 2007; Smith, 2003), and metaphysics in general (see Nasr, 2007). These philosophies indicate the need for a spiritual, self-cultivation method through the body-mind awareness, which is originally an integral part of the holistic approach in education (see Standish & Saito, 2012; Stoddart, 2008, pp. 77-84). Further on, these philosophies warn overall about the danger of post-modernist studies of spirituality without binding it to religion in the perennialist sense (see Coomaraswamy, 2004; Guenon, 2001; Heisig, 2019; Jacobsen & Husedt Jacobsen, 2012).

Bearing in mind the above, it would be worthy, firstly, to find out how to educate students so as to “ignite the personal spark” in them, which is related to the recognition of meaningfulness in life, and which is at the same time inseparable from the experience of wholeness, body-mind connection and spirituality in general (see the scheme in Benson et al., 2012, p. 458; Yuasa, 2008). Secondly, the aim is also to register that experience on a measuring scale that can in a way include different definitions of motivation as one common experience. In today’s world, wholeness and meaningfulness can be ignited through education on healthy lifestyle that includes physical exercise (Suzuki & Fitzpatrick, 2015), liberal arts (Adler, 1993; Yusuf, 2018), and self-cultivation techniques (Branković, 2020; Adler, 1988; Yale Youth Ministry Institute, 2017; Yuasa, 1993), along with the fulfillment of developmental factors (Scales, Benson, Leffert, & Blyth, 2000). Today, the most rapidly growing programs that are trying to apply a holistic approach in education are the programs of mindfulness (see Brown et al., 2015; Schonert-Reichl

& Roeser, 2016), which also contribute to the development of competent citizenship for the 21st century through creativity, problem solving, critical thinking, cooperation, social responsibility, communication skills, self-regulation (see Goleman & Davidson, 2017; International Olympic Committee, 2018; Jensen, 2005), along with the fundamental dimensions of successful growth of youth (social, psychological, behavioral, educational, professional, health, ethical, and civil) (Scales et al., 2015).

Faced with plenty different definitions of motivation, alongside depression as the most widespread disease of today, *Holistic Experience of Motivation Scale* (HEMS) was designed with an intention to register the experience of purpose – meaningfulness as a common denominator of motivation constructs. The study suggests that students have one need, *the need for purpose*, that is the connection with *something greater, non ephemeral*, that ignites in a student a personal motive, meaning, sense and social responsibility (Benson et al., 2012; Mariano & Damon, 2008; Yale Youth Ministry Institute, 2017). It is assumed that the purpose, which represents *holistic experience of motivation* (HEM), is manifested in different ways and explained by different experiences and theories (e.g. sparks, flow, intrinsic motivation, mindfulness, self-determination, growth mind-set, etc.) (see Branković & Badrić, 2020).

The aim of this study is to primarily test the validity of the HEM questionnaire, which is used to determine the holistic experience of motivation—hypothetically *the need for purpose* as a common characteristic of different motivational constructs. The HEMS is designed as a result of theoretical research in the fields of philosophy and education theory, educational psychology, motivational psychology and neuroscience, with the aim to present an essential human need—*the need for the purpose* of life as spiritual characteristics (compare definitions in Benson et al., 2012, p. 545, 458; Bugari, 2012, p. 51).

The Intervention Program (IP) applied in studies by Branković and Hadžikadunić (2017) is used for the preliminary analysis of the HEMS results. The studies show that the intervention program in physical education positively affects self-determination, perceived competence, flow experience, intrinsic motivation and autotelic activity, mindfulness, and sparks experience (Branković & Badrić, 2020; Branković et al., 2017).

Methods

Participants

The sample of the study consisted of 74 students (40 boys – 54 %, 34 girls – 46 %, average age 14.6 years old) of elementary school “Isak Samokovlija” (Sarajevo, Bosnia and Herzegovina). They were divided randomly in two groups: experimental (39 students in the initial testing and 50 in the final testing) and control (15 students in the initial testing and 20 in the final testing)). The experimental group participated in the IP that lasted 10 lessons (45 days). Before and after the IP, both groups participated in testing.

The testing protocol implied completion of 10 variables of the questionnaire/instrument (HEMS) that was designed specifically for this study in order to test the

hypothesis of the holistic/ integral experience of motivation. Descriptive analysis was conducted on both groups (experimental and control) and both states (initial and final), while factor analysis was done only for the experimental group's final state in order to ensure the external validity of the questionnaire/instrument. Beside the HEM testing, self-determination, motivation, mindfulness, flow, and growth-mindset were tested on the same group and published in previous studies. Branković and Badrić (2020), Branković and Hadžikadunić (2017) and Branković et al. (2017) reported positive changes on all of these tests.

Measurement

All variables that were considered in the study are presented through descriptive statistical parameters (M – mean, SD – standard deviation, C – median). For the validation of the instrument, attention was focused on substantial, structural, and external validity (Benson, 1998).

Sensitivity of the instrument was tested by Kolmogorov-Smirnov test, Shapiro-Wilk test, and histograms, in order to test the distribution's normality. Due to the total number of tested participants (50) in the factor analysis, Shapiro-Wilk's test was used beside Kolmogorov-Smirnov, which is adequate for small and middle-sized samples. The modality correlation of independent variables was performed after obtaining the results of Kolmogorov-Smirnov test, Shapiro-Wilk test, histograms, asymmetry and the distribution's tailedness. Also, Kaiser-Meyer-Olkin (KMO) and Bartlett test were used to measure the adequacy of the sample for factor analysis. To measure reliability, general Cronbach alpha coefficient for ten variables was used, measuring the factors' consistency. To measure coherence of the questionnaire's variables taken from the present literature—from the fields of motivational and educational theory—factor analysis of the principal components was applied with Oblimin rotation method with Kaiser normalization. In order to test the content, a validity correlation matrix was applied before the factor analysis. According to MacCallum et al. (2001), Pearson and Mundfrom (2010) and De Winter et al. (2009), this study needed to satisfy a higher level of communality among the variables (from .6 to .8) due to 1:5 participants/variable proportion. An external analysis of validity was done beforehand, according to recent studies in which the same IP and the sample were used with positive results in the fields of SDT, perceived competence (Branković & Badrić, 2020; Branković & Hadžikadunić, 2017), motivation scale (Branković et al., 2017), flow experience, sparks, and mindfulness (Branković & Badrić, 2020).

In the implementation of the structural analysis, another theoretical rule had to be fulfilled that states that four variables which describe one factor on the sample of 50-100 participants must have an index higher than .6 (De Winter et al., 2009; MacCallum et al., 2001; Pearson & Mundfrom, 2010) and for two variables that describe the same factor the index must be higher than .7 (Yong & Pearce, 2013) in order to take these variables into consideration. Monte Carlo method was applied in order to get a clearer image of the emerging factors in order to get interpretable results where possible.

The Intervention Program

An experimental group participated in the IP according to the experimental program (Branković & Badrić, 2020; Branković & Hadžikadunić, 2017; Branković et al., 2017) based on its structure related to the MBI (Mindfulness Based Intervention) (Schonert-Reichl & Roeser, 2016). The IP lesson was divided innovatively. The introduction and preparation part (25-30 %) were merged together due to qualitatively better intensification of the lesson, the main part (60 %) and end part (10 %). The aim of the innovation in lesson organization was to transfer certain parts of the introductory part of the lesson right before the official start. During the rest of the time before the lesson, students begin preparing mentally for the tasks of the lesson, which is a characteristic of the “self-regulated learning” (see Woolfolk, 2012, p. 370). Considering that the IP was applied in the total of 10 lessons over a 45-days time span, students were gradually introduced into the new organization, rules, rights and responsibilities, whereas they themselves participated in defining the same. The teacher was trained to welcome students in a positive mood and maieutic teaching style. Throughout the experimental period, care has been given to character cultivation, individualized plans and goals oriented towards tasks and personal achievements. The teacher was trained two semesters for the IP realization.

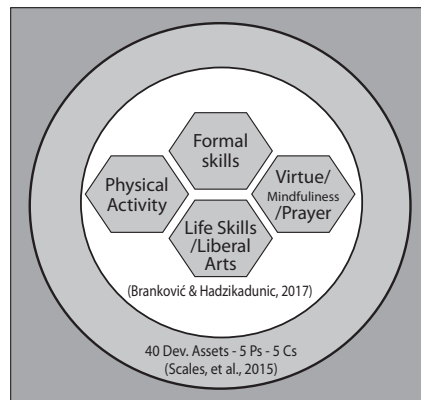


Figure 1. Schematic representation of the Intervention Program (IP) with its four main aspects in the ecosystem of mandatory asset building blocks for a successful young adult's development, which has been used to study students' experiences of physical education lessons (Branković & Badrić, 2020)

Another innovation applied in the IP was the time dedicated to conversation, exchange of thoughts, experiences and impressions, and recognition of personal/group feelings and motivations (Fig.1). Beside the innovation in lesson organization, methods of teaching formal skills/knowledge (e.g. basketball, soccer, etc.) and taking care of regular physical activity, the focus was on improvement and application of: 1. Motivation and life skills such as growth-mindset (Yeager & Dweck, 2012) and 40 developmental factors (Scales et al., 2000); 2. Critical thinking (see Jensen, 2005; Wolf, 2018; Yusuf, 2017); and 3. Cultivation of the character (self-cultivation) (see Branković, 2020; Odin, 2012; Young Kim, 2012; Yuasa, 1993). They were implemented through

confirmed, successful methods such as: a) constructive feedback, conversations about topics such as success/defeat, win/loss (Yeager & Dweck, 2012); b) homework readings of short and meaningful stories from great books (Adler, 1993) such as the *Mathnawi* for kids authored by Mawalna Rumi, and writing creative essays about experiences from the lessons (Wolf, 2018; Yusuf, 2017); and c) student decision-making and assuming responsibility for leading a lesson, and defining awards and punishments (Woolfolk, 2012); d) mindful meditative breathing techniques (Granovac et al., 2011; Goleman & Davidson, 2017; Schoner-Reichl & Lawlor, 2010); and e) conversation, discussions and short feedback as reminder that each student has singular value, role, talent (Csikszentmihalyi, 2014), personal spark (Benson et al., 2012) and a connection with the greater Reality, the Transcendent, God (Yale Youth Ministry Institute, 2017) through virtue, prayer, mindfulness, and reminder that each student with personal dedication and virtuous behavior contributes to improvement of self, school, society, and the world (Scales et al., 2015; Scales et al., 2014).

Results

Descriptive analysis

Considering that all variables of the instrument describe the same field of the HEM, Table 1 shows average descriptive characteristics (M, SD, C) for both groups, providing a general view about the IP's effects on HEM. The M in the EG was increased from 3.41 to 4.18 (C from 3 to 4.5) while in CG from 4.04 to 4.4 (C from 4.3 to 5). Due to the accent on HEM 4, HEM 5, HEM 8 in EGF and EGI, and in CGF and CGI, it can be recognized that students generally identify motivation with their teacher and that they primarily describe motivation as opposed to boredom. The variance, which is less sensitive at extreme values than the mean, shows high value (4.5 EGF) and may indicate coherence of the questionnaire.

Table 1

Descriptive parameters of responses in initial and final measures for the experimental and control group

Code of variable	Groups - measures											
	EGF (N=50)			EGI (N=39)			CGF (N=20)			CGI (N=15)		
	M	SD	C	M	SD	C	M	SD	C	M	SD	C
HEM 1	4.14	0.99	4	3.10	1.07	3	3.80	1.21	4	4.00	0.93	4
HEM 2	4.30	0.93	5	3.74	1.14	4	4.10	1.04	4.5	4.33	0.72	4
HEM 3	4.28	1.05	5	3.82	1.25	4	4.20	0.81	4	3.93	1.44	4.5
HEM 4	4.66	0.66	5	4.55	0.60	5	4.30	0.84	5	4.27	0.79	4
HEM 5	4.52	0.97	5	4.46	1.00	5	4.20	1.03	4	4.47	0.64	5
HEM 6	3.96	1.32	4	3.23	1.22	3	4.10	1.04	4	3.93	1.22	4
HEM 7	4.08	1.14	4	3.69	1.06	4	4.00	1.22	4	4.47	0.74	5
HEM 8	4.46	0.91	5	4.21	0.89	4	4.25	1.09	5	4.33	1.35	5
HEM 9	3.52	1.43	3.5	2.90	1.47	3	3.35	1.19	3	4.13	0.92	4
HEM 10	3.86	1.31	4	3.41	1.23	3	4.10	0.99	4.5	4.40	0.74	5
Average	4.18	1.07	4.5	3.71	1.10	3.8	4.04	1.05	4.2	4.23	0.95	4.5

Note: M – Mean; SD – Standard deviation; C – Variance

General reliability of the instrument is shown with a satisfying value of the Cronbach alpha (.86). The applied tests for measuring sensitivity showed the following distributions: Kolmogorov-Smirnov .009, Shapiro-Wilk .001 (Figure 1). The histogram shows a high percentage of students' level of satisfaction with physical education lessons regarding the HEM. Measuring the adequacy of the sample, Keiser-Meyer-Olkin test showed .79, which indicates adequacy of the items for each of the remote factors. The Bartlett's test of sphericity showed the significance of .001.

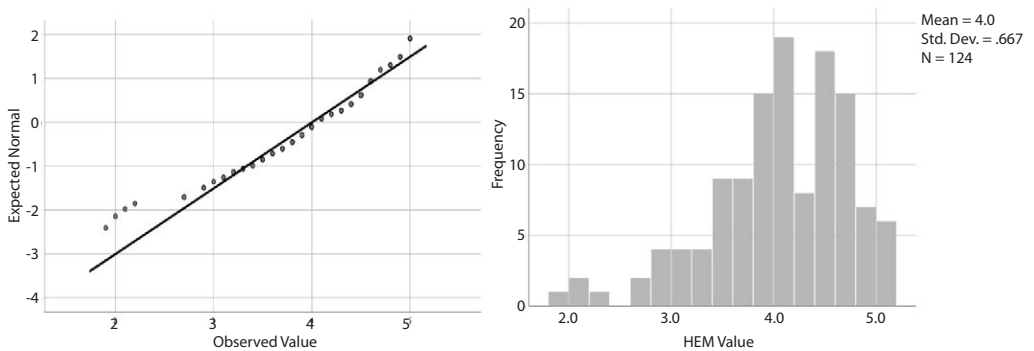


Figure 1. Diagram and histogram of normal distribution according to agreement level on the HEMS

Substantial validity

Prior to the design of the questionnaire, special attention was placed on achieving substantial validity that was an outcome of theoretical and comparative analyses (compare methods in Scales et al., 2014, p. 1113) in the fields that study the terms “meaning” and “purpose” (Table 2), such as motivation (Csikszentmihalyi, 2014), PYD (Damon, 2004; International Olympic Committee, 2018), thriving (Scales et al., 2010), Philosophy of Nothingness (Heisig, 2001; Standish & Saito, 2012), Perennial Philosophy (Schuon, 2007; Smith, 2003). For example, HEM3 “I felt that I was learning and working without burden” and HEM10 “I experienced a feeling of peace and belonging” contain the key words “wholeness”, “peace”, “belonging” that are often related to the terms “meaning, purpose, essence, transcendent and immanent, Divine, non-ego”. The same works for HEM1, HEM7, HEM8. PYD is inseparable from the competencies for the 21st century (International Olympic Committee, 2018; Scales et al., 2015) and it is represented in HEM6, HEM9, HEM2. The relationship as the key precondition for motivation (Roehlkepartain et al., 2017) is represented in HEM4, HEM5, HEM6. After the instrument's calibration, the final instrument has been designed consisting of ten variables (Table 2).

Table 2

The core HEM identified through research synthesis and empirical studies

Code	The variable name	Interpretation of the variable
HEM1	I participated in physical education lessons because.. <i>During the lesson I experienced an indescribable feeling of motivation. (Tokom časa sam osjećao/la neopisiv osjećaj motivacije.)</i>	– “transcends every day, normal ego-consciousness” (Benson et al., 2012, p. 455); – “merging action and awareness” (Csikszentmihalyi, 2014, p. 9). – “pure experience (Jap. <i>junsui keiken</i>)/immediate experience/direct experience (Jap. <i>chokusetsu keiken</i>)” (Odin, 2016, p. 172)
HEM 2	<i>I felt that I was learning and working without burden. (Osjećao/la sam da učim i radim bez opterećenja.)</i>	– Experiencing satisfaction of need for competence as the energy for action” (Creswell & Ryan, 2015, p. 114) – “merging action and awareness” (Csikszentmihalyi, 2014, p. 139) – “Self as the locus of religion” (Young Kim, 2016, p. 99)
HEM 3	<i>I felt myself being a part of wholeness. (Osjećao/la sam se dijelom cjeline.)</i>	– “the word ‘hale’ meaning ‘whole’: that is, to be healthy is to be whole...equivalent of the Hebrew <i>shalem</i> .” (Bohm, 2008, p. 3.) – See Table 4 Adolescents’ views of ‘what it means to be spiritual’ (Benson et al., 2012, p. 462) – “loss of ego” “control of action and environment” (Csikszentmihalyi, 2014, p. 141)
HEM 4	<i>The teacher was not personally distant from us. (He was neither too strict nor mild.) (Nastavnik nam nije bio dalek (ni previše strog, ni previše blag.)</i>	– See chart “What adults ‘who get’ teens do?” (Scales, Benson, & Roehlkepartain, 2011, p. 7) – “control of action and environment” (Csikszentmihalyi, 2014, p. 142) – Deci and Ryan (2000, p. 233-240)
HEM 5	<i>The teacher was leading us through exercises and the lesson passed quickly so we wished the lesson could have lasted longer. (Nastavnik nas je vodio kroz vježbe i brzo je čas prošao tako da smo željeli da duže traje.)</i>	– See chart “What adults ‘who get’ teens do?” (Scales et al., 2011, p. 7) – “demands for action and clear feedback” (Csikszentmihalyi, 2014, pp. 139)
HEM 6	<i>Because I had remarkable motivation that followed me after the lessons. (Jer sam imao/la izvanrednu motivaciju koja me pratila i poslije nastave.)</i>	– “sparks and thriving” (Scales et al., 2011, p. 264) – Brown et al. (2015, p. 112-118)
HEM 7	<i>I felt focus through contentment and being energized. (Osjećao/la sam ‘fokusiranost’ kroz zadovoljstvo i energičnost.)</i>	– “centering of attention” (Csikszentmihalyi, 2014, p. 139) – Intrinsic motivation in Deci and Ryan (2000, pp. 233-240)
HEM 8	<i>I did not feel bored. (Nije mi bilo dosadno.)</i>	- See Image 7.1 a) (Csikszentmihalyi, 2014, p. 248) - The construct of thriving (sparks, empowerment, relationships) (Benson & Scales, 2009)

HEM 9	<i>I experienced motivation for drawing, singing, making figures, doing sport, and participation in school subject sections. (Javljala mi se motivacija za slikanje, crtanje, pjevanje, pravljenje figurica, bavljenje sportom, uključivanje u sekcije.)</i>	<ul style="list-style-type: none"> - The construct of thriving (sparks, empowerment, and relationships) (Benson & Scales, 2009; Scales et al., 2010) - "Education is the acquisition of the art of the utilization of knowledge." (Nishida, in Odin, 2016, p. 175)
HEM 10	<i>I experienced a feeling of peace and belonging. (Javljaao mi se osjećaj mira i prihvaćenosti.)</i>	<ul style="list-style-type: none"> - "developmental relationships" (Scales et al., 2015, p. 3). - "whole: that is, to be healthy is to be whole... equivalent of the Hebrew <i>shalem</i>... man has sensed always that wholeness or integrity is an absolute necessity to make life worth living. Yet, over the ages, he has generally lived in fragmentation." (Bohm, 2008, p. 3) - "definition of the <i>jivanmukta</i> (Skt.)" (Smith, 2003) - "sense of importance/value/aesthetic/beauty" (Odin, 2016, p. 176)

Note: Inside the brackets is the original text in the Bosnian language.

Structural validity

Table 3 shows the correlation of the construct items: it can be noted that the variables generally have proper validity and correlation (>.30). It shows that HEM4 has the lowest correlation (.29) with HEM1 and HEM5, and that the same variable was isolated in the factor analysis as the third factor (Table 3). Communality of the variables is generally satisfying: from .60 to .80 (Table 2). The lowest coefficients are HEM3 (.59) and HEM9 (.58), while HEM4 (.83) and HEM7 (.79) are the two highest. It can be noted that this factor describes the majority of the percentages from the total variance (Table 5). Table 4 shows that the construct items have quite high and low mean for item mean (4.18) and item variance (1.2), respectively. When the result of the correlation is taken into consideration, the results in Table 4 indicate that the items may describe the same construct.

According to the pattern matrix (Table 6), the preliminary results show that the first two factors are saturated with 5 and the third with 2 items. Following the methodological and theoretical principles explained in section Methods of this paper, it can be concluded that the matrix is relatively clean. HEM1 and HEM4 are relatively isolated. HEM1 has lower loading than other particles, and among two factors and HEM4 remained the individual particle of the third factor. Accordingly, this variable may represent a separate dimension of the same instrument because it shows high communality (.83) with other variables (Table 6). Apart from the two noted, it could be said that the matrix is relatively clean. To determine representative factors, only those with the loading $\geq .60$ were taken.

Table 3

Correlation matrix of the HEM instrument

	HEM1	HEM2	HEM3	HEM4	HEM5	HEM6	HEM7	HEM8	HEM9	HEM10
HEM 1	1.00									
HEM 2	.40*	1.00								
HEM 3	.53*	.37*	1.00							
HEM 4	.29*	.24	.17	1.00						
HEM 5	.60*	.25*	.27*	.25*	1.00					
HEM 6	.46*	.51*	.46*	.13	.37*	1.00				
HEM 7	.59*	.48*	.56*	.09	.48*	.73*	1.00			
HEM 8	.56*	.34*	.33*	.20	.62*	.59*	.59*	1.00		
HEM 9	.37*	.22	.31*	.19	.49*	.46*	.37*	.50*	1.00	
HEM 10	.38*	.17	.25*	.09	.33*	.40*	.47*	.66*	.52*	1.00

Note: a. Determinant = .008; * p. Weight index > .30

Table 4

Summary item statistics

	Mean	Minimum	Maximum	Range	Maximum / Minimum	Variable	N of items
Item Mean	4.18	3.52	4.66	1.14	1.32	.11	10
Item Variance	1.2	.43	2.05	1.62	4.74	.25	10

Table 5

Total variance explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings ^a
	Total	% of Var.	Cum. %	Total	% of Var.	Cum. %	Total
1	4.69	46.95	46.95	4.69	46.95	46.95	3.71
2	1.15	11.49	58.45	1.15	11.49	58.45	3.67
3	1.05	10.49	68.94	1.05	10.49	68.94	1.36

Therefore, a preliminary interpretation shows that the first factor is composed of components that are denoted by variables: HEM10, HEM8, HEM9, HEM5. The first factor can be summed up under the term “meaningfulness – purpose” whereas motivation is described by the purpose that students experience through the manifestation of “peace”, “belonging”, motivation (opposite to boredom) for drawing, singing, making figures, doing sport and participation in school subjects sections.

The second factor is composed of components that are denoted by variables: HEM2, HEM3, HEM7, HEM6, and it can be summed up under the term “focus” because all three variables describe the presence in which students feel being a part of the whole and experience their own identity, i.e. personality.

The third factor is composed of the component that is denoted by the variable HEM4, and it can be summed up under the term “example/role model” because students, through the teacher, recognize intrinsic motivation which may accordingly be a manifestation of the purpose, which is therefore manifested differently, in opposition to boredom, as: the experience of peace; belonging and motivation; motivation for drawing, singing, making figures, doing sport; participation in school subjects sections; and the focus on the present moment.

Table 6
Principal component factor analysis

Pattern Matrix ^a Variable	Component			Communality
	1	2	3	
HEM10	.85			.69
HEM 8	.77			.76
HEM 9	.77			.59
HEM 5	.65			.63
HEM 2		.82	.34	.62
HEM 3		.77		.58
HEM 7		.73		.79
HEM 6		.70		.72
HEM 1	.34	.46		.64
HEM 4			.90	.83

Note: ^a Oblimin rotation and Keiser normalization; Rotation converged in 10 iterations.

However, in order to get a clearer image of the results, the Monte Carlo method (Table 7) for normally distributed data was applied. The results show the cohesion between the components, but also only one factor emerging (Figure 2.). Therefore, after the application of the Monte Carlo method, it is notable that only the first factor remains, and it consists of variables HEM10, HEM8, HEM9, and HEM5.

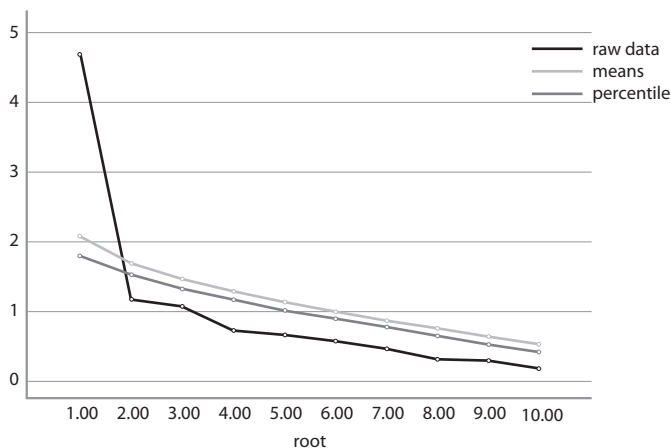


Figure 2. The scree plot with results of principal component factor analysis and Monte Carlo method

Table 7

Raw data eigenvalues, mean, and percentile random data eigenvalues after Monte Carlo method

Component	Raw Data	Means	Percentile
1	4.69	1.78	2.07
2	1.15	1.52	1.66
3	1.05	1.32	1.44

External validity

At the same time HEM was tested, three studies by Branković and Badrić (2020), Branković and Hadžikadunić (2017), and Branković et al. (2017) were conducted. They showed positive effects on flow experience, sparks, mindfulness, and growth-mindset. Positive results in these three studies give us initial and preliminary verification of external validity. Having considered a number of participants (50 in the factor analysis and 74 in total), this study represents a type of probe studies (Opić, 2016) and for that reason, it is a preliminary study in the field of testing the new instrument and program for PYD and motivation.

Discussion

The results generally show that the aim of the study, which is to test the HEM instrument (HEMS) that measures *the need for purpose*, has been fulfilled. The reasons why the purpose may be a common characteristic in different definitions of motivation are presented throughout the work. Literature from the fields of motivation, education psychology, philosophy and education theories, and spirituality/religiosity (see Scales et al., 2014, p. 1113) has been presented as a guide that has led us toward the hypothesis that different experiences and motivation theories (thriving/sparks, flow, intrinsic motivation, mindfulness, self-determination, growth mindset, etc.) are in reality different manifestations of the *purpose* or experiences of the purpose. Also, throughout the study, we have indicated the research fields and philosophies with practical applications that should be further examined in future studies, such as Philosophy of Nothingness (Heisig, 2001; Standish & Saito, 2012), Perennial Philosophy (Smith, 2003; Stoddart, 2008), sparks (Scales et al., 2015; Scales et al., 2014), findings in neuroscience regarding meditation, mindfulness, and prayer (Goleman & Davidson, 2017), and physical exercise (Suzuki & Fitzpatrick, 2015).

Even though the instrument preliminarily showed three factors and in the final analysis one factor, it can be concluded that the overall results indicate that environment and society have a significant role in motivation – finding and following the purpose. Future studies of the HEMS should do a test on a larger sample, as well as extend the variables of the other two factors, especially the variable HEM4, in order to get a cleaner grouping of the factors. Overall, considering previous studies in educational sciences and motivation in education, it can be noted throughout this study that, through educators, students go beyond introjected motives because they see an example in them.

At first, they identify themselves with educators, as SDT shows (Deci & Ryan, 2000), and they become motivated to act for well-being and for a common social good, so they integrate their personalities with common social good. Finally, they experience the spark, the inner call, and they ultimately transcend self – ego consciousness, as Bianco et al. (2016) noted, too. Accordingly, on the practical plane, the important factor that can significantly affect the outcomes of future HEMS validation is expertise, training of educators to provide a suitable IP. Additionally, to overcome limitations of the study regarding the sample, and to get stronger evidence, external validation with other constructs of motivation should be done. However, preliminary results of the studies done at the same time as this study may be initial and strong proof of the positive correlation of the HEMS with perceived competence, self-determination, intrinsic motivation, thriving, flow experience, growth mindset, and mindfulness (Branković & Badrić, 2020; Branković & Hadžikadunić, 2017; Branković et al., 2017).

Finally, on the one hand, contemporary studies indicate that depression is the most widespread disease in the world today (World Health Organization, 2018), and that it is connected with a lack of self-control and attention (Goleman & Davidson, 2017), which in turn negatively affects learning, healthy life styles, prompts delinquency, consumption of addictive substances, early pregnancy, suicides, and unhealthy diets (World Health Organization, 2018; Hallfors et al., 2005). On the other hand, physical exercise positively affects health and well-being in general terms (Suzuki & Fitzpatrick, 2015). Despite this fact, there is a decrease in physical activity and exercise (Badrić et al., 2015). Nevertheless, studies show that meditation and prayer in combination with physical exercise (Goleman & Davidson, 2017; Suzuki & Fitzpatrick, 2015) have a positive effect on healing depression, trigger self-regulation and experience of meaning and well-being. These understandings open up a need for a wider understanding of spirituality, religiosity and exercise, in order to find a path towards a healthy childhood and future meaningful life. On a practical plane, the tremendous importance lies in character-cultivation (self-cultivation) as the foundation of holistic education of each individual, which is extensively elaborated in the Philosophy of Nothingness (see Branković, 2020; Heisig, 2001; Standish & Saito, 2012), Perennial Philosophy (Schuon, 2007; Smith, 2003; Stoddart, 2008), and empirical studies on practicing spirituality/religiosity (see Bugari, 2012; Goleman & Davidson, 2017; Kheriaty & Cihak, 2012).

All in all, to raise student awareness of the higher reality with PYD in mind (Scales et al., 2000) and practicing values in education (International Olympic Committee, 2018; Odin, 2012; Scales et al., 2015), parents, educators and coaches ought to firstly maintain the process of self-knowing themselves firstly, and then with students through sparks, positive relationships and empowerment that further on contribute to satisfaction of the soul's needs for self-determination. The main reason why awareness of the higher reality may play a big role in motivation is that soul needs and other constructs of motivation may eventually be manifestations of *the need for purpose*. It is also named emptiness (Skt. *shunyata*, Jap. *mu*) (see Heisig, 2001; Standish & Saito,

2012) that people experience and witness as flow (Csikszentmihalyi, 2014), growth mindset (Yeager & Dweck, 2012), and mindfulness (Granovac et al., 2011). It is also often described colloquially as a need for *something*, the utmost need to experience fullness and flourishing of life (Gr. *eudaimonia*). In terms of Philosophy of Nothingness, this may be connected to “directing seeing of the facts as they are” (Heisig, 2001, p. 43, 56, 59, 81). In the same context, the motivation pyramid (Maslow, 1971), which is in a way the foundation of positive psychology, supports the aim of this study—an intention in search of the one motivational need (Frankl, 1984). In fact, at the end of his life, Maslow emphasized that human beings find a true motive only when they “transcend their needs”, in “meta motivation”, in “believing in a purpose to life” (Benson et al., 2012, p. 462), and in an unconditional service for the sole purpose of goodness (Maslow, 1971). Today, according to PYD, kids and adolescents experience transcending their needs as sparks (Benson, 2009), while youths and adults as “purpose and meaning” (Frankl, 1984; Mariano & Damon, 2008), “universal idea” (Woolfolk, 2012, p. 286), “God” (Benson et al., 2012, p. 464), and “transcendence and immanence” (Piaget, 1928). These are the reasons why we find appropriate to name the essential human motivational need: *the need for purpose/meaning*, as Frankl evoked too. Additionally, the global study conducted by Benson et al. (2012, pp. 454 - 455, 464) showed that the term “spiritual” denotes “higher meaning” and is necessary for PYD, and that it is mostly defined as “believing there is a purpose to life” and “believing in God”.

Conclusion

According to the above mentioned results and findings, this study offers: a) a relatively different, holistic approach in defining reasons for demotivation and depression in youth resulting from the lack of purpose; b) formation of a new, currently preliminary, HEMS for registering the experience of holistic motivation and purpose, and; c) the intervention program (IP) to overcome depression and demotivation. The instrument HEMS, which registers both holistic experience of motivation and motivation to seek the purpose and meaning in life, and the IP, which indicates the content that cultivates character and motivates the experience of purpose, can be applied as tools for the realization of the UN SDGs (*Social Development Goals*) 2030, and in different general and specific educational programs, such as *Olympic Values Education Program*, *Mindfulness-Based Kindness Curricula*, etc.

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Preliminarna validacija Skale cjelovito iskustvo motivacije: empirijsko - filozofski pristup

Sažetak

Cilj je ovoga istraživanja ispitati pouzdanost i valjanost Skale cjelovito iskustvo motivacije (CIM) (eng. Holistic Experience of Motivation Scale) koja je korištena za istraživanje osnove cjelovitoga iskustva motivacije kod adolescenata. Analizom dosadašnjih istraživanja, teorija i praksi pozitivne psihologije pretpostavljeno je da je potreba za svrhom, tj. prepoznavanje osobne svrhe zajednička potreba koja je manifestirana različito u različitim konstruktima motivacije.

Skala CIM dizajnirana je teorijsko-komparativnom metodom istraživanja konstrukata motivacije, filozofija i teorija edukacije. Cjelovito iskustvo motivacije (CIM) mjereno je kod adolescenata u dobi od 14 do 15 godina (ukupno 50) nakon primjene interventnoga programa (IP) u nastavi Tjelesne i zdravstvene kulture koji je pokazao pozitivan utjecaj na intrinzičnu motivaciju, samoodređenje, postignuće ciljeva, zanesenost, pregnuće (thriving) i stalnu svijest (mindfulness). Za preliminarnu validaciju instrumenta pouzdanost i valjanost mjerena je deskriptivnom i faktorskom analizom glavnih komponenata za slučaj 1:5 s Monte Karlo metodom (MKM). U konačnom instrumentu od 10 varijabli izdvojila su se tri faktora: svrhovitost, usredotočenost, primjer/uzor, ali primjenom MKM istaknuo se jedan faktor.

Preliminarni rezultati pokazuju da bi osnova CIM mogla biti svrhovitost (purpose). Svrha – smisao mogla bi biti zajednička potreba predstavljena različitim konstruktima motivacije u pozitivnoj psihologiji. Povezane su različite filozofske paradigme i konstrukti motivacije. Pokazano je da je doživljaj svrhe – smisla duhovne/religiozne prirode i da se manifestira kroz zadovoljenje psiholoških potreba samoodređenja i kroz realizaciju iskri (sparks) kao oznake dubokih interesiranja pojedinca.

Rezultati pokazuju da Skala CIM treba nadgradnju, dodatnu validaciju na većem broju ispitanika i utvrđivanje kvantitativne povezanosti s drugim konstruktima unutar pozitivne psihologije. Također, oni potvrđuju da međuodnosi imaju vrlo značajnu ulogu u motivaciji, prepoznavanju osobne svrhe. Istraživanje nudi IP koji se može upotrijebiti za stvaranje okoline za cjelovito iskustvo motivacije te se isti može primijeniti u programima koji imaju za cilj razvoj liderstva, moralnih i etičkih vrijednosti kod mladih.

Ključne riječi: intrinzična motivacija; iskre; pozitivan razvoj mladih; stalna svjesnost; zanesenost.