

Validation of the Slovene Functions of Identity Scale with a sample of emerging adults

Anže Baš*, Kristina Rakinič¹, and Timotej Glavač²

¹Centre for Methodology and Informatics, Faculty of Social Sciences, University of Ljubljana

²Department of Psychology, Faculty of Arts, University of Ljubljana

Abstract: The Function of Identity Scale (FIS) is a self-report measure of five identity functions: structure, harmony, goals, control, and future. The purpose of the study was to examine the psychometric properties of the Slovenian version on a sample of emerging adults. 287 participants between the ages of 18 and 29 years participated in the study. Confirmatory factor analysis provided support for the proposed five-factor structure of the scale. Furthermore, strict measurement invariance across genders was demonstrated. Convergent validity was only partially established. With the exception of the Control subscale, the internal reliability coefficients were satisfactory for the other four subscales. Shortcomings of the Control subscale were discussed along with recommendations for future revisions. Overall, the results of the study are consistent with those observed in other validation studies and support the usefulness of the scale for assessing the identity functions among emerging adults.

Key words: identity, identity functions, validation, emerging adults

Validacija slovenske oblike Lestvice funkcij identitete pri vzorcu mladih na prehodu v odraslost

Anže Baš*, Kristina Rakinič¹ in Timotej Glavač²

¹Center za metodologijo in informatiko, Fakulteta za družbene vede, Univerza v Ljubljani

²Oddelek za psihologijo, Filozofska fakulteta, Univerza v Ljubljani

Povzetek: Lestvica funkcij identitete (LFI) je samoocenjevalni vprašalnik, ki meri pet identitetnih funkcij: strukturo, harmonijo, cilje, nadzor in prihodnost. Namen raziskave je bil preveriti psihometrične značilnosti slovenske verzije na vzorcu mladih na prehodu v odraslost. V raziskavo je bilo vključenih 287 udeležencev med 18. in 29. letom starosti. S konfirmatorno faktorsko analizo smo potrdili predlagano petfaktorsko strukturo lestvice, prav tako je bila lestvica strogo mersko invariantna po spolu. Konvergentna veljavnost je bila potrjena le delno. Z izjemo podlestvice Nadzor so bili koeficienti notranje zanesljivosti za ostale štiri podlestvice zadovoljivi. Pomanjkljivosti podlestvice Nadzor smo naslovili skupaj s predlogi za nadaljnje izboljšave. Rezultati slovenske validacijske študije LFI so skladni z rezultati drugih validacijskih študij in podpirajo uporabnost lestvice za oceno identitetnih funkcij mladih na prehodu v odraslost.

Ključne besede: identiteta, identitetne funkcije, validacija, prehod v odraslost

*Naslov/Address: g. Anže Baš, Ljubljana, Črna vas 75, 1000, Ljubljana, e-mail: annze.bas@gmail.com

Članek je licenciran pod pogoji Creative Commons Attribution 4.0 International licence (CC-BY licenca).
The article is licensed under a Creative Commons Attribution 4.0 International License (CC-BY license).

An individual's identity is always formed within the social context in which they reside. In highly institutionalised social conditions, the individual will form their identity primarily on the basis of imitation and identification with other members of society. In complex modern Western societies, however, identity is widely assumed to be chosen from a variety of options (Adams & Marshall, 1996). Some authors (e.g., Sica et al., 2014) argue that in today's post-modern Western society, forming a clear and stable identity is more difficult than it was in more traditional societies in the past. They see the reason for this primarily in the myriad possibilities from which an individual can choose in forming their identity. Researching and understanding identity formation is therefore as relevant and important as ever.

Researchers and scholars of identity development often refer to the writing of Erikson, who set the framework for theorising and measuring identity formation. Erikson (1959) described human psychosocial development as a series of eight stages that a well-adjusted individual should pass through on their way from infancy to late adulthood, where each stage is characterised by a distinct developmental task that the individual must accomplish. He posited identity development as the central developmental task of adolescence, marking the end of childhood and the beginning of adulthood (Marcia, 1993). Identity formation involves the amalgamation and consolidation of one's childhood abilities, beliefs, and identifications into a more stable and unique self-definition with an inner continuity and coherence in values, attitudes, and interests. However, the absence of a clear and stable sense of self-identity means identity confusion, which can be described as the absence of a strong foundation on which an individual's purpose and direction for the future are built (Schwartz, 2001). Although Erikson (1968) postulated identity formation as a core developmental task of adolescence, he believed it to be a lifelong process in addition to industrialised societies allowing for a prolonged period of adolescence with lengthened identity explorations, where commitments can be revisited and reconsidered. According to Arnett (2014), the majority of identity exploration, for most young people in industrialised countries, takes place from the late teens through the twenties, with an observed trend of the upper age limit retreating into the early thirties. In this transition emerging adults are afforded opportunities to probe different life directions, trying out various options without being expected to engage in them fully. For that reason, identity formation proceeds to be an important developmental task during emerging adulthood as well. Erikson (1968) assumed a stable sense of identity to be necessary for optimal personal functioning and for being able to solve subsequent life tasks, which was later supported by a great number of studies. For instance, according to Schwartz et al. (2009) exploration was associated with symptoms of anxiety, depression, and impulsivity. Additionally, diffusion was reported to be related to low self-esteem and an absence of self-direction (Schwartz et al., 2005), whereas identity achievement was found to be positively correlated with well-being (Meeus, 2011; Waterman, 2007), mature interpersonal relationships, balanced thinking, and post-conventional moral reasoning (Beyers & Seiffge-Krenke, 2010; Jespersen et al., 2013; Krettenauer, 2005).

In an attempt to research and substantiate Erikson's conceptualisation of identity, Marcia (1966) developed the identity status model. He derived the dimensions of exploration (originally referred as crisis) and commitment, divided them based on the extent of exploration and commitment across different life areas and distinguished four different identity statuses: achievement (status of individuals who have, following a period of exploration, made a commitment in a specific identity domain), moratorium (individuals actively explore different options in the absence of clear commitment), foreclosure (status where one commits to a set of ideals without exploring different alternatives), and diffusion (characterised by non-commitment and avoidance of exploration). Several instruments were developed to assess the status of one's identity, including the initial Identity Status Interview (Marcia, 1966) along with the Extended Objective Measure of Ego Identity Status II (EOM-EIS-II; Bennion & Adams, 1986), which led to a large amount of research. According to the meta-analysis by Ryeng et al. (2013) there have been 565 empirical studies of identity status conducted between 1966 and 2005. However, since the end of 1980s, several researchers have called for an extension and reconceptualization of Erikson's (1968) identity theory beyond the constraints of the identity status model. Consequently, the field was introduced to several alternative and innovative models of identity (see Meeus, 2011; Schwartz, 2001, for reviews).

Functions of identity

Adams and Marshall (1996) drew upon Erikson's (1968) and Marcia's (1966) conceptualisation as well as their own earlier theoretical work and other social-psychological analysis, and operationalized identity as a psychological structure that acts as a »self-regulatory system which functions to direct attention, filter or process information, manage impressions and select appropriate behaviours« (p. 433). Adams and Marshall turned away from the process of identity development and focused on the outcomes of successful identity formation. Specifically, they were interested in what a well-established sense of identity provides to an individual (Crocetti et al., 2013). They postulated that there are differences in identity functions between individuals with actively (achieved and moratorium) and passively (foreclosure and diffusion) constructed identity statuses (Serafini & Adams, 2002) and – in line with Erikson's (1968) notion of optimal identity – proposed five fundamental functions of a healthy sense of identity.

The first function of identity is to provide structure with which one can process and filter self-relevant information and better understand who one is. Strong structure in turn leads to higher self-esteem (Ryeng et al., 2013) as well as self-certainty and lower levels of anxiety (Marcia, 1993). Adams and Marshall's (1996) second function of identity provides a basis on which one can direct or manage behaviour and commitments through a coherent and consistent sense of the individual's values, beliefs and actions. Actively constructed identity is associated with more goal-directedness (Blustein & Palladino, 1991) and more carefully planned and rational decision making strategies (Boyes & Chandler, 1992).

The third function of identity provides a sense of personal control, autonomy and free will that enables self-regulating behaviour in one's progression towards their future goals. This function is associated with an inner locus of control, as identity achievement was positively correlated with internal and negatively with external locus of control (Lillevoll et al., 2013).

Furthermore, a well-constructed identity strives for self-synthesis and integration, leading to consistency, coherence and harmony between values, beliefs and commitments and results in a sense of peace with oneself. This has been shown to be associated with a higher level of psychological maturity (Adams et al., 2006). Finally, identity enables one to realise one's potential by providing a sense of continuity between the past, present, and future as well as providing them with a future orientation regarding alternative choices. A well developed identity is associated with career decision-making self-efficacy, greater career planning and decisiveness (Nauta & Kahn, 2007; Wallace-Broschious et al., 1994).

Development of Functions of Identity Scale

The five functions of the Functions of Identity Scale – Structure, Goals, Control, Harmony, and Future were first operationalized by Serafini and Adams (2002). In this pioneering study, the researchers first constructed a pool of 64 items (later trimmed to 60), which were selected according to the definition of each function to the statement of its respective function as proposed by Adams and Marshall (1996) and Adams and Ethier (1999). The sample of this first study consisted of 332 undergraduate students.

The validity of the scale's internal structure was tested by a maximum likelihood exploratory factor analysis with oblique rotations, which confirmed the five-factor solution of the model. The items with the strongest loadings in each factor were kept, which led to a final 22-item scale (Control, $\alpha = .69$; Goals, $\alpha = .76$; Harmony, $\alpha = .80$; Future, $\alpha = .83$; and Structure, $\alpha = .89$) with inter-item correlations ranging from low to high (.12 to .70). The final findings supported substantive and external validity of the instrument, while the structural validity was not definitively shown. The exploratory factor analysis in the preliminary study failed to show a 5-factor model, instead results indicated a 4-factor structure with 2 of the functions collapsing into one, i.e., harmonious goals (Serafini & Adams, 2002).

In a subsequent study (Serafini & Maitland, 2013), a more robust 15 items instrument was constructed, which was also used in our study. Serafini and Maitland examined the controversial Control function more closely and added a new pool of items (32) from which three items with the highest factor loadings were chosen. Good external validity was demonstrated with significant correlations between the five subscales and the relevant criterion measures. The Structure subscale was associated with the Rosenberg Stability of Self Scale, the Goals subscale with the The Purpose in Life Test, the Harmony subscale with the Fear of Negative Evaluation Scale, the Control scale with the General Self-efficacy Scale and the Future subscale with the Ideal Self-Scale. Most importantly, the confirmatory factor analysis successfully

showed an adequate fit of the five-factor model of identity functions.

To our knowledge, two foreign validation studies have been carried out thus far – an Italian (Crocetti et al., 2010) and a Turkish study (Demir, 2011). The first validation study was carried out on a sample of 1201 Italian late adolescents and emerging adults aged 17–29 years, while the Turkish validation was performed on a sample of 224 undergraduate students aged 18–23 years. The confirmatory factor analysis of the Turkish version showed that the five-factor model of identity functions provided a good fit to the data. Similarly, good model fit was shown in the Italian study. In both studies convergent and construct validity was shown to be adequate. While hardly acceptable, the reliability values in the Italian study were still deemed adequate for harmony (.63), goals (.61) and future (.67) factors, while they were low for structure (.54) and personal control (.50). In the Turkish version all subscales had acceptable internal reliability ($\alpha = .70$ to .80).

Use of FIS

Existing empirical research efforts using the Functions of Identity Scale are sparse. Vosylis et al. (2019) examined the relationship between identity functions and self-control abilities related to spending in emerging adults. A connection between less established goals and more obsessive shopping was demonstrated. In contrast, individuals with more pronounced goals reported higher self-control when shopping. Lovasz (2007) investigated the connection between borderline personality traits, narrative coherence, and identity functions. She found that narrative coherence was negatively related to the levels of identity functions, referred to as identity disturbance, and recognized the important mediating role of borderline personality traits in this relationship. Sica et al. (2015) investigated how “futuring”, described as considering, imagining, and planning for the future could be connected to identity styles. Futuring was measured using two subscales of FIS: Future and Goals. In a sample of late adolescents and emerging adults, they found that the normative and diffuse-avoidant styles significantly affected futuring – positively for the normative identity style and negatively for the diffuse-avoidant style. Crocetti et al. (2011) reported a connection between expressions of functions of identity and achieved stable identity in different domains. Adolescents and emerging adults with a stable identity in the educational and relational domains scored the highest on the Goals, Structure, Harmony, and Control subscales of the FIS compared to those with an unstable identity in both domains, who scored the lowest.

Purpose of this study

In Slovenia we do not yet have an appropriate instrument for measuring identity functions. The most commonly used instrument is the questionnaire of identity positions or EOM-EIS-2, translated by Šinigoj-Batistič (1995). Whereas EOM-EIS focuses on the process of identity formation, the FIS aims its attention on the very functions of identity and can therefore be more useful, especially in counselling work with

emerging adults. Understanding the expression of specific functions of individual identities can serve as a starting point for designing interventions in working with individuals.

The purpose of our research was to examine the psychometric properties of the Slovenian version of the FIS on a sample of emerging adults. According to Arnett (2014) emerging adulthood is a psychological development phase from age 18 to 29 years, during which identity formation and functions are especially important for various psychological outcomes. The research focused on testing the internal structure validity of FIS and other aspects of construct validity. The aim was to assess the fit of the proposed five-factor structure and compare it with competing models. Given the strong correlations between factors found in previous studies (Crocetti et al., 2010) and former considerations by Serafini and Maitland (2013), competing models using the FIS total score were tested. Accordingly, both the single-factor and a second-order general identity factor models, containing the same 15 indicators, were compared to the five-factor model. Moreover, we wanted to examine the measurement invariance of the instrument across genders, which is a necessary prerequisite for meaningful comparisons between groups. After establishing measurement invariance, the goal was to inquire into gender-related identity functions differences. To our knowledge, no gender differences have been documented to date (Serafini, 2008, as cited in Crocetti et al., 2010; Crocetti et al., 2010), however, we wanted to ascertain if that holds true for the Slovenian emerging adults as well. Furthermore, five additionally selected measures, already used in research on Slovenian samples, were used to estimate the convergent validity of the FIS subscales. Based on the previous research, we expected a negative correlation between the Structure subscale and the Diffusion subscale of the EOM-EIS-2 questionnaire (e.g., Crocetti et al., 2013; Serafini, 2000; Serafini & Adams, 2002), as diffusion characterises those who have neither made a commitment to an identity nor explored the options, resulting in a potentially less structured identity. We expected a positive correlation between the Goals subscale and the Purpose in Life Test (e.g., Serafini, 2000; Serafini & Adams, 2002; Serafini & Maitland, 2013). Namely, having a sense of a purpose in life is closely related to having goals in life, as purpose includes goals and objectives to be achieved in the future. One's feeling of general self-efficacy represents the belief that you "can do" something, which mirrors the sense of being in control, therefore a positive correlation between the Control subscale and the General Self-Efficiency Scale (e.g., Serafini & Maitland, 2013) was hypothesised. Based on the similarity of the measured constructs, we also expected a positive correlation between the Harmony scale and the Satisfaction with Life Scale (Diener et al., 1985), as research shows a strong positive relationship between harmony in life and life satisfaction (Kjell et al., 2016). Finally, we expected a positive relationship between the Future scale of the Time Perspective Inventory (Zimbardo & Boyd, 1999) and the FIS Future subscale, as Zimbardo and Boyd explained that this factor is characterised by planning and achieving of future goals, which is very similar to the concept of future orientation regarding alternative choices that the Future subscale measures.

Method

Participants

There were 287 participants in total, 92 of whom were males (32.1%), 191 (66.6%) females, and 4 (1.4%) individuals who specified their gender as "other". The average age of our sample was 23.7 years ($min = 18$, $max = 29$, $SD = 3.1$). The majority (73.2%) of our sample participants were students at the time of the study, while 21.3% were employed, another 3.5% were unemployed, and the remaining 2.1% did not specify their employment status. The achieved levels of education were as follows: Vocational School 1.4%, High School 43.2%, Bachelor's Degree 41.1%, Master's Degree 12.2%, Master of Science 1.7%, and PhD 0.3%.

A convenience sampling method was used. An invitation to participate in the study was sent via email to departments of all three major Slovenian universities, namely the University of Ljubljana, the University of Maribor, and the University of Primorska. The department representatives then emailed the invitations to their students. Additionally, participants were recruited through social media where we shared invitations to participate in the study to different interest groups with the goal of attaining a more diverse sample.

Instruments

Functions of Identity Scale

Functions of Identity Scale (FIS; Serafini & Adams, 2002) consists of 15 items, 3 per function. There are five functions / subscales: Structure, Harmony, Goals, Control, and Future. Participants answer on a 5-point scale (1 – *never*, 5 – *always*). The original scale was first translated into Slovenian by two independent translators. The two translated versions were later evaluated and compiled, and then translated back into English by two other independent translators. The two translations were then examined by a university professor of English. The compiled and revised English items were sent to the author of the scale to check for important differences in meaning between the original and the translated scale, resulting in minor corrections. Afterwards, seven cognitive interviews were conducted with a group of emerging adults to examine their understanding and interpretation of each of the items. Items which were frequently misunderstood by the participants were modified to establish better conceptual clarity. The process of translation and adaptation of FIS is presented in Appendix 1 and the final Slovenian version is presented in Appendix 2.

The Purpose in Life Test

The Purpose in Life Test (PIL; Crumbaugh & Maholick, 1969) is an attitude scale assessing an individual's level of perceived meaning in their life. The scale consists of three parts, and only the first part is usually used for research purposes. The first part (also part A) consists of 20 items in semantic differential format, each rated on a 7-point scale ranging from 1 (*low purpose*) to 7 (*high purpose*). The total

score is calculated as the sum of the answers given to all items and takes values from 20 (low purpose of life) to 140 (high purpose). The adequacy of the scale's psychometric properties has been confirmed several times throughout decades of research (Crumbaugh & Maholick, 1969; Schulenberg, 2004), with internal consistency values varying in the range between .86 and .97 (Schulenberg, 2004). After allowing the errors of two conceptually very similar items (both referring to boredom and excitement in life) to correlate, a sufficient structure, ($\chi^2(169) = 337.10, p < .001, TLI = .90, CFI = .91, RMSEA = .07, SRMR = .06$) was demonstrated on our sample. The internal consistency alpha coefficient in our study was .92.

Time Perspective Inventory: The Future scale

The Future scale (one of the five scales of Time Perspective Inventory; Zimbardo & Boyd, 1999) measures an individual's future orientation and propensity to plan events. Participants respond on a 5-point scale (1 – *completely uncharacteristic*, 5 – *completely characteristic*). The scale consists of 13 items. A higher total value of the sum of answers means a higher focus on the future. Podlogar and Bajec (2011) reported that the internal consistency alpha coefficient for the Slovenian version of the Future scale was .78. The unidimensional factorial validity of the Future scale was however not demonstrated in our study, ($\chi^2(65) = 287.91, p < .001, TLI = .61, CFI = .68, RMSEA = .12, SRMR = .09$). Given the inadequate structure of the scale, the total score were not used in further analysis.

General Self-Efficacy Scale

General Self-Efficacy Scale (GSE; Jerusalem & Schwarzer, 1992) consists of 10 items and measures a broad and stable sense of perceived self-efficacy, while coping with a variety of difficult demands in life. Participants respond to items using a 4-point scale (1 – *not at all true* and 4 – *exactly true*). The score is calculated as the sum of all responses, where a higher score means a higher expression of overall self-efficacy. The scale's internal consistency coefficient values range between .75 and .91 (Scholz et al., 2002). In addition to reliability, its convergent and discriminatory validity has been established and the one-dimensionality of the scale confirmed (Schwarzer & Jerusalem, 1995). GSE was translated into Slovenian by Licardo and is freely available online (Licardo et al., 2007). After error correlation between two successional and similarly worded items (4 and 5) was allowed, the one factor structure showed an adequate fit to our data, ($\chi^2(34) = 107.30, p < .001, TLI = .88, CFI = .91, RMSEA = .09, SRMR = .06$). The internal consistency alpha coefficient in our study was .85.

EOM-EIS-2: Identity Diffusion

Identity Diffusion is a part of questionnaire Extended Objective Measure of Ego Identity Status - 2 (EOM-EIS-2; Bennion & Adams, 1986), which is a measure of an individual's identity development. The measure consists of

64 items to which individuals respond on a 6-point Likert scale. The total scale consists of four subscales - Identity Achievement, Identity Moratorium, Identity Foreclosure, and Identity Diffusion. Higher scores represent higher levels of the construct measured by the specific subscales. Previous versions of the EOM-EIS-2 show satisfactory reliability and validity (Hall et al., 1998). Identity diffusion is represented by two subfactors (each measured with 8 items): interpersonal diffusion and ideological diffusion. In our sample, the two-factor solution of identity diffusion was not supported, ($\chi^2(103) = 689.33, p < .001, TLI = .51, CFI = .58, RMSEA = .15, SRMR = .13$). Given the inadequate structure of the scale, the total scores were not used in further analysis.

Satisfaction With Life Scale

The Satisfaction with Life Scale (SWLS; Diener et al., 1985) measures an individual's overall life satisfaction and consists of five items. Participants respond on a 7-point scale (1 – *not true at all*, 7 – *absolutely true*). The sum of the answers to all items means the individual's satisfaction with life, the higher the total value means the higher the individual's satisfaction with life. Pavot and Diener (1993) report good internal consistency coefficient for the scale ($\alpha = .79$ to $.89$). An internal consistency coefficient $\alpha = .81$ was reported in the Slovenian translation of the scale (Avsec & Musek, 2010). Although RMSEA in our sample indicated a worse fit than other fit statistics ($\chi^2(5) = 25.260, p < .001, TLI = .92, CFI = .96, RMSEA = .13, SMRM = .04$), the model fit was still deemed acceptable, because RMSEA is positively biased in models with low degrees of freedom (Kenny et al., 2014). The internal consistency alpha coefficient in our study was .85.

Procedure

Our battery of questionnaires was deployed through a local online survey website - EnKlikAnketa (IKA, 2021). Participants were guaranteed anonymity, their participation was voluntary, and they were informed about the purpose of the study upon participating. The data were analysed in SPSS Version 27 and R (R Core Team, 2021).

Results

Detailed descriptive statistics of individual items and all five FIS subscales are presented in Table 1. Means of subscales range from 3.23 ($SD = .88$) to 4.08 ($SD = .64$). The assumption of normally distributed data was tested and, the results of the Shapiro-Wilks normality test showed that all used scores were not normally distributed. However, review of the skewness and kurtosis statistics as well as the Q-Q plots showed that the deviation from normality was not large.

Confirmatory factor analysis

The aim was to assess and replicate the initially proposed 5-factor structure model (Serafini & Adams, 2002; Serafini & Maitland, 2013) on a Slovenian sample of emerging adults.

Using R (R Core Team, 2021) with the package lavaan (latent variable analysis; Rosseel, 2012) package, a confirmatory factor analysis on the 15-item FIS was conducted to test three versions of the measurements model (a five-factor model, a one-factor model, and a second-order factor model). As a result of our data not meeting the strict criteria of normal distribution, all models were analysed using the robust maximum likelihood method (MLM). Multiple goodness-of-fit indices were chosen to evaluate and report the overall model fit, including the comparative fit index (CFI), the Tucker-Lewis index (TLI), standardised root mean squared residual (SRMR) and the root mean square error of approximation (RMSEA). The TLI and CFI values should be equal or above .95 (Hu & Bentler, 1999) to be considered a good fit, with values equal or above .90 treated as acceptable (Bentler, 1990). The SRMR should be equal or less than .05 (Brown, 2015), while SRMR values less than .08 generally indicate adequate fit (Hu & Bentler, 1999), and the RMSEA should be equal or less than .08 (Browne & Cudeck, 1993). First, the five-factor model was tested, which included the five functions of identity as the latent variables. Resulting fit indices barely indicated an acceptable fit, with the TLI statistics just meeting the standard predetermined cut-off value (Table 2). A review of the modification indices (*MI*) revealed that allowing for correlation between a pair of error terms would improve the fit of the model ($MI = 21.20$). According to Brown (2015), measurement error covariance can be a result of a person's response bias, the assessment method, personal traits (i.e., reading disability) or reversed or similarly worded test items. The last explanation seems to be the most likely, since the modification index suggested the need for correlating error terms for items 13 ("I am a goal-directed person") and 14 ("Thinking about my future gives me a sense of direction"), which are successional and worded alike. The same error correlation, rationalised correspondingly, was allowed in the validation study of the Italian scale (Crocetti et al., 2010), with two additional correlations being allowed between items 4 and 9 along with items 7 and 8. Allowing the correlation error improved the model significantly and the new fit indices obtained (Table 2) indicated improvement. The hypothesised five-factor model with one error correlation allowed was thus retained as the best depiction of our data.

The results of the confirmatory factor analysis show that the standardised factor loadings were statistically significant ($p < .001$) and ranged from .49 to .85 (see Figure 1), with the factor Control having the lowest loadings, while the obtained correlation coefficients among latent factors ranged between .49 and .83. The CFA was then used to test the previously considered possible competing models (Serafini & Maitland, 2013) and test their goodness of fit. The modified 5-factor model was compared against the single-factor »General Identity Functions« model. In accordance with the theoretical conceptualisation of five identity functions (Adams & Marshall, 1996) and previous findings (Serafini & Maitland, 2013), the data shown in Table 2 demonstrates the five-factor solution as more suitable. Lastly, the second-order model, which was specified with five latent factors and one higher-order general identity factor, was compared to the corrected five-factor model. Similar to the single-factor model, findings indicate (see Table 2) that the second-order model cannot be

considered a fair fit for the data. The five-factor model (with one error correlation) was therefore retained.

Internal consistency

In Table 3 Pearson's correlations between subscales are presented with corresponding McDonald's omegas for each of the subscale. All correlations were significant ($p < .001$)

Table 1
Descriptive statistics for items and subscales of FIS

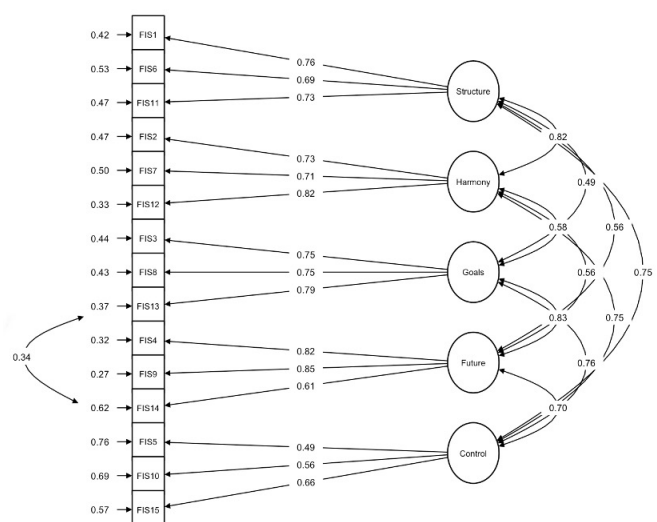
	<i>M</i>	<i>SD</i>	Skewness ^a	Kurtosis ^b
Structure	3.75	0.72	-0.64	0.65
FIS1	3.91	0.72	-0.65	0.75
FIS6	3.65	0.96	-0.55	-0.04
FIS11	3.68	0.91	-0.46	-0.04
Harmony	4.08	0.64	-0.84	1.24
FIS2	4.19	0.68	-0.72	1.10
FIS7	3.93	0.82	-0.79	0.99
FIS12	4.11	0.77	-0.75	0.72
Goals	3.79	0.82	-0.64	-0.06
FIS3	3.94	0.86	-0.67	0.20
FIS8	3.77	0.97	-0.48	-0.51
FIS13	3.66	1.03	-0.50	-0.36
Future	3.23	0.88	-0.23	-0.49
FIS4	3.09	1.02	-0.10	-0.63
FIS9	3.07	1.06	-0.17	-0.66
FIS14	3.55	1.08	-0.34	-0.69
Control	3.95	0.56	-0.52	0.68
FIS5	3.74	0.74	-0.27	0.19
FIS10	4.02	0.70	-0.51	0.50
FIS15	4.10	0.84	-1.02	1.41

Notes. *M* = Mean, *SD* = Standard deviation.

^a Standard Error of Kurtosis for our sample was 0.14.

^b Standard Error of Skewness for our sample was 0.28.

Figure 1
Standardized solution of the five-factor FIS model



and moderate to high (.37–.73). Especially high was the correlation between subscale Goals and Future, which will be further discussed in the Discussion section. The results of the subscale reliability analysis indicated an acceptable internal consistency for the subscales Structure, Harmony, Goals and Future with McDonald's omegas values ranging from .76 to .82. However, the subscale Control indicated poor internal consistency with a McDonald's omega of .59.

Convergent validity of the subscales

Convergent validity reflects the extent to which two measurements capture a common construct. The convergent validity of the FIS subscales could only be evaluated with the scales that showed the proposed internal structure in our sample, therefore the convergent validity of subscales Future and Structure was not tested. The subscale Harmony was positively correlated with the Satisfaction with Life Scale ($r = .50, p < .001$). The subscale Goals was positively correlated with the Purpose in Life Test ($r = .43, p < .001$). The subscale Control was positively correlated with the General Self-efficacy scale ($r = .57, p < .001$).

Discriminant validity of latent factors

To determine discriminant validity the heterotrait-monotrait ratio of correlations approach (HTMT) was used. HTMT can be assessed in two ways: (1) by comparing it to a cut-off value or (2) as a statistical test, where the constructed confidence intervals are examined. In this study the discriminant validity was determined through the HTMT cut-off criterion. Simulation studies of the approach suggested a threshold value of .85 if constructs are more distinct or .90 if the constructs are conceptually very similar (Henseler et al., 2015). The calculated HTMT values are presented in Table 3. Results of the HTMT analysis showed values ranging from .49 to .90. With the exception of HTMT correlation ratios between Future and Goals, all the other pairs of constructs met the lowest recommended threshold of .85. However, given the conceptual proximity of setting one's goals and the ability to recognize potential in the form of future possibilities, the value of .90 was still considered acceptable. Therefore, discriminant validity was supported between all constructs.

Table 2
Goodness-Of-Fit indices for competing models of the Slovenian version of the FIS

Model	χ^2	<i>df</i>	CFI	TLI	SRMR	RMSEA [90% CI]	Model comparison	$\Delta \chi^2$	Δdf
M1: 5-factor	202.30	80	.92	.90	.06	.08 [.07, .10]	–	–	–
M2: 5-factor (one error correlation allowed)	183.55	79	.93	.91	.05	.08 [.06, .09]	M1	20.43*	1
M3: Single-factor	479.56	90	.73	.69	.10	.14 [.13, .15]	M2	236.96*	11
M4: Second order	271.16	85	.88	.85	.08	.10 [.08, .11]	M2	104.08*	6

* $p < .001$

Table 3
Pearson's correlations between FIS subscales, HTMT values and McDonald's omega for the subscales

	Structure	Harmony	Goals	Future	Control	McDonald's omega
Structure	–	.81	.49	.45	.76	.76
Harmony	.63	–	.59	.57	.77	.80
Goals	.37	.46	–	.90	.75	.79
Future	.42	.45	.73	–	.73	.82
Control	.51	.52	.53	.51	–	.59

Note. The correlations among the subscales are located below the diagonal, while the HTMT ratios of the correlation coefficients are located above the diagonal.

Table 4
Goodness-of-fit indices comparison for measurement invariance of nested models

Model	χ^2	<i>df</i>	CFI	SRMR	RMSEA [90% CI]	Model comparison	$\Delta \chi^2$	Δdf	<i>p</i>
M1: Configural invariance	271.89*	158	.924	.060	.077 [.06, .09]	–	–	–	–
M2: Metric invariance	273.95*	168	.929	.061	.073 [.06, .09]	M1	4.10	10	.94
M3: Scalar invariance	287.50*	178	.928	.062	.071 [.06, .09]	M2	12.52	10	.25
M4: Residual invariance	290.69*	193	.929	.066	.068 [.05, .08]	M3	14.42	15	.49

Note. Group of females was the reference group in all four models.

* $p < .01$

Measurement invariance across gender groups and latent mean differences

Measurement invariance assesses the (psychometric) equivalence of a construct across groups or measurement occasions. It demonstrates that a construct has the same meaning to different groups or across repeated measurements. Measurement invariance takes many forms and is key to psychological research because it is a prerequisite to comparing group means. We examined the measurement invariance of the FIS scale across the group of males and females. Four participants did not state their gender and were therefore not included in this analysis, as the group would have been too small. We tested configural (the same factor structure in different groups), metric (the same factor loadings in different groups), scalar invariance (the same intercepts in different groups), and residual invariance (items have the same measurement errors in different groups). To establish invariance, both the χ^2 difference tests and goodness-of-fit indices were used. Changes of the fit indices were evaluated based on the recommendations by Chen (2007) for changes in RMSEA (Δ RMSEA < .015) and SRMR (Δ SRMR < .01), as well as recommendations by Cheung and Rensvold (2002) for CFI ($|\Delta$ CFI| \leq .01). The results are summarised in Table 4. The χ^2 difference test was not statistically significant, indicating all four types of measurement invariance. In addition, the changes of fit indices were within the recommended thresholds further supporting configural, metric, scalar, and residual invariance of the scale. The FIS scale is a valid measure for both genders and it allows valid comparisons of the results on the FIS subscales between them.

To estimate the latent mean differences between the genders, a full residual invariance model was used as the baseline. To compare the latent means, the female group was chosen to serve as a reference group and its mean on the construct was fixed to zero, while the mean of the male group was freely estimated. The value of the critical ratio (CR) was used to determine the significance of the differences. CR is calculated by dividing the parameter estimate with its standard error and testing whether the coefficient is significantly different from zero. A CR value larger than 1.96 represents statistically significant latent means between the compared groups. The analysis showed that males had significantly lower scores than females in Harmony (-0.14 ; CR = -1.97) and Control (-0.19 ; CR = -3.05), while no gender differences were found on other subscales of FIS (CR values ranged from $-.98$ to -1.47). Next, the pooled standard deviations of the male and female groups were used to compute the Cohen's d indices. The effect size of the latent mean differences was small ($d = .29$) for Harmony and medium ($d = .55$) for Control.

Discussion

The main purpose of the present study was to validate the Slovenian version of the FIS, an instrument developed to measure the five functions of an individual's identity: *structure, harmony, personal control, goals, and future orientation* (Adams & Marshall, 1996; Serafini & Adams, 2002). The results provide empirical support for acceptable

psychometric properties of the FIS among Slovenian emerging adults aged between 18 and 29.

In accordance with previous validation studies (Crocetti et al., 2010; Demir, 2011), the results of the factor analysis verified the five-factor structure on a sample of Slovenian emerging adults as well. The model was found to fit the data significantly better than the possible competing models (the others being a one-factor and a hierarchical model), supporting the conceptualisation of five identity functions. Examining the modification indices of the five-factor model revealed the need for error correlation between items 13 ("I am a goal-directed person") and 14 ("Thinking about my future gives me a sense of direction"). We believe the residual correlation between the items to be due to the similar wording of the items. Given that correlation between the error terms for the pair FIS13 and FIS14 was found in the present as well as the Italian validation study (Crocetti et al., 2010) and the intention of reducing further measurement error, we suggest the items to be worded slightly differently and/or further intermixed to avoid them being successional.

The obtained factor loadings in our study vary in a range (.49–.85) similar to the previous English (Serafini & Maitland, 2013) and Turkish validation study (Demir, 2011) and higher than the loadings obtained by Crocetti et al. (2010), with the factor Control having the lowest loadings. FIS5 and FIS10 loadings are especially low (.49 and .56, respectively) meaning that their contribution in measuring the construct is poor and indicates an area for further improvement. Obtained range of correlations among latent factors are akin to those obtained in the Italian validation study (Crocetti et al., 2010), albeit higher than those obtained in the Turkish validation study (Demir, 2011). The highest correlation found between factors Future and Goals (.83) was to be expected given the theoretical overlap. Positive and significant correlations found between FIS subscales further substantiate the theoretical conceptualisation of identity functions as related processes (Serafini & Adams, 2002) and are similar to those reported in previous studies (e.g., Crocetti et al., 2013; Demir, 2011; Serafini & Maitland, 2013).

Additionally, in line with previous work (Crocetti et al., 2010) our findings show support for configural, metric, scalar as well as residual invariance by gender. The FIS is therefore a valid measure for both genders and allows for valid comparisons between them. Following the established residual invariance, the latent mean differences between the genders were explored. Unlike findings from previous studies (Crocetti et al., 2010; Serafini, 2008, as cited in Crocetti et al., 2010), our results have shown important mean differences between genders on identity functions of harmony and control, with a small and a medium effect size respectively. Gender differences in the function of control could be explained by gender differences found in the personality trait of conscientiousness. In their international study, which involved 55 nations, Schmitt et al. (2008) report women as having higher levels of conscientiousness than men across most nations (one of them being Slovenia). Conscientious people tend to be organised, aim for achievement, and prefer planned rather than spontaneous behaviour, which would align with them having a feeling of more personal control.

However, looking at a construct that is conceptually closer to the function of control, a large body of literature suggests that women tend to be more external than men on most locus of control measures (e.g., Stillman & Velamuri, 2016). The obtained results are surprising and could be an interesting area for future research. The second difference between genders, pertaining to the function of harmony, could be explained in light of the findings from Delle Fave et al. (2016), where women placed more importance on inner harmony when defining happiness compared to men. The increased focus on inner harmony could therefore be one of the reasons for the gender differences.

Regarding reliability, the obtained McDonald's omegas showed good reliability for the Harmony, Goals, Structure and Future subscales, but not for the Control subscale, which did not reach acceptable levels. This also accords with our earlier observations, which showed Control items to have the lowest factor loadings. On account of the Control subscale not reaching the acceptable level of reliability, we advise caution in interpreting the results of the subscale and the use of additional questionnaires to assess the sense of control, which have been proven to be valid in the past (e.g., locus of control scale). On the other hand however, we believe the Control subscale to still be of use for research purposes, particularly if new items are added to the existing ones, as discussed further below. Additionally, the subscale Control having the lowest reliability score is in line with previous validation studies (Crocetti et al., 2010; Demir, 2011) and indicates an area for continued development.

The convergent validity of the Slovenian version of the FIS was partly established with significant correlations between identity functions and congruent constructs. However, based on the fact that two (Identity diffusion and Future scale) out of the five scales intended to be used to examine convergent validity showed unacceptable fit, no inference could be made about the convergent validity of Structure and Future subscales. Nonetheless, the convergent validity of the subscale Harmony was supported through its link with Satisfaction with Life, which is consistent with earlier research that have found a positive relationship between harmony and satisfaction (e.g., Kyell et al., 2016). The convergent validity of the subscale Goals was demonstrated through its theoretically consistent association with the Purpose in life test, as it had been previously established in former validation studies (Serafini, 2000; Serafini & Adams, 2002; Serafini & Maitland, 2013). Finally, the convergent validity of the Control subscale was confirmed through its correlation with the General Self-efficacy scale, which is in agreement with the results of Serafini and Maitland (2013). In addition to convergent validity, discriminant validity was established as well. With the exception of Future and Goals, the HTMT values for all subscales were below the threshold value of .85. The HTMT value of .90 between Future and Goals could potentially be seen as problematic, but was still deemed acceptable due to their conceptual similarities, as Serafini and Maitland (2013, pp. 172) put it: »...goals have an inherent futuristic component (i.e., one sets goals in the present which are accomplished in the future).« Therefore, based on the less conservative HTMT criterion of .90 for

conceptually proximal constructs, the components within the FIS were still different enough to demonstrate discriminant validity.

In conjunction with the results of the Italian validation study (Crocetti et al., 2010), our data shows the Control subscale as needing further assessment and revision. The poor reliability of the subscale could be the outcome of either deficient items written and chosen to fit the scale or inadequate conceptualisation of the construct itself and how it fits into the broader nomological network. Both were already addressed by Serafini and Maitland (2013), when they – along with developing new items - moved the conceptual emphasis from the internal locus of control to the self-regulation and personal agency. We fully agree with the authors that the new conceptualisation is more in alignment with the theoretical foundation of Erikson's notions of personal control and free will. However, we believe that the formed items do not adequately reflect the content of the concept fully. For example, looking at the item with the lowest factor loading (FIS5) both in our and the Italian study, the theoretical meaning seems to be adaptability, flexibility, the ability to switch between different actions and thoughts. While adaptability is a self-regulatory resource that allows control over oneself it seems somewhat distant or perhaps adjacent to the actual notion of personal control and free will in the nomological network. It may be the case that moving towards an even broader conceptualisation of control would help further solidify the construct's validity. Understanding it instead as having the sense of being the ultimate source of action and having the freedom to act. An item, in line with this conceptual premise, grounded in the existing FIS scale construction and showing adequate psychometric properties (Serafini & Maitland, 2013), that could be included is »*I am responsible for my actions.*« Overall however, the results show the Slovenian version of the FIS to be an useful instrument for examining diverse identity functions in the process of identity development.

There are some limitations to the present study. The main shortcoming of our research is two of the five measurement tools, supposed to be used to assess convergent validity, yielding unacceptable model fit indices. Consequently, the convergent validity of FIS was only established in part. The decision for using these scales for convergent validity was based on the highest underlying construct similarity out of already translated Slovenian measurements. The instruments have already been used in previous studies, however their psychometric adequacy was never fully established. Besides the authors being at fault, we believe this to be indicative of a broader problem. Some of the measures that are currently used in psychological research and practice are likely to have deficient validity. Just as issues with replicability have given way to pruning the dead branches of psychology, so too should the failures to support the instruments' validity cause the researchers to pay more attention to the psychometric properties of instruments used. An additional shortcoming of our research relates to the method of sampling. We used a convenience sampling method, which means that our sample is unrepresentative. Future research should also increase the usability of the instrument by including the adolescent

and adult populations. Additionally, even though FIS was designed to capture identity functions in normative samples, future study with clinical samples would be beneficial to determine the instrument's potential clinical utility. Further research should also address the factors connected with high and low identity function outcomes.

Taken together, despite its limitations, the present findings suggest that FIS is a promising tool for the assessment of identity functions and comes as a much needed instrument in a time when creating a stable identity is becoming increasingly challenging (Sica et al., 2014). Understanding the expressions of an individual's identity functions can help understand the origins of their problems. Practitioners in student career centres and counsellors in mental health institutions who work with emerging adults might find the FIS a beneficial instrument for identifying sources of different psychological problems. Practitioners can focus on important aspects of an individual's identity based on the FIS evaluation, provide necessary psychological support and form relevant interventions. For example, during and in the transition to adulthood, young people have a task to define long term plans and projects for their future (relational, occupational, and personal plans). However, the increasing myriad of possibilities, the lack of structure and the rapidly changing, less certain future make planning for the current youth harder. A low score on the Future subscale indicates problems with future orientation regarding identity choices and can signal the need for guidance through the provision of structure and future-oriented goal setting strategies. Furthermore, given the time-effectiveness of the FIS, as it consists of only 15 items, and the novel focus on identity functions, the FIS is of considerable added value for research in the field of identity in general and to understanding the role of identity in our daily lives.

Data availability statement

The data that support the findings of this study are openly available in OSF at shorturl.at/sBDIL.

Author Contributions

Baš and Rakinić conducted the analyses and interpreted the data. Writing – reviewing and editing of the final draft was done by Baš and Rakinić. All authors contributed to the conceptualization, data collection, translation, and the writing of the original draft.

Acknowledgements

We thank Asst. Prof. dr. Cvetka Sokolov for help with the FIS translation, and Assoc. Prof. dr. T. E. Serafini for advice on the translated items.

References

- 1KA (Verzija 22.06.14) [Computer software]. (2021). Fakulteta za družbene vede. <https://www.1ka.si>
- Adams, G. R., Berzonsky, M. D., & Keating, L. (2006). Psychosocial resources in first-year university students: The role of identity processes and social relationships. *Journal of Youth and Adolescence*, 35, 81–91.
- Adams, G., & Ethier, J. (1999). *The objective measure of ego identity status: A manual on theory and test construction*. University of Guelph.
- Adams, G. R., & Marshall, S. (1996). A developmental social psychology of identity: Understanding the person in context. *Journal of Adolescence*, 19(5), 429–442.
- Arnett, J. J. (2014). *Emerging adulthood: The winding road from the late teens through the twenties*. Oxford University Press.
- Avsec, A., & Musek, J. (2010). Self-discrepancies in agentic and communal personality traits as predictors of well-being. *Studia Psychologica*, 52(2), 117–131.
- Bennion, L. D., & Adams, G. R. (1986). A revision of the extended version of the Objective Measure of Ego Identity Status: An identity instrument for use with late adolescents. *Journal of Adolescent Research*, 1, 183–198.
- Bentler, P. M. (1990). Comparative fit indexes in structural models. *Psychological Bulletin*, 107(2), 238–246.
- Beyers, W., & Seiffge-Krenke, I. (2010). Does identity precede intimacy? Testing Erikson's theory on romantic development in emerging adults of the 21st century. *Journal of Adolescent Research*, 25(3), 387–415.
- Blustein, D. L., & Palladino, D. E. (1991). Self and identity in late adolescence: A theoretical and empirical integration. *Journal of Adolescent Research*, 6(4), 437–453.
- Boyes, M. C., & Chandler, M. (1992). Cognitive development, epistemic doubt, and identity formation in adolescence. *Journal of Youth and Adolescence*, 21, 277–304.
- Brown, T. A. (2015). *Confirmatory factor analysis for applied research* (2nd ed.). Guilford Publications.
- Browne, M. W., & Cudeck, R. (1993). Alternative ways of assessing model fit. In K. A. Bollen & J. S. Long (Eds.), *Testing structural equation models* (pp. 136–162). Sage.
- Chen, F. F. (2007). Sensitivity of goodness of fit indexes to lack of measurement invariance. *Structural Equation Modeling: A Multidisciplinary Journal*, 14(3), 464–504.
- Cheung, G. W., & Rensvold, R. B. (2002). Evaluating goodness-of-fit indexes for testing measurement invariance. *Structural Equation Modeling: A Multidisciplinary Journal*, 9(2), 233–255.
- Crocetti, E., Scignaro, M., Sica, L. S., & Magrin, M. E. (2011). Correlates of identity configurations: Three studies with adolescent and emerging adult cohorts. *Journal of Youth and Adolescence*, 41(6), 732–748.
- Crocetti, E., Sica, L. S., Schwartz, S. J., Serafini, T., & Meeus, W. (2010). The functions of identity scale: Validation in Italian late adolescents and emerging adults. *TPM - Testing, Psychometrics, Methodology in Applied Psychology*, 17(2), 55–71.

- Crocetti, E., Sica, L. S., Schwartz, S. J., Serafini, T., & Meeus, W. (2013). Identity styles, dimensions, statuses, and functions: Making connections among identity conceptualizations. *European Review of Applied Psychology, 63*(1), 1–13.
- Crumbaugh, J. C., & Maholick, L. T. (1969). *Manual of instructions for the Purpose-in-Life Test*. Psychometric Affiliates.
- Delle Fave, A., Brdar, I., Wissing, M. P., Araujo, U., Castro Solano, A., Freire, T., Del Rocío Hernández-Pozo, M., Jose, P., Martos, T., Nafstad, H. E., Nakamura, J., Singh, K., & Soosai-Nathan, L. (2016). Lay definitions of happiness across nations: The primacy of inner harmony and relational connectedness. *Frontiers in psychology, 7*, 30.
- Demir, I. (2011). Functions of Identity Scale: Turkish validity and reliability. *Educational Sciences: Theory and Practice, 11*(2), 579–586.
- Diener, E., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The Satisfaction With Life Scale. *Journal of Personality Assessment, 49*(1), 71–75.
- Erikson, E. H. (1959). *Identity and the life cycle*. Norton.
- Erikson, E. H. (1968). *Identity, youth and crisis*. Norton.
- Hall, M., Anthis, K., & Dunkel, C. (1998). *A report on the psychometric indices of the EOM-EIS-2* [Poster presentation]. Annual meeting of the Society for Research in Identity Formation, San Diego, California.
- Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the Academy of Marketing Science, 43*(1), 115–135.
- Hu, L., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling: A Multidisciplinary Journal, 6*(1), 1–55.
- Jerusalem, M., & Schwarzer, R. (1992). Self-efficacy as a resource factor in stress appraisal processes. In R. Schwarzer (Ed.), *Self-efficacy: thought control of action* (pp. 195–213). Hemisphere.
- Jespersen, K., Kroger, J., & Martinussen, M. (2013). Identity status and moral reasoning: A meta-analysis. *Identity, 13*(3), 266–280.
- Kenny, D. A., Kaniskan, B., & McCoach, D. B. (2014). The Performance of RMSEA in models with small degrees of freedom. *Sociological Methods & Research, 44*(3), 486–507.
- Kjell, O. N. E., Daukantaitė, D., Hefferon, K., & Sikström, S. (2016). The Harmony in Life Scale complements the Satisfaction with Life Scale: Expanding the conceptualization of the cognitive component of subjective well-being. *Social Indicators Research, 126*, 893–919.
- Krettenauer, T. (2005). The role of epistemic cognition in adolescent identity formation: Further evidence. *Journal of Youth and Adolescence, 34*(3), 185–198.
- Licardo, M., Schwarzer, R., & Jerusalem, M. (2007). *General Self-Efficacy Scale – Slovenian Version*. <http://userpage.fu-berlin.de/~health/slovenia.htm>
- Lillevoll, K. R., Kroger, J., & Martinussen, M. (2013). Identity status and locus of control: A meta-analysis. *Identity, 13*(3), 253–265.
- Lovasz, N. (2007). *Intersubjectivity in borderline personality disorder: Narrative, identity disturbance, and borderline personality traits* [Master's thesis, Wilfrid University]. Academia.edu. https://www.academia.edu/542686/Intersubjectivity_in_borderline_personality_disorder_narrative_identity_disturbance_and_borderline_personality_traits
- Marcia, J. E. (1966). Development and validation of ego identity status. *Journal of Personality and Social Psychology, 3*, 551–558.
- Marcia, J. E. (1993). The ego identity status approach to ego identity. In J. E. Marcia, A. S. Waterman, D. R. Matteson, S. L. Archer, & J. L. Orlofsky (Eds.), *Identity: A handbook for psychosocial research* (pp. 3–21). Springer.
- Meeus, W. (2011). The study of adolescent identity formation 2000–2010: A review of longitudinal research. *Journal of Research on Adolescence, 21*, 75–94.
- Nauta, M. M., & Kahn, J. H. (2007). Identity status, consistency and differentiation of interests, and career decision self-efficacy. *Journal of Career Assessment, 15*(1), 55–65.
- Pavot, W., & Diener, E. (1993). The affective and cognitive context of self-reported measures of subjective well-being. *Social indicators research, 28*(1), 1–20.
- Podlogar, T., & Bajec, B. (2011). Povezanost časovne perspektive z osebnostnimi lastnostmi in subjektivnim blagostanjem [The connection of time perspective with personality traits and subjective well-being]. *Psihološka obzorja, 20*(1), 43–62.
- R Core Team. (2021). *R: A language and environment for statistical computing*. R Foundation for Statistical Computing.
- Rosseel, Y. (2012). lavaan: An R package for structural equation modeling. *Journal of Statistical Software, 48*(2), 1–36.
- Ryeng, M. S., Kroger, J., & Martinussen, M. (2013). Identity status and self-esteem: A meta-analysis. *Identity, 13*(3), 201–213.
- Schmitt, D. P., Realo, A., Voracek, M., & Allik, J. (2008). Why can't a man be more like a woman? Sex differences in Big Five personality traits across 55 cultures. *Journal of Personality and Social Psychology, 94*(1), 168–182.
- Scholz, U., Gutiérrez Doña, B., Sud, S., & Schwarzer, R. (2002). Is general self-efficacy a universal construct? Psychometric findings from 25 countries. *European Journal of Psychological Assessment, 18*(3), 242–251.
- Schulenberg, S. E. (2004). A psychometric investigation of logotherapy measures and the outcome questionnaire (OQ-45.2). *North American Journal of Psychology, 6*(3), 477–492.
- Schwartz, S. J. (2001). The evolution of Eriksonian and neo-Eriksonian identity theory and research: A review and integration. *Identity: An International Journal of Theory and Research, 1*(1), 7–58.

- Schwartz, S. J., Côté, J. E., & Arnett, J. J. (2005). Identity and agency in emerging adulthood. *Youth & Society, 37*(2), 201–229.
- Schwartz, S. J., Zamboanga, B. L., Weisskirch, R. S., & Rodriguez, L. (2009). The relationships of personal and ethnic identity exploration to indices of adaptive and maladaptive psychosocial functioning. *International Journal of Behavioral Development, 33*(2), 131–144.
- Schwarzer, R., & Jerusalem, M. (1995). Optimistic self-beliefs as a resource factor in coping with stress. In S. E. Hobfoll & M. W. deVries (Eds.), *Extreme stress and communities: Impact and intervention* (pp. 159–177). Kluwer.
- Serafini, T. E. (2000). *The construction of a scale that measures the functions of identity* [Doctoral dissertation, The University of Guelph]. Library and Archives Canada. https://www.nlc-bnc.ca/obj/s4/f2/dsk2/ftp03/MQ55713.pdf?oclc_number=1006989882
- Serafini, T. E., & Adams, G. R. (2002). Functions of identity: Scale construction and validation. *Identity: An International Journal of Theory and Research, 2*(4), 361–389.
- Serafini, T. E., & Maitland, S. B. (2013). Validating the functions of identity scale: Addressing methodological and conceptual matters. *Psychological Reports, 112*(1), 160–183.
- Sica, L. S., Crocetti, E., Ragozini, G., Sestito, L. A., & Serafini, T. (2015). Future-oriented or present-focused? The role of social support and identity styles on ‘futuring’ in Italian late adolescents and emerging adults. *Journal of Youth Studies, 19*(2), 183–203.
- Sica, L. S., Sestito, L. A., & Ragozini, G. (2014). Identity coping in the first years of university: Identity diffusion, adjustment and identity distress. *Journal of Adult Development, 21*(3), 159–172.
- Stillman, S., & Velamuri, M. (2016). *If life throws you lemons try to make lemonade: Does locus of control help people cope with unexpected shocks?* (IZA Discussion Paper No. 10210). <https://www.iza.org/publications/dp/10210/if-life-throws-you-lemons-try-to-make-lemonade-does-locus-of-control-help-people-cope-with-unexpected-shocks>
- Šinigoj Batistič, I. (1995). *Identitetni in emocionalni razvoj v adolescenci* [Identity and emotional development in adolescence] [Unpublished master’s thesis]. University of Ljubljana, Faculty of Arts.
- Vosylis, R., Žukauskienė, R., & Crocetti, E. (2019). Linking identity processes to spending self-control capacities in emerging adulthood: The mediating role of self-regulatory identity functions. *Emerging Adulthood, 8*(5), 404–411.
- Wallace-Brosious, A., Serafica, F. C., & Osipow, S. H. (1994). Adolescent career development: Relationships to self-concept and identity status. *Journal of Research on Adolescence, 4*, 127–149.
- Waterman, A. S. (2007). Doing well: The relationship of identity status to three conceptions of well-being. *Identity: An International Journal of Theory and Research, 7*(4), 289–307.
- Zimbardo, P. G., & Boyd, J. N. (1999). Putting time in perspective: A valid, reliable individual-differences metric. *Journal of Personality and Social Psychology, 77*(6), 1271–1288.

Appendix 1: The procedure of FIS translation and adaptation

Item	Translation 1	Translation 2	Consensus	Back-translation	Final correction
FIS1	Prepričan sem v to, da se poznam	Prepričan sem, da se poznam.	Prepričan /-a sem, da se poznam.	I am sure that I know myself.	
FIS2	Pomirjen sem s seboj in s svojo identiteto	Pomirjen sem s seboj in svojo identiteto.	Pomirjen/-a sem s seboj in svojo identiteto.	I have accepted myself and my identity.	
FIS3	Čutim, da imam konsistenten občutek sebe iz dneva v dan	Čutim, da je moj občutek sebe iz dneva v dan dosleden.	Čutim, da je moj občutek sebe iz dneva v dan dosleden.	I feel that my perception of myself is consistent.	
FIS4	Moja prepričanja in vrednote me odražajo	Moje vrednote in prepričanja odražajo, kdo sem.	Moje vrednote in prepričanja odražajo, kdo sem.	My values and beliefs reflect who I am.	
FIS5	Moje vrednote in prepričanja so konsistentne s tem kdo trenutno sem.	Moje vrednote in prepričanja so v skladu z zavezami ki jih trenutno sklepam v življenju	Moje vrednote in prepričanja so v skladu z zavezami ki jih trenutno sklepam v življenju	My values and beliefs are in accordance with permanent decisions I am making at the moment.	Moje vrednote in prepričanja so v skladu z odločitvami, ki jih trenutno sklepam v življenju
FIS6	Moja prepričanja in vrednote se skladajo s tem kar sem.	Moje vrednote in prepričanja se skladajo s tem, kdo sem.	Moje vrednote in prepričanja se skladajo s tem, kdo sem.	My values and beliefs are in accordance with who I am.	
FIS7	Zgradil sem si lastne osebne cilje	Zgradil sem si lastne osebne cilje	Zgradil sem si lastne osebne cilje	I have created/developed my own personal goals	Oblikoval/-a sem lastne osebne cilje
FIS8	Postavljam si cilje in jih nato poskušam uresničiti.	Postavljam si cilje, katere nato poskušam uresničiti.	Postavljam si cilje, katere nato poskušam uresničiti.	I tend to set goals which I try to achieve.	Nagnjen/-a sem k postavljanju ciljev, ki jih nato poskušam uresničiti
FIS9	Sem ciljno usmerjena oseba.	Sem ciljno usmerjena oseba.	Sem ciljno usmerjena oseba.	I am a person focused on my goals.	
FIS10	Dobro predstavo imam o tem kakšna bo moja prihodnost.	Dobro predstavo imam o tem kakšna bo moja prihodnost.	Dobro predstavo imam o tem kakšna bo moja prihodnost.	I have a good idea about what my future will look like.	Imam dobro predstavo o tem, kakšna bo moja prihodnost
FIS11	Jasno mi je kdo bom bil v prihodnosti.	Imam jasno predstavo o tem kdo bom bil v prihodnosti	Jasno mi je, kdo bom v prihodnosti.	I know who I will be in future.	
FIS12	Razmišljanje o prihodnosti mi daje občutek usmerjenosti.	Razmišljanje o moji prihodnosti mi daje občutek usmerjenosti.	Razmišljanje o moji prihodnosti mi daje občutek usmerjenosti.	Thinking about my future gives me a sense of orientation.	
FIS13	Ko mi nekaj ne gre, lahko najdem druge načine kako doseči svoje cilje.	Ko to, kar počnem, ne deluje, sem sposoben najti druge načine kako doseči svoje cilje	Ko to, kar počnem, ne deluje, sem sposoben najti druge načine kako doseči svoje cilje	I am capable of finding new ways to reach my goals when my original goals do not work.	Sposoben/- a sem najti druge načine, da dosežem moje cilje, ko prvotni načini niso učinkoviti.
FIS14	Odlčitve o tem kako se vedem in delujem v svetu temeljijo na mojih osebnih odločitvah.	Odlčitve o tem, kako se vedem in delujem, temeljijo na mojih osebnih izbirah.	Odlčitve o tem, kako se vedem in delujem, temeljijo na mojih osebnih izbirah.	My decisions on how to behave and act are based on my personal choices.	
FIS15	Svoje cilje si postavljam zelo samostojno.	Pri postavljanju svojih ciljev sem samostojen.	Pri postavljanju svojih ciljev sem samostojen.	I set my goals independently	Pri postavljanju svojih ciljev se zanašam nase.

Appendix 2: Slovenian and English Versions of the Functions of Identity Scale (FIS)

1. Prepričan /-a sem, da se poznam. [I am certain that I know myself.]
2. Moje vrednote in prepričanja odražajo, kdo sem. [My values and beliefs reflect who I am.]
3. Oblikoval/-a sem lastne osebne cilje. [I have constructed my own personal goals for myself.]
4. Imam dobro predstavo o tem, kakšna bo moja prihodnost. [I have a good idea of what my future holds for me.]
5. Sposoben/- a sem najti druge načine, da dosežem moje cilje, ko prvotni načini niso učinkoviti. [When what I'm doing isn't working, I am able to find different approaches to meeting my goal(s).]
6. Pomirjen/-a sem s seboj in svojo identiteto. [I feel a sense of peace with my self and my identity.]
7. Moje vrednote in prepričanja so v skladu z odločitvami, ki jih trenutno sklepam v življenju. [My values and beliefs are consistent with the commitments that I make in my life at this time.]
8. Nagnjen/-a sem k postavljanju ciljev, ki jih nato poskušam uresničiti. [I tend to set goals and then work towards making them happen.]
9. Jasno mi je, kdo bom v prihodnosti. [I am clear about who I will be in the future.]
10. Odločitve o tem, kako se vedem in delujem, temeljijo na mojih osebnih izbirah. [The decisions I make about how to behave and act are based on my personal choices.]
11. Čutim, da je moj občutek sebe iz dneva v dan dosleden. [I feel I have a consistent sense of self from one day to the next.]
12. Moje vrednote in prepričanja se skladajo s tem, kdo sem. [My values and beliefs fit with the person I am.]
13. Sem ciljno usmerjena oseba. [I am a goal-directed person.]
14. Razmišljanje o moji prihodnosti mi daje občutek usmerjenosti. [Thinking about my future gives me a sense of direction.]
15. Pri postavljanju svojih ciljev se zanašam nase. [I am self-directed when I set my goals.]

Structure: items 1, 6, 11

Harmony: items 2, 7, 12

Goals: items 3, 8, 13

Future: items 4, 9, 14

Personal control: items 5, 10, 15