



Developing and Validating an EFL Learners' Spiritual Intelligence Inventory: A Mixed-Methods Study

Masoumeh Azadi¹, Parviz Maftoon^{2*}, Minoo Alemi³

¹ Ph.D. Candidate, English Department, Islamic Azad University, West Tehran Branch, Iran

² Associate Professor, English Department, Islamic Azad University, Science and Research Branch, Iran

³ Associate Professor, English Department, Islamic Azad University, West Tehran Branch, Iran

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ABSTRACT

The present study developed a questionnaire (Appendix 1) based on the relevant literature and interviews with 22 EFL learners, resulting in a 27-item questionnaire that was distributed among 360 EFL learners. A sequential mixed methods design was used. The analysis of the qualitative data revealed the elements of EFL learners' spiritual intelligence. An exploratory factor analysis (EFA) of EFL learners' responses generated four factors, namely: (1) Learning English for personal, social, and educational benefits, (2) learning English for personal, social, and academic achievement, (3) learning English to promote religious values, and (4) learning English for intercultural communication. The results of the study suggest that this scale is a reliable and valid measure of EFL learners' SI. This study also revealed that SI has a significant relationship with gender and educational levels. The findings can help researchers define SI and how EFL learners' SI can be measured. Educationists, practitioners, academics, theorists, teacher training centers, teachers, curriculum constructors, and pedagogic planners may find the results of this study beneficial if they are concerned with the importance of SI in the educational context and its influence on the performance of EFL learners.

Keywords: EFL Learners; Exploratory Factor Analysis; Spiritual Intelligence Inventory

INTRODUCTION

The Multiple Intelligences theory proposed by Gardner in 1983 broadened the concept of intelligence beyond the abilities associated with just intellectual intelligence (IQ) and emotional intelligence (EQ) by pointing out that neither IQ nor EQ, separately or together, can completely explain the multifaceted nature of human intelligence. At the end of the twentieth century and the beginning of the twenty-first century, a new concept in intelligence studies gradually emerged (Vancea, 2014). Primarily, the term spiritual intelligence (SI) was coined by Zohar in 1997, and since then, scholars have been trying to define the concept.

Researchers have not reached an agreement on the concept of SI. Some claim that SI meets the criteria of MI theory to be considered intelligence (Amram & Dryer, 2008; Emmons, 2000a; King & DeCicco, 2009; Vaughan, 2002), while other researchers consider the description of existential intelligence identical to SI (Gardner, 1983). Zohar and Marshall (2004) define SI as "the soul's intelligence" (p. 65). SI gives individuals deep information about who they are and what their potential is. It allows them to shift from the depths to the surface of their being where they do actactionsave an opinion, and experience things. In the same vein, Vaughan (2002) describes SI in relation to the individual's

*Corresponding Author's Email:
minooalemi2000@yahoo.com



capacity for a deep awareness of existential questions and their perception of different levels of consciousness. Furthermore, King (2008) defines SI based on divine aspects of life relating to meaning production, thinking, awareness, and consciousness.

A large number of research studies on the main components of spiritual intelligence have reinforced its significance (Amram & Dryer, 2008; Emmons, 2000a; King, 2008; Wigglesworth, 2006). Moreover, several main questionnaires underpin these scholars' research, like King's (2008) SISRI-24 model, Amram and Dryer's (2008) ISIS model, Wigglesworth's (2006) 21-SQ scale, and Abdollahzadeh, Kashmiri, and Arabameri (2008) SI questionnaire.

Many proponents of SI have argued that spirituality should be included in education due to the benefits gained from equipped learning or teaching with SI. Spiritual intelligence, with its emphasis on the learners' meaningful life experiences, consciousness, and critical thinking (the components of King's (2008) SI questionnaire), can create a learning environment capable of developing the full potential of learners. Hassan (2009) believes students with high spiritual intelligence can construct the proper conditions for increasing their achievement in education. Based on the mentioned points, it can be assumed that students' SI and learning are related to each other.

This new type of intelligence attracted the interest of certain scholars and practitioners, especially within philosophical, religious, and psychological areas (Amram & Dryer, 2008; Emmons, 2000a; Estaji & Pourmostafa, 2020; King & DeCicco, 2009; Nawal, Boshra, & Ayed, 2020; Samul, 2020; Skrzypińska, 2020; Turi, Rani, Imaduddin, Mahmud, & Adresi, 2020; Zohar, 1997). Consequently, to authenticate this new type of intelligence, a reliable and valid measurement instrument was necessitated. Therefore, the significance of the concept of spiritual intelligence (Atroszko, Skrzypińska, & Balcerowska, 2021; Pant, & Srivastava, 2017; Skrzypińska, 2020; Smartt, 2014) has greatly inspired researchers, particularly in the education and EFL context,

to develop tools to examine and measure the construct. Despite the fact that there are a number of developed and validated questionnaires to obtain quantitative data on SI (Abdollahzadeh et al., 2008; Amram, & Dryer, 2008; King, 2008; Wigglesworth, 2006), an EFL-specific spiritual intelligence inventory cannot be easily found, especially in the Iranian context. Thus, the need for a specific questionnaire on EFL learners' spiritual intelligence is justified. The present study used a sequential mixed method to investigate the constructs of EFL learners' spiritual intelligence to develop and validate a questionnaire.

Intelligence beyond IQ and EQ

"The ability to solve problems" is the most common and accepted definition of intelligence (Emmons, 2000b; Gardner, 1983; King, 2008; Vaughan, 2002; Wigglesworth, 2006). In the beginning, the concept of intelligence was defined based on logical and mathematical abilities. Therefore, IQ was considered a strong interpreter of everyone's potential success in careers. However, after entering a profession, it was found what leads an individual to success is far more complicated, and IQ cannot be the only factor of being successful (Pant & Srivastava, 2017). Subsequent studies have shown that a computer can have a higher IQ than humans, and animals can have EQ, too. As a result, psychological studies led to the idea that other intelligence is needed in life. Hence, the term "emotional intelligence" (EQ) was proposed by Goleman (1995).

Consequently, a type of ability was introduced that separates humans from all other organisms. Hence, SI was proposed as the mental ability for solving problems, making meaning, and valuing life (Zohar & Marshall, 2000).

In psychology, SI implies the state of ultimate intelligence coming after IQ and EQ (Emmons, 2000b). He considered SI in terms of an internal ability connected to the mind, spirit, and world. Moreover, from an educational perspective, spirituality is an essential part of an individuals' academic life (Sisk, 2008). He talked about the many influential factors on

students' achievement by uniting all types of intelligence; IQ, EQ, and now SI.

Palmer (1999) believed that a transformation in education will not be initiated with just another theory or book, but rather by a new way of being in the world. He also claimed that the goals of education are not just about developing information or getting a job. Education is about comprehensiveness, healing, encouragement, freedom, and divine existence. Many proponents of SI have argued that spirituality should be included in education because of the benefits that can be gained from equipping learners or teachers with SI. For example, Zohar (2010) said that different types of students' capacities and skills that may originate from their spiritual abilities would increase students' achievements and nurture their enthusiasm for learning in the academic environment. Hassan (2009) believed students with high SI are more confident in taking action in life, more thoughtful to their environments, and able to adjust to any condition. Therefore, they can construct the best situation to increase their educational achievement.

Spiritual Intelligence Components and Related Studies

Researchers believe that SI cannot be easily defined or explained. This concept has been defined as a complex phenomenon with intellectual, emotional, physiological, sacred, social, and ethnic components (Emmons, 2000a; Maslow, 1943). Some elements of SI differ slightly, and some are overlapping. In the following section, the components of SI, as suggested by certain researchers, and some conducted studies based on SI are mentioned.

Zohar (2005) believed SI supports IQ and EQ. She defined SI as a person's ability to approach higher meanings, values, and principal goals, as well as supporting a more creative life and unconscious aspects of the self. Emmons (2000a) defined SI as an individual's capacity to solve problems and achieve goals. Its 4 components are related to the capability of being transcendent, the powered spiritual states of consciousness, the relation of everyday activity with a sense of the sacred, the use of spiritual sources to solve problems and being

virtuous. Overlapping somewhat with prior authors, King (2008) suggested four main components of SI in terms of thinking about the existence of an individual, having a reason and objective in life and for existence, being aware transcendently of the self, of others, and of the physical universe, and having higher and expanded states of consciousness. The capacity for transcendent awareness has been equally stressed by Emmons (2000a) and King (2008).

Amram and Dryer (2008) developed an Integrated Spiritual Intelligence Scale (ISIS) to measure SI in the same framework. This scale consisted of 22 subscales and 5 main scales in terms of meaning, grace, trust, consciousness, and transcendence. In the same vein, Wigglesworth (2006) described SI in the four quadrants and 21 skills based on her study. The SQ21 Model includes: "self-awareness, universal awareness, higher self/ego self-mastery, spiritual presence/social mastery" (p. 446). Moreover, Buzan (2001) believed SI is related to personal and social intelligence and the appreciation and understanding of all other life forms and the universe itself. In the same vein, Fisher (2010) developed a spiritual questionnaire in SHALOM for describing the relationship of each person with themselves, other people, the environment, and God. Abdollahzadeh et al. developed a SI questionnaire in 2008 with 29 items and 2 factors. Spiritual intelligence was defined as the attitude of self-awareness and individual relationship with God, each other, and all creatures.

It should be mentioned that numerous studies have focused on developing a questionnaire of SI (Abdollahzadeh et al., 2008; Amram & Dryer, 2008, King, 2008; Nasel, 2004; Wigglesworth, 2006) or measuring SI of learners based on a developed questionnaire (Pant, & Srivastava, 2017; Sisk, 2008; Smartt, 2014). Some studies investigated the relationship between SI and different factors such as SI and the quality of students' life (Pant & Srivastava, 2015); the significant impact of SI on job satisfaction (Korankye & Amakyewaa, 2021); the positive effect of SI on student's adaptation to college life (Eldiasty & Helal, 2018); a positive relation between SI and

academic performance (Rahimi, 2017); and a relationship between SI and life satisfaction (Naderi, Asgari, & Roushani, 2010); SI and caring about others (Astin, Astin, & Lindholm; 2010; Lin, Clark, & Maher, 2017); and the relation between language, SI and gender (Amram & Dryer, 2008; Gray, 1992; Gupta, 2012; Mulac, Bradac, & Gibbons, 2001; Sisk & Torrance, 2001; Steinberg, 2005; Tannen, 1990).

Moreover, some studies reveal that spiritually intelligent learners achieve personal, social, and academic achievement by learning English (Ahmadi, Ahghar, and Abedi, 2012; Anbugeetha, 2015; Ardashaeva, Tretter, & Kinny, 2011; Al-Salkhi, 2019; George, 2013; Kim & Herman, 2009). Due to the relation between language learning and SI, it is worth mentioning that individuals can benefit from learning the English language (Ahmed, 2015; Al-Kadi & Ahmed, 2018; Duff, 2007) and learning environment (Alzubaidi, Aldridge, & Khine, 2014) such as experiencing more cognitive and social flexibility (Ikizer & Ramirez-Esparza, 2017); expanding their worldviews (Tran & Duong, 2018); Gaining more occupational and academic opportunities (Ng & Tang, 1997; Salmani-Nodoushan, 2020); promoting religious values (Azmi, Hassan, Ali, Abdullah, YahaAlias, Anas, & Suhaimi, 2021; Han, 2018; Skerrett, 2017;); communicating inter-culturally (Ihmeideh, Al-Omari, & Al-Dababneh, 2010; Maghsoudi, 2020; Yang, 2020).

Developmental Theories Underpinning SI

The theoretical framework underpinning this study drew on three theoretical perspectives, including Maslow's (1943) hierarchy of needs and self-actualization philosophies, Vygotsky's (1978) social learning and Zone of Proximal Development (ZPD) concepts, and Gardner's (1983) theory of multiple intelligences.

The first theoretical framework to ground the current research is based on Maslow's theory as a foundation for the work on SI. Maslow (1943) introduced the principal aspects of self-actualization as an essential concept to understand SI and its related issues. He defined self-actualization as an ongoing process with

the primary tenet of developing one's talents and reaching the ultimate achievement. He believed that to be successful, individual should hear their inner voices from themselves. In parallel with Maslow, Sisk (2002) defined SI as a state in which a person gradually developed their awareness of the dimensions of self. In the same vein, Noble (2000) confirmed that spiritual experiences facilitated self-actualization and were also precursors to SI. In conclusion, SI is fundamental for students to function in the classroom and to eventually achieve their aims. The theory of the pyramid of needs and the notion of self-actualization with the components of spirituality and meaning (O'Connor & Yballe, 2007) have direct implications for individual growth, education, and achievement, as well as the central premises of SI (Maslow, 1943; Smartt, 2014).

The theory of Vygotsky focusing on achievement and learning has implications for SI (Smartt, 2014). Vygotsky (1978) defined a student's learning as a social construct that affected their development. From the lens of attainment, the ZPD can clarify the reason for students' failure in unsupported environments. In addition to the ZPD, Vygotsky is also famous for his theories about social and cultural learning. If the spiritual is socially and culturally enriched, then perhaps the sociocultural theory of Vygotsky could support the premise that spirituality impact learning (Morris as cited in Smartt, 2014). According to Vygotsky (1978), a socio-historical impetus is required to achieve development; this impetus was education, specifically schooling or intentional instruction. Instruction also has a more direct impact on spiritual formation. Consequently, his theory indirectly illustrates the role of education in spiritual formation.

The last supporter of the theoretical outline of this research is the concept of Multiple Intelligences proposed by Gardner. Emmons (2000a) investigated whether spirituality meets Gardner's criteria as intelligence. He stated it might be helpful to consider spirituality and what it contains as a set of specific capacities. Then, spirituality may be theorized in terms such as adaptive, intellectual, and motivational,

which are used to solve everyday life problems. Spirituality is a deep and varied construct that contains some skills and abilities relevant to intelligence, and it has a diversity that is based on individual differences in these skills.

The current study aims to provide a broader picture of the concept of EFL learner SI, a current gap in the literature, by developing an SI questionnaire. Particular focus was then placed on the gender and educational levels of students. The present study attempts to answer the following research questions:

1. *What are the constructs of an SI questionnaire for measuring the SI of EFL learners?*

2. *Is there any statistically significant difference between Iranian male and female EFL learners' responses regarding the constructs of the SI questionnaire?*

3. *Is there any statistically significant differences between Iranian undergraduate and graduate EFL learners' responses regarding the constructs of the SI questionnaire?*

METHOD

The purpose of the study was to develop a measurement instrument of SI. In the quantitative phase of the study, a total of 360 Iranian EFL learners participated through a convenience sampling procedure. The participants were university students from undergraduate (N= 181) and graduate (N= 179) levels. The sample consisted of both male (N= 172) and female (N= 188) students whose ages ranged from 18 to 50. They all spoke Persian as their mother tongue and were learning English as a foreign language. Three hundred sixty EFL learners filled out online questionnaires developed as Google forms, which were sent out via email, Telegram, and WhatsApp, and some of the students took print copies.

In the qualitative phase of the study, a total of 22 EFL learners from different educational levels and both genders participated in semi-structured interviews. Their ages ranged from 20 to 40. The interview questions were reviewed and finalized by two university professors. The other participants of this study, selected through a convenience sampling procedure, participated in the following way:

(1) 5 experienced teachers were involved in item assessment, (2) 28 EFL learners took part in the piloting and checking test-retest reliability, and (3) 10 EFL learners were used to check the comprehensibility of items in terms of language and content. Lastly, statistical validation was performed for the modified version of the questionnaire consisting of 27 items.

Instruments

This study is based on sequential exploratory mixed-methods research, a strong method to recognize and improve the strength of the study, the richness of data, and the validity and reliability of results (Othman, Steen, & Fleet, 2020).

Each quantitative and qualitative phase was carried out independently, but the quantitative results and qualitative findings were combined for wide-ranging objectives and extensive perception of the research questions, and events (Johnson, Onwuegbuzie, & Turner, 2007).

Findings of the qualitative phase, which is the early questionnaire development stage, were used to clarify and provide a more complete contextualization of outcomes and comprehension to validate the instrument in the quantitative phase of the study.

Semi-structure Interview

The scale items were generated based on the scale development procedures recommended by Dornyei and Taguchi (2010). After determining specific content areas, an extensive review of the literature on SI was performed to generate the initial item pools comprising each scale, which included many more items than the final scale.

Next, to gain an in-depth understanding of EFL learners' SI for questionnaire scale construction, semi-structured interviews lasting from 15 to 30 minutes were conducted with 22 EFL learners. The interviews were carried out in the learners' first language and then were recorded and transcribed for thematic content analysis.

Several ELT experts examined the interview questions in terms of content and wording to check their credibility.

Questionnaire

Five ELT experts checked the initial pool of items for item redundancy, clarity, and readability. A number of items were discarded reducing the pool to 72 items, which was later reduced to 27 items through EFA. Moreover, a number of items were reworded to increase clarity and readability. The Statement-type items were measured by five-point Likert scales, with the options ranging from strongly disagree to strongly agree (1=*strongly disagree*, 2=*disagree*, 3=*neutral*, 4=*agree*, 6=*strongly agree*). The developed questionnaire was the primary instrument for data collection in this study.

Design and Data Analysis

In the first step, 22 EFL learners were interviewed, and the audio files were transcribed completely to determine the items of the SI questionnaire. The analysis of the data was based on a Content Analysis of the interview transcripts. Codification of data was conducted deductively and inductively. Then, the elicited themes were examined by asking two EFL experts to proofread the items to establish content validity. Proofreading led to modifications, omissions, and minor changes in the wording of some items. Moreover, through a think-aloud activity with 10 EFL learners from the Islamic Azad University, the comprehensibility, wording, and ambiguity of items were checked. Consequently, some changes were made to items to increase their clarity. Based on the factors extracted from the interviews and literature review, the basis for the generation of the initial item pools was formed.

In the piloting phase, the questionnaire was administered to 28 EFL learners with similar characteristics to the target sample with regard to gender and educational level. The university students responded to the questionnaire in both online and paper-and-pencil formats. Then, the reliability of the questionnaire was checked through test-retest reliability with a one-week interval.

The result of test-retest reliability in the piloting stage of this study ($n=28$) was .90. In the following step, the questionnaire items were

checked by five TEFL specialists and modified per their requirements to finalize the items. Consequently, after checking face and content validity and piloting, the questionnaire items were reduced from 72 to 52 items.

In the second phase of data collection, which lasted about six months, the newly-developed questionnaire was widely distributed among the EFL learners who study English at the Islamic Azad University. Three hundred sixty were correctly and completely returned. The respondents answered the questionnaire through hard copies, emails, WhatsApp, and Telegram. Questionnaire validation involved conducting a factor analysis. Therefore, an exploratory factor analysis (EFA) was run to determine the construct validity of this scale, which further reduced the number of questionnaire items to 27. These items were classified under major factors of Learning English for personal, social, and educational benefits; Learning English for personal, social, and academic achievement; Learning English to promote religious values; and Learning English for intercultural communication. Finally, after the reliability and validity were verified, the last draft of the SI questionnaire contained 27 items and four factors. In the next step, a two-group multivariate analysis of variance (MANOVA) was used to check the gender and educational differences of the responses of EFL learners regarding SI.

RESULTS

To investigate the factorial structure of the SI questionnaire with regard to two sub-sample of participants (i.e., male and female as well as undergraduate and graduate students), its 27 items, in a 5-point Likert scale, were subjected to exploratory factor analysis (EFA) with the factor extraction method of principal axis factoring (PAF), and *promax* as its rotation method.

In this study, PAF was chosen because it would yield a factor structure in which common variance was accounted for, and that unique variance and error variance were removed (Tabachnick & Fidell, 2013). This was conducted with the ultimate goal of accounting for the maximum amount of extracted variance

(i.e., representing the maximum amount of data in the scale). Additionally, *promax*, as an oblique rotation method, was opted for in our analysis, as we observed a moderate amount of correlation among factors in our preliminary EFA, and also this justified the use of two-group MANOVAs in the next section of our analysis. Prior to performing EFA, the appropriateness of data structure for factor analysis was examined. First, the normality was inspected by observing the skewness and kurtosis measures of the items, and all of them were between -2 and +2 (see Table 1). As a result, according to Tabachnick and Fidell (2013), the data met the assumption of normality. Secondly, the Kaiser-Meyer-Olkin measure was utilized to evaluate the sampling adequacy for EFA (i.e., the sufficiency of the

sample size). Moreover, KMO was 0.92, exceeding the recommended value of 0.6 (Kaiser, 1970). Thirdly, Bartlett's test of sphericity was $X^2(351) = 4693.93$, $p = .00$, displaying that the magnitudes of correlation coefficients between items were adequately large for running EFA. After conducting EFA exploiting PAF as its extraction method, a four-factor solution (see Table 2) was found based on utilizing Kaiser Criterion.

This four-factor solution explained a total of 49.10% a half the variance which is considered to be a very good amount of variance accounted for by this factor structure) of common variance (see Table 2), with those four factors representing 34.39%, 7.71%, 4.09%, and 2.92% of that common variance, respectively.

Table 1
Descriptive Statistics Spiritual Intelligence Questionnaire (N =359)

	Min	Max	Mean	Std.Deviation	Skewness		Kurtosis	
					Value	Std. Error	Value	Std. Error
Item1	1	5	4.29	.90	-1.37	.13	1.78	.26
Item2	1	5	4.24	.93	-1.20	.13	.95	.26
Item3	1	5	3.80	1.03	-.28	.13	-.90	.26
Item4	1	5	4.24	.82	-1.17	.13	1.64	.26
Item5	1	5	4.32	.79	-1.19	.13	1.57	.26
Item6	1	5	3.54	1.04	-.19	.13	-.50	.26
Item7	1	5	3.93	1.01	-.92	.13	.55	.26
Item8	1	5	3.72	1.03	-.38	.13	-.42	.26
Item9	1	5	3.85	.97	-.71	.13	.21	.26
Item10	1	5	4.49	.80	-1.87	.13	3.92	.26
Item11	1	5	4.52	.81	-1.14	.13	1.08	.26
Item12	1	5	4.31	.84	-1.45	.13	2.57	.26
Item13	1	5	4.22	.89	-1.21	.13	1.29	.26
Item14	1	5	4.26	.86	-1.29	.13	1.92	.26
Item15	1	5	4.27	.89	-1.32	.13	1.73	.26
Item16	1	5	3.93	1.12	-.91	.13	.14	.26
Item17	1	5	4.35	.82	-1.52	.13	1.92	.26
Item18	1	5	4.18	.83	-1.12	.13	1.70	.26
Item19	1	5	4.56	.80	-1.27	.13	1.73	.26
Item20	1	5	4.58	.72	-1.26	.13	1.37	.26
Item21	1	5	4.58	.72	-1.18	.13	1.87	.26
Item22	1	5	4.38	.84	-1.57	.13	1.77	.26
Item23	1	5	4.28	.79	-1.12	.13	1.19	.26
Item24	1	5	4.26	.84	-1.17	.13	1.44	.26
Item25	1	5	4.21	.82	-1.06	.13	1.33	.26
Item26	1	5	4.42	.89	-1.17	.13	1.07	.26
Item27	1	5	4.50	.74	-1.13	.13	1.85	.26

Table 2
Total Variance Explained by the Four-factor Solution

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	
1	9.78	36.23	36.23	9.28	34.39	34.39	8.50
2	2.53	9.38	45.60	2.08	7.71	42.10	7.33
3	1.65	6.13	51.73	1.10	4.09	46.18	4.15
4	1.27	4.71	56.44	0.79	2.92	49.10	4.48

It should be noted that Table 3 summarizes the information regarding the extracted factor structure, presenting the factors, their

accompanying items, and the reliability indices of each factor (all of Cronbach's alphas were larger than the benchmark value of 0.7).

Table 3
Summary of Exploratory Factor analysis

Factor	Items	Loading	Crobach's Alpha
Learning English for personal, social, and educational Benefits	Item11	0.753	0.92
	Item27	0.721	
	Item10	0.706	
	Item21	0.696	
	Item23	0.688	
	Item19	0.688	
	Item24	0.684	
	Item18	0.677	
	Item26	0.665	
	Item20	0.664	
	Item25	0.640	
	Item17	0.616	
	Item22	0.564	
Learning English for personal, social, and academic achievement	Item14	0.816	0.83
	Item13	0.783	
	Item12	0.729	
	Item15	0.678	
	Item16	0.553	
Learning English to promote religious values	Item7	0.785	0.84
	Item8	0.745	
	Item6	0.731	
	Item9	0.725	
Learning English for intercultural communication	Item1	0.663	0.74
	Item3	0.641	
	Item5	0.605	
	Item4	0.577	
	Item2	0.490	

To answer the second research question, a two-group multivariate analysis of variance (MANOVA) was used. It should be mentioned that these four factors of SI were conceived of

as latent composites, therefore, the means of participants' responses to items of each factor were estimated and used in MANOVA.

Table 4
Descriptive Statistics of Gender Levels in Different DVs

	Gender	Mean	Std. Deviation	N
Factor1	male	4.44	0.47	172
	female	4.38	0.64	187
	Total	4.41	0.57	359
Factor2	male	4.29	0.58	172
	female	4.11	0.80	187
	Total	4.20	0.71	359
Factor3	male	3.73	0.79	172
	female	3.78	0.87	187
	Total	3.76	0.83	359
Factor4	male	4.07	0.55	172
	female	4.27	0.66	187
	Total	4.18	0.62	359

The results of two-group MANOVA revealed that the overall multivariate null hypothesis of no significant difference between male and female students' responses on those four constructs of SI was rejected, F Wilk's Lambda (4, 354) = 6.81, $p = .00$, partial eta squared of .07, which can be considered a medium effect. Consequently, it can be said that gender did have a statistically significant medium holistic effect on SI, given that these two cohorts of students had different perceptions in this regard.

To have a more analytic perspective on students' differences regarding their SI, four univariate F tests (embedded in the two-group MANOVA) were conducted, examining the potential effects of gender, as an IV, on four DVs (four extracted factors of SI) separately. Univariate F tests (see Table 5) for those four factors illustrated that there were group differences on *Factor 2* (learning English for personal, social, and academic achievement and male students had a significantly higher mean), $F(1, 357) = 6.19$, $p = .01$, partial eta squared of .02 (considered as a small effect), and *Factor 4* (learning English for intercultural communication and female students had a significantly higher mean), $F(1, 357) = 9.66$, p

= .00, partial eta squared of .03 (considered as a small effect). Hence, it can be concluded that gender had a small, significant effect on two factors of SI. To answer the third research question, another two-group multivariate analysis of variance (MANOVA) was used. In fact, this MANOVA was exploited to examine the effects of graduate levels on four extracted factors of this questionnaire. It should be mentioned again that these four factors of SI were counted as latent composites; consequently, the means of participants' responses to items of each factor were estimated and used in MANOVA.

The results of two-group MANOVA illustrated that the overall multivariate null hypothesis of no significant difference between undergraduate and graduate students' responses on those four constructs of SI was rejected, F Wilk's Lambda (4, 354) = 11.81, $p = .00$, partial eta squared of .12, which can be regarded as a medium effect. As a result, it can be said that education did have a statistically significant medium holistic effect on SI, given that these two groups of students had different perceptions in this regard. For gaining a more analytic view on students' differences regarding their SI, another set of four univariate

F tests (embedded in the second two-group MANOVA) were exploited, examining the potential effects of education, as an IV, on four DVs (four extracted factors of SI) separately. Univariate *F* tests for those four factors demonstrated that there were group differences on just *Factor 4* (learning English for

intercultural communication and undergraduate students had a significantly higher mean), $F(1, 357) = 22.10, p = .00$, partial eta squared of .06 (regarded as a small effect). Therefore, it can be concluded that education had a small, significant effect on one factor (factor 4) of SI.

Table 5
Test of Between-subjects Effects

IV	DV	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Intercept	Factor1	6969.17	1.00	6969.17	21742.21	0.00	0.98
	Factor2	6326.64	1.00	6326.64	12759.88	0.00	0.97
	Factor3	5057.05	1.00	5057.05	7338.75	0.00	0.95
	Factor4	6240.52	1.00	6240.52	16531.16	0.00	0.98
Gender	Factor1	.31	1.00	.31	.96	.33	.00
	Factor2	3.07	1.00	3.07	6.19	.01	.02
	Factor3	.29	1.00	.29	.42	.52	.00
	Factor4	3.65	1.00	3.65	9.66	.00	.03
Error	Factor1	114.43	357.00	0.32			
	Factor2	177.01	357.00	0.50			
	Factor3	246.00	357.00	0.69			
	Factor4	134.77	357.00	0.38			
Total	Factor1	7092.22	359.00				
	Factor2	6506.12	359.00				
	Factor3	5315.38	359.00				
	Factor4	6402.48	359.00				

Table
Test of Between-subjects Effects

IV	DV	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Intercept	Factor1	6977.78	1	6977.78	21821.71	0.00	0.98
	Factor2	6326.46	1	6326.46	12620.10	0.00	0.97
	Factor3	5068.43	1	5068.43	7418.45	0.00	0.95
	Factor4	6262.77	1	6262.77	17153.22	0.00	0.98
Education	Factor1	.58	1	.58	1.83	.18	.01
	Factor2	1.11	1	1.11	2.22	.14	.01
	Factor3	2.38	1	2.38	3.49	.06	.01
	Factor4	8.07	1	8.07	22.10	.00	.06
Error	Factor1	114.16	357	.320			
	Factor2	178.96	357	.501			
	Factor3	243.91	357	.683			
	Factor4	130.34	357	.365			
Total	Factor1	7092.22	359				
	Factor2	6506.12	359				
	Factor3	5315.38	359				
	Factor4	6402.48	359				

DISCUSSION

An important matter in any intelligence or human ability is its measurement (King, 2008). According to the literature, numerous studies have focused on developing a measurement of SI (Amram & Dryer, 2008, King, 2008; Nasel, 2004; Wigglesworth, 2006) or measuring the SI of learners based on a developed questionnaire (Pant, & Srivastava, 2017; Sisk, 2008; Smartt, 2014). But this study looked at the matter of measurement from a different perspective, that is, the need for the development of a tool for measuring the SI of an EFL learner. The present study's research question aimed to validate a SI questionnaire in an Iranian EFL context. Therefore, the current research developed and validated a unique questionnaire to measure SI based on sequential mixed-methods research. From the results, four different factors emerged for the SI scale, factor 1 (Learning English for personal, social, and educational benefits); factor 2 (learning English for personal, social, and academic achievement); factor 3 (learning English to promote religious values); and factor 4 (learning English for intercultural communication). Many studies support the basic constructs of the SI questionnaire (Buzan, 2001; Emmons, 2000; Fisher, 2010; King, 2008; Wigglesworth, 2006; Zohar, 2005). For example, Fisher (2010) developed a spiritual questionnaire in SHALOM, which consists of items reflecting the quality of the relationship of each person with themselves, other people, the environment, and God in the personal, communal, environmental, and transcendental domains. In the same vein, Wigglesworth (2006) developed the SQ21 Model, which includes the individual's awareness of self and universe, higher self-mastery, and social mastery.

The first factor identified by our questionnaire, Learning English for personal, social, and educational benefits, includes thirteen questionnaire items related to spiritually intelligent learners who see learning English as a source of gaining personal, social, and educational benefits. Based on their needs and goals, individuals can benefit from learning the English language, which is the language of

academia, research, communication, education, diplomacy, science, technology, and the internet (Al-Kadi & Ahmed, 2018). Knowledge of English opens the door to other cultures through television, film, music, and literature. Through learning English, students can meet new people and succeed in professions ranging from science to business (Ahmed, 2015). In addition, individuals who learn a second language experience more cognitive flexibility and social flexibility than monolingual persons (Ikizer & Ramirez-Esparza, 2017). After learning the English language, learners will be motivated to study intercultural language courses to expand their worldviews (Tran & Duong, 2018). Anbugeetha (2015) characterizes individuals with high SI as interested, self-motivated, positive, energized, happy, and creative.

Many researchers, such as Alzubaidi, Aldridge, and Khine (2014), have investigated the impact of the learning environment on language learning by examining the psychological, social, and physical features of the learning environment. That study revealed a strong and positive relationship between a student's perceptions of the learning environments and their motivation and self-regulation and the influence of the psychosocial environment on students' learning. Therefore, the environment promotes higher levels of motivation and self-regulation for students, which in turn provides them with opportunities to form friendships and support one another. As a final point, Al-Salkhi (2019) stated that SI empowers students, and improves their self-confidence, self-development, and self-actualization, which enables them to solve their problems and achieve their goals. It also provides individuals with feelings of integrity, interest, contentment, and pleasure.

The second factor, learning English for personal, social, and academic achievement, includes five questionnaire items related to different types of achievements by EFL learners under the effect of learning the English language and as a sign of being spiritually intelligent. This factor is supported by Ahmadi, Ahghar, and Abedi (2012), who stated that spiritually intelligent learners perform better at

their educational tasks and take responsibility. Therefore, the quality of their academic and personal life will increase. The relationship between SI and the quality of students' life was investigated by Pant and Srivastava (2015), and their results revealed that SI and quality of life are significantly related. In addition, Vygotsky (1978) stated language is an essential element of socialization, considering it as a tool for establishing social, cultural, and linguistic knowledge, while Duff (2007) found language was a way of gaining these kinds of knowledge.

Individual achievements from the positive effect of SI have also been reported by different studies, such as the significant impact of SI on job satisfaction (Korankye & Amakyewaa, 2021); the positive effect of SI on student's adaptation to college life (Eldiasty & Helal, 2018); a positive relation between SI and academic performance (Rahimi, 2017); and a relationship between SI and life satisfaction (Naderi, Asgari, & Roushani, 2010).

Moreover, learners' achievements under the impact of learning the English language have been reported by many studies, such as the significant correlation of foreign language with different types of intelligence (Taheri, Sadighi, Bagheri, & Bavali, 2020); developing English skills and knowledge as an important medium for engaging with different occupational and academic contents and providing learning opportunities for learners (Salmani-Nodoushan, 2020); a significant relationship between proficiency in language and academic achievement (Ardasheva, Tretter, & Kinny, 2011; George, 2013; Kim & Herman, 2009); and personal achievement by learning the English language such as being accepted and graduating from university, having opportunities for international education, finding desirable jobs, investing in foreign companies, and having opportunities for occupational promotion (Ng & Tang, 1997).

The third factor, learning English to promote religious values, encompasses four major questionnaire items, all of which relate to using the English language to accept and appreciate our religious values, respect religious differences, and share religious values. The basic premise of this factor is that

language and religion are profoundly linked with different socioeconomic, political, linguistic, and religious consequences (Han, 2018). This construct of the study can be supported by Azmi, Hassan, Ali, Abdullah, YahaAlias, Anas, & Suhaimi's study (2021) which investigates the influence of English language learning on Islamic self-identity formation. Their results showed the positive influence of English language learning on students' Islamic self-identity formation. Moreover, some moral features such as respect, self-confidence, self-esteem, collaboration, group work, persistent effort, and modesty can be promoted by English language learning. Therefore, English language learning can be a means of shaping self-identity, extending students' morals, and enhancing religious values. Similarly, Skerrett (2017) reported that through the English language, Chinese students had substantive opportunities to engage with the knowledge and practices of the Christian faith and values. Therefore, learning the English language was considered a way to develop religious values.

The fourth construct, learning English for intercultural communication, includes five main questionnaire items based on the premise that, by learning another language, students will be aware of another culture in terms of everyday lifestyles, clothing, foods, communication, and traditions. A language transfers one's inner thinking, cultural values, and social behaviors. Moreover, language is a communicative tool to exchange ideas with individuals from similar and diverse cultural environments. As a result of globalization and intercultural communication and also the presence of the global business and international education, foreign/second language learning is becoming more and more widespread in the world. When learners are equipped with English language knowledge and cultural knowledge, they can proficiently interact with people from different languages and cultural backgrounds (Yang, 2020). It can be said that foreign language competence is a means of both acquiring knowledge about and skills of efficient intercultural communication and sharing our own culture, opinion, and

values with the world. Based on ELT textbooks, learners have a positive attitude toward using English to communicate and negotiate meaning among speakers from different cultures and native languages (Maghsoudi, 2020).

Moreover, spirituality as the foundation of values, attitudes, and ethics affects individual behaviors and interactions with others (Lin, Clark, & Maher, 2017). Based on Astin, Astin, and Lindholm's (2010) study, spirituality is caring for others and caring about others based on the feeling of connection with each other. The focus of studies on spirituality has been as a form of intelligence. SI has a direct positive effect on social competence and effective communication with others. Also, individuals with high SI value other people for their differences, are concerned about the problems of others, and have a caring, responsive, and kind attitude to others (Anbugeetha, 2015; King, 2008; Vaughan, 2002; Wigglesworth, 2006; Zohar, 2005).

The analysis of the data on gender showed a significant relationship between gender and SI. The male students had a significantly higher mean than females in factor 2 (learning English for personal, social, and academic achievement) of the SI questionnaire. Gupta (2012) studied SI among college students and found that males were better at SI than female students. Sisk and Torrance (2001) suggested that some features of SI such as integrity, self-awareness, creativity, reasoning, and wisdom may help male students to raise their SI level.

Although, female students had a significantly higher mean than males in factor 4 (learning English for intercultural communication) of the SI questionnaire. This finding is in agreement with several other studies. Amram and Dryer (2008) reported that females have higher levels of SI than men. Females have been found to have a greater willingness to express their emotions and feelings (Steinberg, 2005) and are more social in their interactions and create relationships with others (Mulac, Bradac, & Gibbons, 2001). Interacting with each other is essential for females because they delineate their feeling of self by the quality of their relationships (Gray, 1992). Females stay away from isolation and

try to be close and connect with others (Tannen, 1990). Perhaps these qualities help female students to raise their SI level.

As a final point, the educational level had a small but significant effect on factor 4 (learning English for intercultural communication) of the SI questionnaire. Social communication includes interpersonal communication, which helps to interact and converse with people from different cultures and languages (Ihmeideh, et al., 2010). Harlak Gemalmaz, Gurel, Dereboy, and Ertekin (2008) recommend that university students should develop their communication skills from their first year at university. Hence, universities develop the student's communication skills for coping with the challenges of the globalized world. Based on Ihmeideh et al.'s (2010) study, university students' attitudes toward communication skills are positive. They show that universities can help develop the ability to interact with others by providing appropriate activities and a positive environment for communication. By developing English language knowledge and cultural knowledge, learners can skillfully interact with people from different languages and backgrounds (Yang, 2020).

CONCLUSION

The lack of an instrument to measure EFL learners' SI encouraged the researchers to scrutinize this topic. To this end, this article delineated the development and validation of a questionnaire to investigate the SI of EFL learners. In effect, it was necessary to turn away from the previously established questionnaire that focused on other social, cultural, and religious boundaries and move towards a more contextually appropriate and practical form of the SI questionnaire.

The finding of this study can offer implications for practitioners, professionals, academics, theorists, teacher's training centers, and an even broader scope, such as communities that can benefit from the advantages of the SI construct. Capeheart-Meningall (2005) states one essential part of students' overall development and learning is their spiritual development. Therefore, the findings of this study may encourage both EFL

teachers and students to be more spiritually intelligent. In the same vein, Srivastava (2016) believes educationists, trainers, teachers, instructional managers, academic supervisors, curriculum constructors, and pedagogic planners of a country should be concerned about curriculum construction and curriculum development based on SI. They should match their aims and methods of teaching based on SI.

Additionally, to attain their purpose, educationalists require significant progress in the area of research on SI. Srivastava (2016) also adds that spiritual education should become an essential part of teacher education, school education, as well as all courses in humanities and social sciences at the university level. According to Hassan (2009), those students who have high SI perform their actions confidently and sensitively and can position themselves properly in any condition, which, in turn, increases their achievement in education.

Moreover, having a spiritual attitude to teaching makes the process of learning easier by increasing autonomy, confidence, self-esteem, and feelings of empathy while decreasing stress and anxiety (Galeh & Dorcheh, 2015).

Regarding the limitations of this study, it should be noted that the data were collected only from the Tehran branch of the Islamic Azad University. Therefore, it is suggested that future research can be focused on state universities and language institutes in different cities. Also, further studies are needed to provide evidence of SI from students of other academic fields. Finally, because this study aimed to find the components of the SI questionnaire for measuring SI of EFL learners, other studies could investigate EFL teachers' SI.

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Biodata

Masoumeh Azadi is a Ph.D. candidate in at IAU, West Tehran Branch. Her area of interest is discourse analysis. She has been teaching general English courses in different IAU branches for a few years.

Email: ma.azadii@yahoo.com

Dr. Minoo Alemi is an associate professor at Islamic Azad University, West Tehran Branch, and a research associate at Sharif University of Technology, Iran. She has published papers in national and international journals and two book chapters in the volume *Lessons from Good Language Teachers* (Cambridge University Press, 2020). She is also the co-editor of *Pragmatics Pedagogy in English as an International Language* (Routledge, 2020).

Email: minoolemi2000@yahoo.com

Dr. Parviz Maftoon is an associate professor at Islamic Azad University, Science and Research Branch, Tehran, Iran. He received his Ph.D. degree from New York University in TESOL. His primary research interests concern second language acquisition, SL/FL language teaching methodologies, and language curriculum development. He has published nationally and internationally and has written and edited a number of English books. He is currently on the editorial board of several language journals in Iran.

Email: pmaftoon@srbiau.ac.ir

Appendix 1**Spiritual Intelligence Questionnaire**

Spiritual Intelligence Questionnaire contains 27 items, each answered on a five-point Likert scale ranging from “Strongly Agree” to “Strongly Disagree”. It measures An EFL learner’s SI. Factor 1: Learning English for

personal, social, and educational Benefits (11, 27, 10, 21, 23, 19, 24, 18, 26, 20, 25, 17, 22)

Factor 2: Learning English for personal, social, and academic achievement (14, 13, 12, 15, 16)

Factor 3: Learning English to promote religious values (7, 8, 6, 9)

Factor 4: Learning English for intercultural communication (1, 3, 5, 4, 2)

Dear learner,

Please indicate the degree to which you agree with each statement by checking (✓) the corresponding box. This is not a test. So, there is no right or wrong choice. Please provide your answers thoughtfully and sincerely as only this will guarantee the success of this investigation. The results and findings will be used for research purposes only!

Thank you very much for your help.

Respondent’s Background

Gender:

Educational level:

*SA = strongly agree; A = agree; N = neither agree nor disagree; D = disagree; SD = strongly disagree.

1	I enjoy helping others learn English.	SA	A	N	D	SD
2	By learning the English language, I can communicate with people who have different mother tongues.	SA	A	N	D	SD
3	I respect all people with different languages and beliefs.	SA	A	N	D	SD
4	I use a variety of learning methods to learn the English language.	SA	A	N	D	SD
5	By learning the English language, I have shared my opinions on various topics with people who know this language.	SA	A	N	D	SD
6	By learning the English language, I have become more familiar with other religions.	SA	A	N	D	SD

7	By learning English, I have shared my religious beliefs with people who know English.	SA	A	N	D	SD
8	I enjoy expressing my religious values and beliefs in a language other than my mother tongue.	SA	A	N	D	SD
9	By learning the English language, I have better understood the differences between my religious beliefs and other English speakers' religions.	SA	A	N	D	SD
10	Learning the English language has boosted my confidence.	SA	A	N	D	SD
11	Learning the English language has paved the way for me to learn new topics.	SA	A	N	D	SD
12	Learning the English language has been one of the most effective ways for my progress in various scientific fields.	SA	A	N	D	SD
13	Learning the English language has improved the quality of my personal life.	SA	A	N	D	SD
14	Learning the English language has improved the quality of my social life.	SA	A	N	D	SD
15	Learning the English language has created more job opportunities for me.	SA	A	N	D	SD
16	By learning the English language, I have gained a better understanding of my mother tongue.	SA	A	N	D	SD
17	I am aware of my strengths in learning the English language.	SA	A	N	D	SD
18	I know how to provide opportunities for my progress in learning the English language.	SA	A	N	D	SD
19	I enjoy watching movies, reading books, and listening to music in English.	SA	A	N	D	SD
20	An optimal learning environment offers me better facilities to learn the English language.	SA	A	N	D	SD
21	An optimal learning environment increases my ability to learn the English language.	SA	A	N	D	SD
22	Language learning environments are attractive, friendly, and motivating for me.	SA	A	N	D	SD
23	Learning the English language has given me access to various economic, political, cultural, and social content related to other geographical areas.	SA	A	N	D	SD
24	Learning the English language helps me get acquainted with experts' views on various topics.	SA	A	N	D	SD
25	Learning the English language has broadened my worldview.	SA	A	N	D	SD
26	By learning the English language, I have gained the ability to attend English sessions, meetings, and conferences.	SA	A	N	D	SD
27	By learning the English language, I have obtained faster access to up-to-date resources and information.	SA	A	N	D	SD