

## **Associations between Language Learners' Spiritual Intelligence, Foreign Language Attitude and Achievement Motivation: A Structural Equation Approach**

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### **Abstract**

*The present study examines the relationships between language learners' Spiritual Intelligence, Achievement Motivation and Foreign Language Attitude. The sample consists of 223 Iranian advanced English language learners. The data were collected by use of Spiritual Intelligence Self-report Inventory, Foreign Language Attitude Scale and Achievement Motivation Questionnaire. Two hypothetical models were proposed for mediation analysis by means of structural equation modeling. The results revealed that foreign language attitude mediates the causal correlations between Spiritual Intelligence and Achievement Motivation. For the second model, however, the intervening effect of Achievement Motivation on the causal paths from Spiritual Intelligence to Foreign Language Attitude was not supported based on the analysis of effects. The results provide new insights and can pave the way for further investigation of the associations between Spiritual Intelligence and other individual differences of language learners.*

**Key Words:** Spiritual Intelligence; Achievement Motivation; Language Attitude

English is seen as a global and international language and has such a special position that it has more non-native speakers than native ones around the world (Algeo & Butcher, 2013; Braine, 2013). The outputs of plenty of recent research indicate that English language learners are active participants in the language learning process whose attitude and believe towards language learning play a crucial role in attaining the ultimate goal of language acquisition and retention (Hussein, 2011;

Kormos, Kiddle & Csizér, 2011; Reynolds, 2014; Schmidt, 2012). Such beliefs and attitudes influence learners' commitment to their language learning (Wesley, 2012). An attitude is a relatively lasting amalgamation of beliefs around an object or a situation, leading one to respond in some preferential manner (Petty & Krosnick, 2014), plus attitude endures since it is learned and can be unlearned (Crano & Prislin, 2011).

Another vital factor, highly correlated with

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learners' attitude, is motivation for language learning (Abidin, Pour-Mohammadi & Alzwari, 2012; Dörnyei, & Ushioda, 2013; Kormos, Kiddle & Csizér, 2011). Motivation for language learning refers to "the extent to which the individual works or strives to learn the language because of a desire to do so and the satisfaction experienced in this activity" (Gardner, 1985, p.10). Language Learners' attitudes towards language learning and motivation for it have been observed to be highly correlated to learning enjoyment (Brantmeier, 2005) and achievement on proficiency measures (Brantmeier, 2005; Mills, Pajares & Herron, 2007). An attitude is a set of perceptions while motivation is an impetus for doing something (Van Wyk, 2012). Thus, learners may be motivated to learn English because of their attitude towards English culture and language (Dörnyei, & Ushioda, 2013; Masgoret & Gardner, 2003).

Need for achievement is another related psychological construct, which plays a pivotal role in the success and achievements of individuals (McClelland & Winter, 1969). Achievement motivation refers to the extent to which individuals differ in their dedication to endeavor to achieve goals, such as praise from others and feelings of personal competence (McClelland, 1985). Individuals with high achievement motivations pick better ways to outperform others, meet or surpass some standard of excellence, and/or do something outstanding (Tucker & Herman, 2002). All learners are affected to some extent by an urge to attain something and those learners, who have a higher desire of success, work harder to achieve (Cook, 2013; Covington, 2000). As a whole,

language learners' individual differences have been found to be highly correlated with ultimate acquisition of language and decades of research have been focusing on the nature and dynamics of the effects of psychological attributes such as anxiety (see MacIntyre & Gregersen, 2012), attitude (see Hussein, 2011), motivation (see Dörnyei, & Ushioda, 2013), Emotional Intelligence (see Beck, Kumschick, Eid, & Klann-Delius, 2012) on language learners' performance.

Interest in Spiritual Intelligence Quotient (SQ) has seen exponential growth within contemporary educational settings (Joy, 2013; Kaur & Singh, 2013; Zohar, 2012). Zohar and Marshall (2000) define SQ as "the mental aptitude used by human beings to address and find solutions to problems of meaning and value, and to place their lives and actions into a wider, richer, meaning giving context" (p.56). Their claims root in the earlier findings of neuro-scientific studies which unfolded that the human brain has evolved with structures that may enable individuals to attend to the aim of addressing issues of meaning and value from within their life contexts (see Newberg, d'Aquili, & Rause, 2001; Ramachandran & Blakeslee, 1998). Zohar and Marshall (2000) argue that it is our spiritual intelligence which is "our potential for growth and transformation" and which enables "the evolution of our human potential" (p. 13).

Emmons (2000) embarks on motivation and personality theories in favor of SQ and maintains that high SQ people adapt and function efficiently in a wide range of life endeavors. Emmons further draws on cognitive personality theory to remind the positive effect of SQ on personal striving and states that:

The basic assumptions of the cognitive-motivational approach to personality are the following: people are intentional, (usually) rational beings who are engaged in a constant effort to strive toward personal meaningfully defined goals. These goals emerge as a function of internal

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propensities such as motive dispositions and basic needs in concert with cultural demands and situational affordances that shape their expression across situations and over time. Motivation in the form of goal-directedness is a major component of the cognitive approach, and motivation is a key aspect of personality as it lends coherence and patterning to people's behavior. Motivational units, such as goals, motives, and values, form a hierarchical system of which various levels could be activated depending on environmental stimuli (p. 5).

When using the term *spirituality* in this paper, it is not referred to religion, but rather to something more intrinsic than religion (O'Murchu, 1997; Hyde, 2009). Here, spirituality means the sense of connectedness and relationality which people may experience in relation to Self and everything other than Self (Hay & Nye, 2006; Hyde, 2009). A review of the literature on *intelligence* also unravels a recurring theme in all types of intelligence, which is the *problem-solving* feature (Eppig, Fincher & Thornhill, 2011; Van Lehn, 2014; Vernon, 2014).

Spiritual intelligence draws on the capacity to view issues from more than one perspective and to recognize the associations between perception, belief, and behavior (Mayer, 2000). Gardner (1999) explored two long-established conceptions of knowing—*knowing how* and *knowing that*—to see whether there exists *spiritual* intelligence. He recognized skills manifested in SQ as meditating, achieving trance states, and envisioning the transcendental or being in touch with psychic, spiritual, or noetic phenomena. Sisk and Torrance (2001) affirmed these skills and combined the skills of *intuition* and *visioning*. Gardner said he wanted to avoid risking an unreasonable conclusion by ignoring several human capacities worthy of notice with his theory of intelligence, and then he regarded the term existential intelligence. Although Gardner did not include existential intelligence in his multiple-intelligence theory, he stressed the significance of it in human life. Given the windows newly opened for further research on the role of spiritual

intelligence in the developmental and educational psychology areas, the paucity of research on the interactions between SQ and language learning processes seems astounding. It sounds worthwhile to orientate this interest in SQ to the psychology of language learner and fill the aforesaid gap in the literature. The nature of language classrooms, teacher-student interactions and complexity of language teaching and learning have been cited as the major factors which make language learning contexts distinctive from those of other disciplines (Benson & Reinders, 2011; Donato, 2000; Gibbons, 2002; Hellermann, 2008; Norton & Toohey, 2004). Zohar and Marshall (2000) believe that the main feature of SQ is its unifying function, which integrates IQ and EQ by establishing a bridge between reason and emotion. In the same fashion, Zohar and Marshall define SQ as a mental and intellectual aptitude resorted to by individuals to address and find solutions to complications of meaning and value, and to put their worldviews and actions into a wider, richer, meaningful context. Shababi et al. (2011) found that EQ was a full mediator between SQ and mental health among adolescents. Bolghan-Abadi, Ghofrani and Abde-Khodaei (2014) investigated the spiritual intelligence role in predicting Quchan University students' quality of life and found that the spiritual intelligence has an effective role on predicting quality of life.

The present study has targeted the following issues: investigating the direct effect of SQ on language learners'

achievement motivation; and exploring the mediating effect of foreign language attitude on the causal correlations between SQ and achievement motivation (Model A). It is also aimed to investigate the mediating effect of achievement motivation on the causal relationship between SQ and language attitude (Model B). Furthermore, it is aimed to look into the correlations between the psychological constructs of SQ, achievement motivation and language attitude among language learners.

## Methodology

### Participants

The sample consists of 223 Iranian advanced English as Foreign Language (EFL) learners in the cities of Tehran, Kerman, Shahr-E-Babak, Tabriz and Shiraz. Their English learning experience ranged from five to seven years. There was a relatively balanced gender mix—111 males (52.58 %) and 102 females (47.42%). Their age ranged from 18 to 26 ( $M= 23.17$ ,  $SD=1.63$ ). Homogeneity of the participants in proficiency was already ensured due to the fact that they were all students of the same nation-wide language institute and had passed the same placement and proficiency test each semester to advance towards the next level. Participant selection was based on Mixed/Multi-Stage Random Sampling: first, Quota Sampling was used wherein assembled sample had approximately the same proportion of participants with respect to the variable of gender; second, Accidental or Convenience Sampling Technique was used based on the accessibility and proximity of participants to the researcher. The study was undertaken during the summer of 2014.

### Instruments

#### *Spiritual Intelligence.*

The Spiritual Intelligence Self-Report Inventory (SISRI-24) developed by King (2008) was implemented. The inventory embodies four subscales: Critical Existential Thinking (CET), Personal Meaning Production (PMP), Transcendental Awareness (TA), and Conscious State Expansion (CSE).

The first sub-scale of spiritual intelligence inventory is referred to as critical existential thinking, defined as the potentials to critically contemplate the nature of existence, reality, the universe, space, time, and other existential or metaphysical concepts. The second component is personal meaning production that refers to the capability to procure personal meaning and purpose from physical and non-physical experiences, including the ability to create and nurture a life purpose. The third factor, transcendental awareness, refers to the ability to recognize transcendent aspects of the self (e.g., a transpersonal or transcendent self), of others, and of the physical world (e.g., non-materialism) during the normal, waking state of consciousness, along with the capacity to realize their relationship to one's self and to the physical. The third final factor of spiritual intelligence is conscious state expansion referring to the ability to enter and exit higher/spiritual states of consciousness (e.g. pure consciousness, integration, unity, and oneness) at one's own discretion (as in deep contemplation, meditation, etc.). This scale has 24 questions that each of sub-scales has respectively 7, 5, 7, and 5 questions. The respondents provided their answers on a five-point Likert-type scale. Thus, the score of this scale could be from 0 to 96. High score in this scale means the high extent of individual's spiritual intelligence. King (2008) has stated Cronach Alpha of 0.95 as the overall reliability of the scale. He further mentioned the alpha of .88 for CET, .87 for PMP, .89 for TA and .94 for

CSE. Moreover, the reliability and validity of this measure have been confirmed by several other studies (e.g., Allan & Shearer, 2012; Benedict-Montgomery, 2014; Khodadady & Mousavi, 2014).

### ***Foreign Language Attitude Survey***

Cid, Grañena and Tragant, (2009) developed and validated the foreign language attitudes and goals survey (FLAGS). There are underlying premises for selection of this measure amongst hosts of other foreign language attitude scales available. First, it is not contaminated by the so-called factor attitude towards *foreign language culture*. As previously discussed, SQ is more concerned with the internal psychological attributes and inner *Self* (Mayer, 2000). Ergo, the investigation of nature of dynamics between SQ and foreign language attitude and motivation can engender more valid results if more attention is paid to the critical and existential thinking of language learners since the nature of learning *English* a foreign language is matter of concern here. Second, this inventory takes linguistic self-efficacy factor into account, a factor which has been shown to strongly affect attitudinal and motivational factors in foreign language learning (see Buriel et al., 1998; Mills, Pajares & Herron, 2007). The measure is set to gauge both foreign language attitude and goal orientations along with their sub-components. The goal orientation part and the general motivation sub-measure were not used study because they do not fit to the aim and scope of the present study. The *efforts* subscale of the inventory was also discarded because of reliability issues (explained below). The sub-components of the final foreign language attitude section (see the Appendix) and their reliability coefficients (reported by Cid, Grañena & Tragant, 2009) are as follows: attitude towards instruction (5 items,  $\alpha = .82$ ); appeal to the English as a foreign language (5 items,  $\alpha = .79$ ) and linguistics self-efficacy (6 items,

$\alpha = .78$ ). In order to ensure reliability of the measure once more, a pilot study was conducted with a sample of 53 participants. The results of the pilot study for reliability establishment are as follows: attitude towards instruction (5 items,  $\alpha = .78$ ); appeal to the English as a foreign language (5 items,  $\alpha = .76$ ); linguistics self-efficacy (6 items,  $\alpha = .81$ ) and Efforts (4 items,  $\alpha = .58$ ). Cid, Grañena and Tragant, (2009) reported the reliability index of .69 for the efforts sub-measure (which is not quite dependable). Consequently, the *efforts* sub-measure was disregarded because it did not produce desirable reliability index. The final scale is provided in the appendix.

### ***Achievement Motivation Scale (AMS)***

Hermans (1970) developed the first version of AMS with 92 items. He later on revised the self-report scale on accounts of validity and reliability and came up with the final version consisting of 29 items (Hermans, ter Laak, & Maes, 1972). The items are Likert-type and the minimum and maximum range of scores would be from 29 to 116. The reliability of the measure had been previously affirmed by several studies (e.g., Busato et al., 2000; Hustinx, Kuypers, van der Werf, & Dijkstra, 2009; Meece, Herman, & McCombs, 2003); however, the reliability was calculated on a sample of 53 in a pilot study and the Cronbach alpha of .87 was obtained.

### **Analysis**

The descriptive statistics and correlational coefficients are provided in table 1. Two hypothesized model were proposed to a) test the direct and indirect effects of SQ on achievement motivation regarding the intervening effect of attitude and b) test the direct and indirect effects of SQ on attitude regarding the intervening effect of achievement motivation.



The Structural Equation Modeling (SEM) was utilized for the Maximum Likelihood Estimation of the parameters of the models. The advantage of using SEM instead of regression analysis is that it allows simultaneous testing for direct, indirect, and total effects (Kline, 2011). AMOS was used for the analysis (version 6.0).

### **Model A**

The direct effects of SQ sub-components on Achievement Motivation are indicated in table 2. As it is shown in table 2, the direct effects of Critical Existential Thinking and Personal Meaning Production on Achievement Motivation are significant with  $\beta = .41$  and  $\beta = .45$  respectively. However, the beta coefficients for other variables are insignificant at .05 levels of significance. The total effects are provided in table 3.

As table 3 shows, the most significant effect was the effect of Personal Meaning Production on Attitude toward Instruction ( $\beta = .62$ ) and Personal Meaning Production on Linguistic Efficacy ( $\beta = .64$ ). The total SQ also had a significant effect on Achievement Motivation ( $\beta = .56$ )

The path coefficients for the total effects in the hypothetical model are depicted in the figure 1. According to Kline (1998), the SEM is of two types: the measurement model, which relates measured variables to latent variables and the structural model, which relates latent variables to one another. The present study utilizes a structural model for specification of relationships between the latent variables within the hypothetical model. Among the subscales of SQ, Personal Meaning Production played the most noticeable role showing significant effects on three

variables of Linguistic Efficacy, Achievement Motivation and Attitude toward Instruction.

As table 4 indicates, only the Conscious State Expansion Awareness exerted an insignificant effect after the intervention of Attitude subscales. Other SQ dimensions had significant effects on the Achievement Motivation with the highest being Personal Meaning Production ( $\beta = .75$ ). Given the results of total effects analysis, this finding is worthy of notice because it spotlights the salience of Personal Meaning Production dimension of SQ in the interactions between Achievement Motivation, Attitude and SQ. Another major finding is that the beta coefficient for the Critical Existential Thinking variable, which was insignificant before the mediation, became significant ( $\beta = .61$ ) owing to the intervening effect of Attitude Variable. The case is also true with the Transcendental Awareness variable which was affected by the mediating effect and produced the output of .54 as the beta coefficient.

With regards to which indices should be reported, it is not recommended or realistic to provide every index produced by the program's output as it may either mislead or perplex the reader (Marsh, Hau & Wen, 2004). Given the inordinate number of fit indices, it normally becomes a temptation to report those fit indices that indicate the best fit (Barret, 2007). But, this has strongly been recommended to be avoided (Kenny & McCoach, 2003; Kline, 2011). The fit indices produced by the software for the model hypothesized in the present study give an edge to the fitness of the model. As an incremental index, Bentler Comparative Fit Index (BCFI) valued 0.9605. According to Bentler and Bonett (1980) a value between .90 and .95 is considered marginal and above .95 is considered to be a good fitting model. A major drawback for this measure is that it cannot be smaller if more parameters are

added to the model (Hu & Bentler, 1999). The Standardized RMSR (SRMSR) valued 0.0314. The SRMSR is based on conversion of both the sample covariance matrix and the predicted covariance matrix into correlation matrices. Accordingly, the SRMSR is a measure of the mean absolute correlation residual, plus the overall difference between the observed and predicted correlation (Byrne, 2013). It is a positively biased measure and that bias is greater for studies including small number of variables and low degree of freedom (Barret, 2007). Yet, the SRMR has no penalty for model complexity (Kline, 2011). According to Byrne (2013), well-fitting models would obtain values less than 0.05. Nonetheless, Hu and Bentler (1999) consider values less than 0.08 acceptable. RMSEA valued .035 for the model which is commonly considered a good fit (Hu & Bentler, 1999; Kline, 2011). Finally, the Hoelter's index valued 274. Hoelter's *critical N* is the largest sample size for which one may accept the hypothesis that a model is fit (Hoelter, 1983). AMOS outputs a critical N for significance levels of .05 (suggested by Hoelter). Hoelter suggests that models which would be rejected only with 200 or more participants are a good fit for the data (Hoe, 2008).

### **Model B**

The direct effects of SQ sub-components on Attitude toward Foreign Language subscales are indicated in table 5. As table 5 shows, the Total SQ index has significant effects on all three dimensions of Attitude towards Foreign Language. However, the Critical Existential Thinking has insignificant effects on all three subscales of Language Attitude Scale. The total effects are provided in table 6.

The total SQ variable had significant effect on the subscales of Language Attitude and on the Achievement Motivation variable with the highest on the latter ( $\beta = .91$ ). The

path coefficients for the total effects in the hypothetical model are depicted in the figure 2. The effects of Achievement Motivation on all subscales of Language Attitude were insignificant.

With regard to the model fitness, relatively mixed responses were received. Bentler Comparative Fit Index (BCFI) valued 0.8907. According to Bentler and Bonett (1980) a value between .90 and .95 is considered marginal and above .95 is considered to be a good fitting model. The Standardized RMSR (SRMSR) valued 0.1114. According to Byrne (2013), well-fitting models would obtain values less than 0.05. RMSEA valued .135 for the model which is commonly considered a poor fit (Hu & Bentler, 1999; Kline, 2011). Finally, the Hoelter's index valued 77. Hoetler (1983) considers values more than 70 indicator of acceptable fit; however, the Hoetler index in the present model hardly exceeds the cut-off point. Based on the all fit indices for this model, the overall implication is that the model is poor-fitting.

## **Discussion and Implications**

There is a dearth of research on the SQ in the realm of second language teaching and learning. Hence, the results of the present study are discussed in light of only several related studies previously undertaken in other areas. The present study assessed two hypothetical models. The first model (model A), examined the mediating role of Foreign Language attitude on the causal relationship between SQ and Achievement Motivation. The findings unfolded that all the Language Attitude subscales mediate the effect of SQ subcomponents (except for Conscious State Expansion Awareness) on Achievement Motivation among language learners. The model also indicated a good fit index. The direct effect of Critical Existential Thinking and Personal Meaning Production (PMP) was significant on Achievement Motivation;

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however, the total SQ did not have a significant effect on Achievement Motivation. Moreover, the correlation between total SQ and Achievement Motivation was also insignificant. This result is in contrast with what Siddiqui (2013) found in his study on the correlations between SQ and Achievement Motivation in 400 Indian college students. It should be noted that he just regarded the total SQ in his research. Among the subscales of SQ, Personal Meaning Production had a significant relationship with all subcomponents of Foreign Language Attitude and Achievement Motivation. The effect of Personal Meaning Production on Linguistic Efficacy was more significant than that of other Language Attitude subcomponents. This finding is important because the linguistic efficacy factor have been previously shown to expedite language acquisition process (Buriel et al., 1998). Correspondingly, Azizi and Zamanyan (2013) examined the relationship between Vocabulary Learning Strategies and SQ and found that those learners with higher PMP levels used strategies more effectively.

In the second model (model B), the intervening effect of Achievement Motivation on the causal correlations between SQ and Language Attitude was examined. The outputs revealed that the Achievement Motivation of language learners does not mediate the causal correlations between Language Attitude and SQ components and the model indicated poor fit indices. Nevertheless, all the aspects of SQ had significant effects on the subscales of Language Attitude. This finding is noteworthy because there is extensive evidence that Foreign Language Attitude is a strong predictor of success in foreign language learning (see Gao, 2009; Maegaard, 2005; Mei-Li, 2005).

The findings corroborate tenets of the *Motivational Hypothesis* which asserts that

lack of motivation or interest in knowing any foreign culture will would lead to linguistic deficiency (Fotopoulou et al., 2007). On the other hand, the results are in contrast with Hermann's (1980) *Resultative Hypothesis* which argues that failure or success in foreign language acquisition is not mainly due to lack of motivation and interest in foreign language community or culture. Based on the findings of her research, Hermann concluded that learners who have very low. The main limitation of this study is that it did not account for other learner-related demographic variables such as age and sex. Moreover, several other factors have not been accounted for including the attractiveness of teaching materials, amount of variety in classroom activities, the nature of the classroom organization and the nature of teacher-learner transactions, which have been found to significantly affect the motivation and attitude of language learners.

Skehan (1991) presents a model of relationship between attitudes and motivation and achievement in language learning. The model proposes that positive attitudes matter because of the integration of more extensive framework, including the classroom events, materials, and general educational reward framework. Thus, like Hermann, who claims that success precedes and prompts motivation, Skehan also proposes that motivation does not lead to success, but motivation ensue success.

SQ has emerged lately as a good fodder for research in various fields and many definitions have been proposed by researchers and theories. Yet, it is an understudied issues in the field of language teaching and learning. Hence, there is a need for more in-depth research on this topic in language teaching and learning context. High spiritual intelligence enables pupils to learn



language more effectively and ensures learners would think more logically and use their mind more optimally (Saidy, Hassan, Ismail & Krauss, 2009). Spiritual intelligence proffers a constructive process of brain for simultaneous neural interactions that integrate information in all parts of the brain (Wolmin, 2001). If students learn how to use their SQ they will become less worried, more prone to depend upon themselves and more equipped to deal with the difficulty in life (Zohar, 2012). The findings of the present study may help language syllabus designers and educators enhance their teaching praxis by increasing their knowledge about spiritual intelligence and its effects on the two more studied factors of attitude and motivation. The results will also provide fresh insights to administrators, curriculum planners to establish their planning more accurately and move toward a more efficient language learning syllabus.

### Conclusion

To sum up, the present study investigated two hypothetical models. Examination of the first model revealed that language attitude mediates the correlations between SQ and Achievement Motivation among Language Learners. Analysis of the second model indicated that achievement motivation does not have a significant intervening effect on the correlations between SQ and language attitude. It is hoped the findings of the present study open new windows for further research with regard to the role of Spiritual Intelligence in the language learning arena. If spirituality is accepted as a type of intelligence by the language learning scholars, it will engender an ethical quandary for educators; administrators and policy makers can no longer refrain from addressing this issue and ought to gather more extensive evidence to inform their decision-making processes.

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#### About the Author

Masoud Mahmoodi-Shahrehabaki got his MA in TESOL from the University of Tehran in 2015. His main research areas include the psychology of language learners, reading and foreign language literacy.



**Table 1.** Descriptive Statistics and Pearson Correlation Matrix

Variable	M	STD	CritEx	Transc	ConscSta	PMP	TotalSpInt	LingEff	Appeal	AttiInst	AchMot
<b>CritEx</b>	13.65	7.2									
<b>Transc</b>	14.11	7.5	.67*								
<b>ConscSta</b>	10.91	5.1	.59*	.49*							
<b>PMP</b>	11.96	5.9	.69*	.003	.002						
<b>TotSpIn</b>	40.21	31.7	.77*	.63*	.78*	.56*					
<b>LingEff</b>	13.58	5.1	.08	.001	.05	.63*	.23*				
<b>Appeal</b>	10.52	4.3	.03	.02	.22*	.31*	.07	.74*			
<b>AttiInst</b>	12.79	4.6	.007	.17*	.09	.37*	.09	.62*	.79*		
<b>AchMot</b>	65.56	23.4	.09	.004	.23*	.24*	.11	.24*	.36*	.58*	

**Note.** M=Mean; STD= Standard Deviation; CritEx= Critical Existential Thinking; Transc=Transcendental; ConscSta= Conscious State Expansion Awareness; PMP=Personal Meaning Production; TotalSpIn=Total Spiritual Intelligence; LingEff= Linguistic efficacy; Appeal= Appeal to the English Language; AttiInst= Attitude towards language instruction; AchMot= Achievement Motivation.

\*Significant at  $p < 0.05$

**Table 2.** Standardized beta ( $\beta$ ) coefficients for Direct Effects of SQ on Achievement Motivation

CritEx	Transc	ConscSt	PMP	TotalSpInt
.414*	.058	.014	.455*	.023

**Note.** CritEx= Critical Existential Thinking; Transc=Transcendental Awareness; PMP=Personal Meaning Production; TotalSpIn=Total Spiritual Intelligence; AchMot= Achievement Motivation; ConscSta= Conscious State Expansion Awareness.

\*Significant at  $p < 0.05$

**Table 3.** Standardized beta ( $\beta$ ) coefficients for Total Effects

	TotalSpInt	ConscSt	TranscendAware	PMP	CritEx	AttiInst	Appeal	LingEff
<b>AttiInst</b>	.003	.096	.066	.629*	.044			
<b>Appeal</b>	.042	.311*	.421*	.046	.088			
<b>LingEff</b>	.356*	.006	.081	.640*	.012			
<b>AchMot</b>	.564*	.078	.024	.515*	.037	.030	.52*	.43*

**Note.** CritEx= Critical Existential Thinking; Transc=Transcendental; ConscSta= Conscious State Expansion Awareness; PMP=Personal Meaning Production; TotalSpIn=Total Spiritual Intelligence; LingEff= Linguistic efficacy; Appeal= Appeal to the English Language; AttiInst= Attitude towards language instruction; AchMot= Achievement Motivation.

\*Significant at  $p < 0.05$

**Table 4.** Standardized beta ( $\beta$ ) coefficients for Indirect Effects of SQ on Achievement Motivation after the Intervention of Attitude Variable

	<b>CritEx</b>	<b>Transe</b>	<b>ConscSt</b>	<b>PMP</b>	<b>TotalSpInt</b>
<b>AchMot</b>	.612*	.54*	.013	.755*	.46*

**Note.** CritEx= Critical Existential Thinking; Transe=Transcendental Awareness; PMP=Personal Meaning Production; TotalSpIn=Total Spiritual Intelligence; AchMot= Achievement Motivation; ConscSta= Conscious State Expansion Awareness.

\*Significant at  $p < 0.05$

**Table 5.** Standardized beta ( $\beta$ ) coefficients for Direct Effects of SQ on Attitude toward Foreign Language subscales

	<b>TotalSpInt</b>	<b>ConscSta</b>	<b>TranscendAware</b>	<b>PMP</b>	<b>CritEx</b>
<b>AttiInst</b>	.469*	.198	.047	.533*	.020
<b>Appeal</b>	.650*	.490*	.187	.102	.150
<b>LingEff</b>	.512*	.160	.078	.444*	.066

**Note.** CritEx= Critical Existential Thinking; Transe=Transcendental; ConscSta= Conscious State Expansion Awareness; PMP=Personal Meaning Production; TotalSpIn=Total Spiritual Intelligence; LingEff= Linguistic efficacy; Appeal= Appeal to the English Language; AttiInst= Attitude towards language instruction.

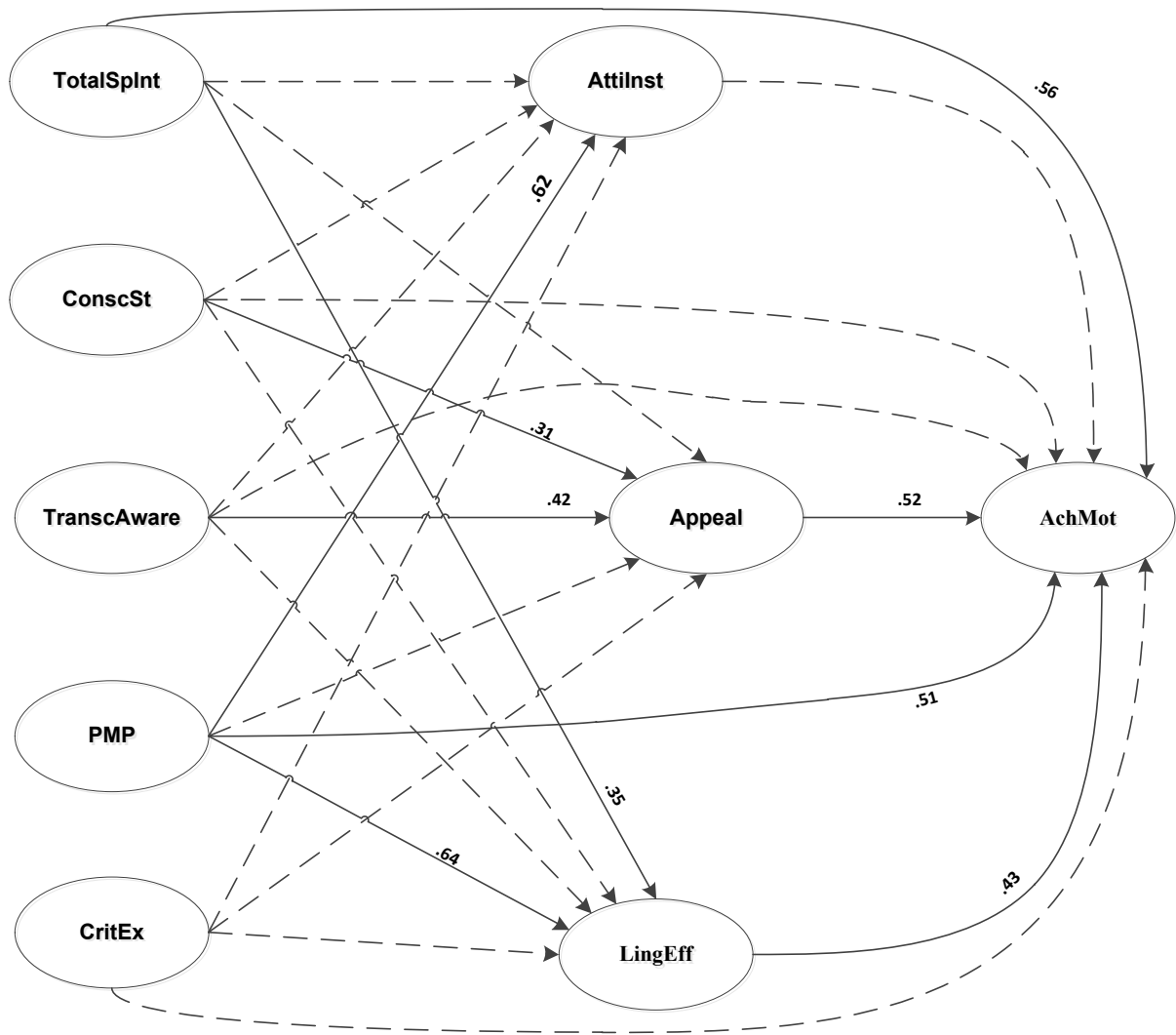
\*Significant at  $p < 0.05$

**Table 6.** Standardized beta ( $\beta$ ) coefficients for Total Effects

	<b>TotalSpInt</b>	<b>ConscSta</b>	<b>TranscendAware</b>	<b>PMP</b>	<b>CritEx</b>	<b>AchMot</b>
<b>AchMot</b>	.914*	.540*	.001	.493*	.089	
<b>AttiInst</b>	.712*	.094	.447*	.044	.014	.063
<b>Appeal</b>	.436*	.412*	.107	.137	.171	.134
<b>LingEff</b>	.827*	.539*	.078	.358*	.674*	.090

**Note.** CritEx= Critical Existential Thinking; Transe=Transcendental; ConscSta= Conscious State Expansion Awareness; PMP=Personal Meaning Production; TotalSpIn=Total Spiritual Intelligence; LingEff= Linguistic Efficacy; Appeal= Appeal to the English Language; AttiInst= Attitude towards Language Instruction; AchMot= Achievement Motivation.

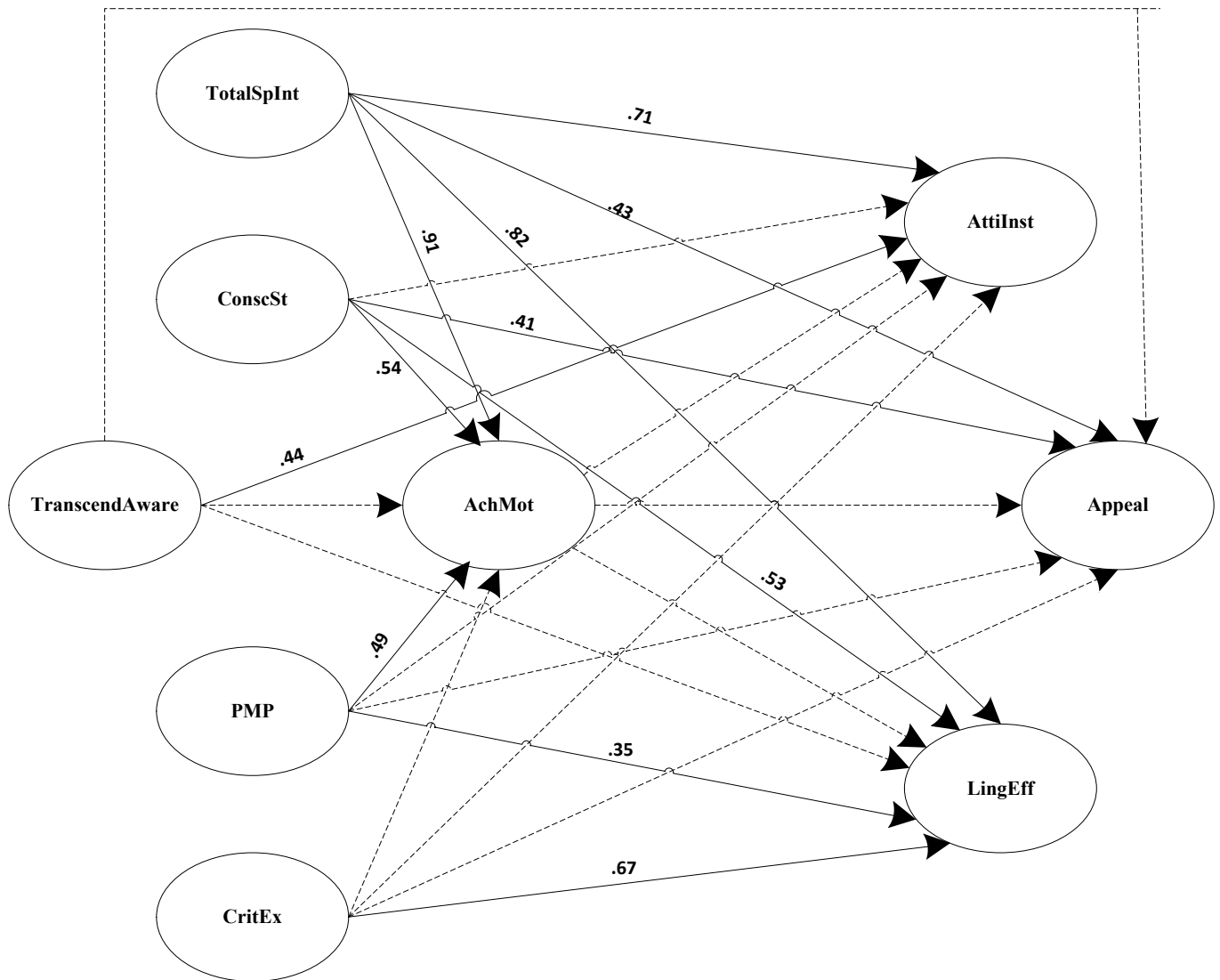
\*Significant at  $p < 0.05$



**Figure 1.** Standardized beta ( $\beta$ ) coefficients in the model for Total Effects. Dotted lines show insignificant effects.

**Note.** CritEx= Critical Existential Thinking; Transc=Transcendental; ConscSta= Conscious State Expansion Awareness; PMP=Personal Meaning Production; TotalSpIn=Total Spiritual Intelligence; LingEff= Linguistic efficacy; Appeal= Appeal to the English Language; Attilnst= Attitude towards language instruction; AchMot= Achievement Motivation.

\*Significant at  $p < 0.05$



**Figure 2.** Standardized beta ( $\beta$ ) coefficients for the Total Effects. Dotted lines show insignificant effects.

**Note.** CritEx= Critical Existential Thinking; Transc=Transcendental; ConscSta= Conscious State Expansion Awareness; PMP=Personal Meaning Production; TotalSpIn=Total Spiritual Intelligence; LingEff= Linguistic efficacy; Appeal= Appeal to the English Language; AttiInst= Attitude towards language instruction; AchMot= Achievement Motivation.

\*Significant at  $p < 0.05$