

## **Development of Spiritual Intelligence among College Students: Perspectives of Gender and Socioeconomic Status**

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**Abstract:** The study was conducted to examine the role of gender and socioeconomic status in the development of spiritual intelligence among higher secondary to university students. Participants were 480 students selected in equal numbers from among boys and girls and low and high SES groups by quota sampling method. King's SSRI-24 was used to measure the four domains of SI. From adolescence to early adulthood, girls were found consistently better in Critical Existential Thinking and Conscious State Expansion; but in Personal Meaning Production and Transcendental Awareness difference in favor of girls appeared only in later age. Age was also found to have significant impact on the development of the domains of SI. SES was found to have good impact on the development of Personal Meaning Production and Transcendental Awareness. Significant interaction effects were also observed among these variables for the development of SI. The findings were important because spiritual intelligence, commonly considered to be an adult prerogative, was also found to develop during adolescent years and demographic variables were found to have significant impact on the development of SI.

**Keywords:** Critical Existential Thinking; Conscious State Expansion, Transcendental Awareness,

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### **I. INTRODUCTION**

Several models of spirituality development suggest that adolescents have limited capacity for spiritual experiences and therefore, they don't have adequate spiritual intelligence. However, spiritual intelligence (SI) is not to be confused with spirituality. Spirituality is "the degree to which an individual endorses a relationship with God or transcendent force that brings meaning and purpose to one's existence" (1). It is commonly viewed as an integral part of religious experience. Spiritual intelligence, on the other hand, is "the best adaptive use of information and experience to facilitate everyday problem solving and goal attainment" (7). Spiritual intelligence is associated with the development and application of values that benefit the greater or common good, and hence in any sense could be an adolescent behavior. Some of these values include tolerance, compassion, ecological preservation, and values associated with self-actualization (15, 19). Researchers have reported that spiritual intelligence is highly related to such positive outcomes as physical, emotional, and psychological well-being, positive interpersonal functioning, marital satisfaction and stability, and enhanced quality of life (11, 16, 17). However, in spite of increased importance of spiritual intelligence in the life of adolescents, research on the phenomenon is still limited in the East, compared to the broad coverage of the topic in the West (2). Hence, the present study is designed to address this gap in the research.

#### **1.1 Conceptual model of EI**

A review of the literature revealed two main points of view about SI. One viewpoint shows the concept of SI as being linked with religion and philosophy. Wiley (21) used the term "spiritual quotient" (SQ) interchangeably with spirituality, super-conscious mind, and wisdom. Within this paradigm, SI is perceived as the ultimate development of the mind which is beyond intelligence. This frame of reference of spiritual intelligence largely applies to people in the later age of development. On the other hand, another position of spiritual intelligence is referred to by the psychologists (e.g., 13, 20) who perceived SI as the ultimate intelligence which utilizes all parts of the brain to create peak performances by a person. This perspective is applicable even to the adolescents. Working on this perspective, King and DeCicco (14) proposed four core components of SI: critical existential thinking (CET), personal meaning production (PMP), transcendental awareness (TA), and conscious state expansion (CSE). Based on this model, King et al., (14) developed and

validated the Spiritual Intelligence Self-Report Inventory (SISRI-24), a 24-item self-report measure that displayed excellent internal reliability and is a good fit to the model. The characteristics of emotional stability, agreeableness, and open-mindedness seem to be more commonly used for expressing SI in this model (12). King suggested that capacities and skills which have been linked with SI may vary from individual to individual, due to personal differences in historical, socio-cultural and demographic background.

### **1.2 SES and SI**

In fact, as observed in the literature few studies examined the relationship between SES and SI (e.g., 2). However, there were studies that explored the relationship between income and other forms of intelligence. For example, Zargorsky (23) found that IQ score is positively correlated with income. Many forms of intelligence, including SI, are also found related to adaptive problem solving (6, 8, 24). Thus, it could be argued that people with higher SI are able to solve various types of problems, including monetary problems. If people with higher intelligence could solve problems in their work environment, it is likely that they would be in a higher position in the organization which could mean higher income. Reverse of this argument is that people can have higher income because they have higher SI. On a different note, intelligence may also depend on one's environment. Those of higher SES are more likely to have better education and, thus, more opportunities for higher learning. As a result, they acquire additional skills more than those of lower SES. Also, being in higher levels of SES could mean that they already possess resources that satisfy their basic needs (e.g., food, clothes, shelter, medicine, etc.). It could be therefore be argued that people in higher levels of SES whose lower order needs have been satisfied, can focus more on higher need states and have more opportunities to develop higher states of consciousness which lead to higher SI. Under this logical notion, the present research was proposed to examine the relationship between SES and development of spiritual intelligence among the adolescents.

### **1.3 Gender difference in Spiritual Intelligence**

In the research literature, the issue of gender difference in spiritual intelligence continues to be inconclusive. Creel (4) from his studies on gender diversity in spiritual intelligence observed that women are spiritually more intelligent than men in later age groups like late adulthood and old age, but not during adolescent and early adulthood. Cindy (30) from a cross cultural study reported that significant gender difference in spiritual intelligence were observed mostly in favor of women across the culture groups but differences were not similar with respect to the attributes of spiritual intelligence. Using King's model of spiritual intelligence, he observed that while women are always better in personal meaning production and conscious state expansion, they are not found better in critical existential thinking and transcendental awareness. Even in some cultures in the African society, male were found better in existential thinking. In general, low transcendental awareness was observed among both men and women in all the cultures samples in his study. Several other researchers (e.g., 5, 9, 21,22) have also reported significant gender differences in spiritual intelligence in favor of women.

On the other hand, Singh (2008) reported that Spiritual Intelligence was found independent of gender when pre-spiritual intelligence and pre-emotional intelligence; pre-spiritual intelligence, pre-non-verbal intelligence and pre-emotional intelligence; pre-spiritual intelligence, pre-self-confidence and pre-anxiety in combinations were considered as covariates. Likewise Creel (4) found no gender difference regarding spirituality. Sisk & Torrance (19) indicated that previous studies using the spiritual well-being scale had not found any statistical difference in gender. In essence, gender difference in spiritual intelligence depends on several covarying factors related to culture, gender role socialization, socioeconomic status, religion and religious practices and so on.

Arising from the above discussions, it is pertinent to draw inferences that spiritual intelligence is a significant developmental process of the human being across the entire life span including the period of adolescence. Its importance lies in empowering the human being to a deeper and richer perspective of life. The process has its beginning in the early adolescence remarkably affected by the sociocultural and economic factors including age and gender. Hence, it desirable that researchers should examine the development of spiritual intelligence under different sociocultural contexts and also thereby address the issues of age and gender in relation to the development of spiritual intelligence. Findings from such researches would not only help in understanding the crosscultural diversities in spiritual intelligence, but also would help in building a comprehensive model on the topic. The present research is one such effort to address the issue relating to adolescents who are supposed to be among the most important beneficiaries if better spiritual intelligence can be promoted in them.

## **II. OBJECTIVES AND HYPOTHESES**

The study was designed to examine (a) the nature of developmental changes in each of the King's four dimensions of spiritual intelligence during the period between late adolescence and early adulthood; (b) to

examine the gender differences in the development of these attributes during the same period; and (3) to examine the influence of SES on the development of these attributes.

The theory of spiritual intelligence pointed out that during the period between late adolescence and early adulthood, the person pass through the period of images and imaginations, the level II development of spiritual intelligence. Related studies have shown that there are significant developmental changes in the Zohara's (24) foundational attributes of spiritual intelligence as during this period, the adolescent moves from the use of IQ for rational decision making to the use of EQ through vision and values for emotional awareness and knowledge(3).

**Hypothesis 1:** Hence, it is expected that each of the King's dimensions of spiritual would significantly improve between late adolescence and early adulthood for both boys and girls.

Studies relating gender differences in spiritual intelligence have been inconclusive. However, many studies have reported that sociocultural factors, socialization and gender role practices have significant impact on the development of both theory of mind and spiritual intelligence. With respect to the socialization and gender role practices, boys and girls constituting the sample of the present study have definite differences. Further, many studies including the theory of mind have attributed that good emotional intelligence is precursor to the development of spiritual intelligence. In many prior studies girls were found to be better in emotional intelligences than boys.

**Hypothesis 2:** Hence, it may be hypothesized that in general, girls would be significantly better in spiritual intelligence than boys. However, with regard to gender difference in each of the King's dimensions of spiritual intelligence, no definite hypothesis could be formulated.

Sociocultural factors and socialization practices including gender roles have been variously identified as significant factors of human development. Understanding socioeconomic status as one of the determinants of socialization practices, it is expected that development of spiritual intelligence would be influenced by this factor. However, lacking in evidence from relevant prior research, no directional hypothesis could be proposed. Further, because the present research is investigating on the King's dimensions of spiritual intelligence, it may be likely that while in some of the attributes, high SES group would have advantage, in others, low SES group would have. Hence, there would post-hoc analysis of the findings of the present study relating to influence of SES on the development of spiritual intelligence.

**Hypothesis 3:** Hence, it is hypothesized that in some of the King's dimensions of spiritual intelligence, high SES group would be better while in others, low SES group would be found in advantage.

### III. METHOD

Participants were 480 higher secondary, to university students including 240 boys and 240 girls. The study followed a three way ANOVA design (Gender: boys and girls X SES status: high and low X Age: 14-16, 18-20 and 22-24) having 40 subjects randomly selected by quota sampling for each cell (data were collected for the degree of Ph.D. of the 1<sup>st</sup> author). The quota sampling method was utilized to ensure that the sample distribution represented the student population in terms of gender, age, and socioeconomic status. The SES status of students was initially assessed by using the Kupaswamy SES scale and students having a score of 20 and above were considered as high SES and below 10 were taken as low SES group. The Spiritual Intelligence Self-Report Inventory (SISRI-24) was used to assess the spiritual intelligence of the students in each of its four domains. SISRI-24 is a 24-item self-reported scale developed by David B. King in 2009, which shows high internal reliability with a Cronbach's alpha of 0.92. The individual subscale shows adequate alpha coefficients ranging from 0.78–0.91. The average inter-item correlation was 0.34, with split-half reliability at the 0.91 level.

### IV. RESULTS AND DISCUSSION

#### 4.1 Descriptive and inferential analyses

**4.1.1 Critical existential thinking:** The means, standard deviations, results of ANOVA and Tukey's HSD test for the Critical Existential Thinking are reported in Table 1. The means of the subgroups are also presented in Figure 1a and 1b to provide comprehensive descriptions of the results. First of all, it is observed in the results of ANOVA that main effect of all the three demographic variables; gender, age, and SES are significant. Observation of the means and Figure 1b point out that the girls across all the age groups and irrespective of SES are better in Critical Existential Thinking than boys. The post hoc comparison of means by Tukey's HSD test also confirmed that all the six comparison of means by gender are statistically significant. Hence, it may be understood that girls of the present generation are growing up with better Critical Existential Thinking which may be a survival need for their life. Further, observations of the means and Figures 1a and 1b showed that Critical Existential Thinking has been consistently developing during the adolescent and early adulthood years. All the eight post hoc comparison of means relating to age are found statistically significant. Hence, it may be concluded that definitely age is an important factor in the development of spiritual intelligence among

adolescents. Finally, no definite trend has emerged with respect to the impact of SES on the development of Critical Existential Thinking, although the main effect of SES is found significant. First of all, out of the six multiple comparisons of SES related means, only three are significant, two in favor of the high SES and one in favor of the low SES group. Interaction effects of SES with both the other variables are also significant. Even, low SES girls surpass the high SES girls during the later age. From all these findings, it may be concluded that SES has impact on the development of critical existential thinking but it has a complex interaction with other covarying factors.

**4.1.2 Personal meaning production:**The means,standard deviations, results of ANOVA and Tukey’s HSD test for the Personal Meaning Production are reported in Table 2. Figure 2a and 2b plotting the subgroup means also provide comprehensive description of results. The ANOVA result with respect to the main effect of gender on Personal Meaning Production is statistically significant. However, the results of multiple comparisons of means and the Figure 2b do not point to any clear gender difference in Personal Meaning Production. Of the six multiple comparison of means relating to gender, four are statistically significant. However, one thing is observed that although gender difference in Personal Meaning Production is not found during early adolescence, for both low and high SES groups, the difference clearly appeared in favor of girls in the later age. Hence, it may be derived that girls are also better in Personal Meaning Production than boys but not prior to early adulthood.In the results of ANOVA, the main effect of age on Personal Meaning Production is also significant. The Figure 2a and 2b also point to consistent development of Personal Meaning Production across the age groups. Further, out of the eight multiple comparisons of means relating to age, seven are significant. Hence, it may be concluded that during adolescent years, age has significant impact on the development of Personal Meaning Production as a domain of spiritual intelligence. Finally, with respect to SES, the main effect in the ANOVA results is also significant. Boys in the high SES groups are clearly observed to be better in Personal Meaning Production than their counterparts in low SES groups; but the result is not that clear about girls. Hence, it may be interpreted that SES is a determinant of personal meaning production but it has a complex interaction with gender.

**Table 1. Means, Standard Deviations, results of Three way ANOVA, and Tukey’s HSD test for Critical Existential Thinking**

Source		SS	df	MS	F		
Gender (A)		186.87	1	186.87	26.81**		
Age Group (B)		657.13	2	328.57	47.14**		
SES Group (C)		92.63	1	92.63	13.29**		
AXB		162.26	2	81.13	11.64**		
AXC		113.26	1	113.26	16.25**		
BXC		138.84	2	69.42	9.96**		
AXBXC		159.47	2	79.74	11.44**		
Error		3263.54	468	6.97			
SES Group		Boys			Girls		
	Age	14-16	18-20	22-24	14-16	18-20	22-24
High	Mean	6.34 (1)	7.39(2)	8.95 (3)	7.54(4)	8.38 (5)	11.23 (6)
	SD	1.09	1.34	1.93	1.61	1.59	1.82
Low	Mean	5.19 (7)	6.66 (8)	8.87 (9)	6.62 (10)	8.57 (11)	12.41(12)
	SD	0.94	1.15	1.23	0.88	2.17	2.23
Mean Combined		Boys- 7.23		Girls-9.13	HSES-8.30		LSES-8.25
Significant mean differences by Tukey’s HSD Test:							
Gender		1vs.4,2vs.5,3vs.6,7vs.10,8vs.11,9vs.12					
Age		1vs.2,2vs.3,4vs.5,5vs.6,7vs.8,8vs.9, 10vs.11, 11vs.12					
SES		1vs.7, 4vs.10, 6vs.12					

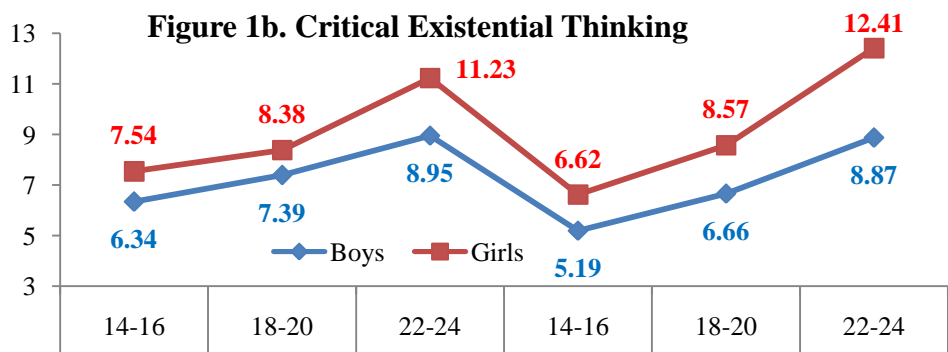
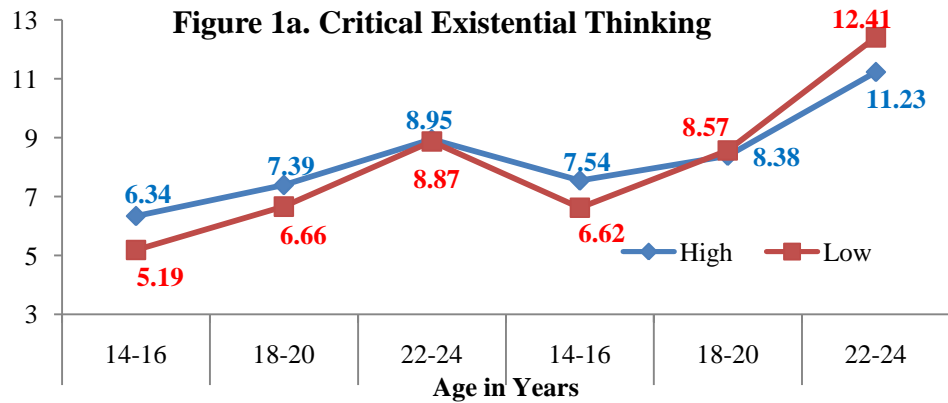


Table 2. Means, Standard Deviations, results of Three way ANOVA, and Tukey’s HSD test for Personal Meaning Production

Source	SS	df	MS	F
Gender (A)	138.84	1	138.84	14.63**
Age Group (B)	739.46	2	369.73	38.96**
SES Group (C)	536.66	1	536.66	56.55**
AXB	271.60	2	135.80	14.31**
AXC	210.68	1	210.68	22.20**
BXC	251.49	2	125.74	13.25**
AXBXC	356.06	2	178.03	18.76**
Error	4442.36	468	9.49	

SES Group	Age	Boys			Girls		
		14-16	18-20	22-24	14-16	18-20	22-24
High	Mean	10.85 (1)	11.28(2)	13.18(3)	10.68(4)	12.23(5)	14.51(6)
	SD	1.27	1.41	1.38	1.22	1.56	1.54
Low	Mean	8.59(7)	9.41(8)	10.57(9)	8.94(10)	11.63(11)	12.43(12)
	SD	1.08	1.74	1.65	1.61	1.48	2.32
Mean Combined		Boys- 10.65			Girls-11.74		
		HSES-12.12			LSES-10.26		

Significant mean differences by Tukey’s HSD Test:

Gender	2vs.5, 3 vs.6,8vs.11, 9vs.12
Age	2vs.3, 4vs.5, 5vs.6, 7vs.8, 8vs.9,10vs.11, 11vs.12
SES	1vs.7, 2vs.8, 3vs.9, 4vs.10, 6vs.12

Figure 2a. Personal Meaning Production

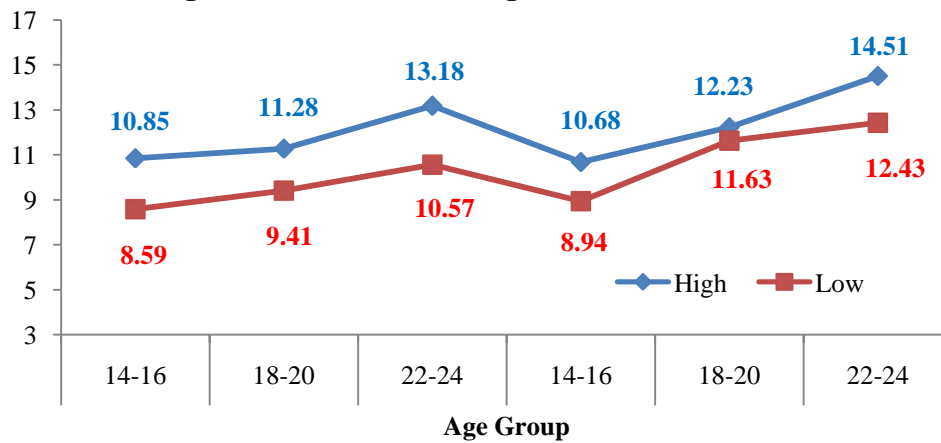
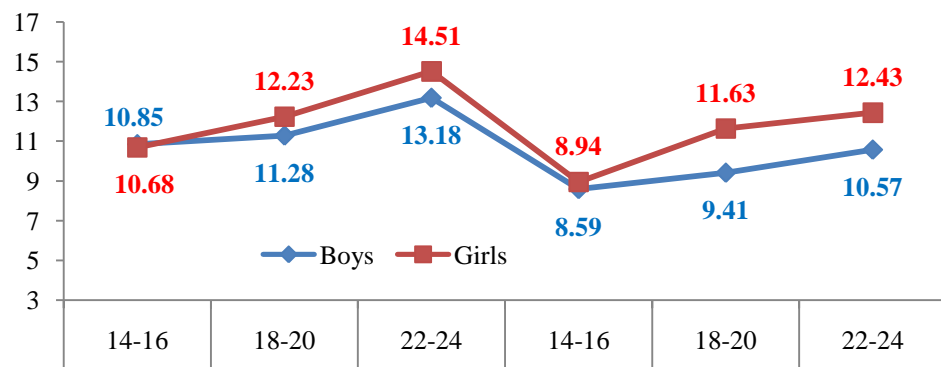


Figure 2 b. Personal Meaning Production



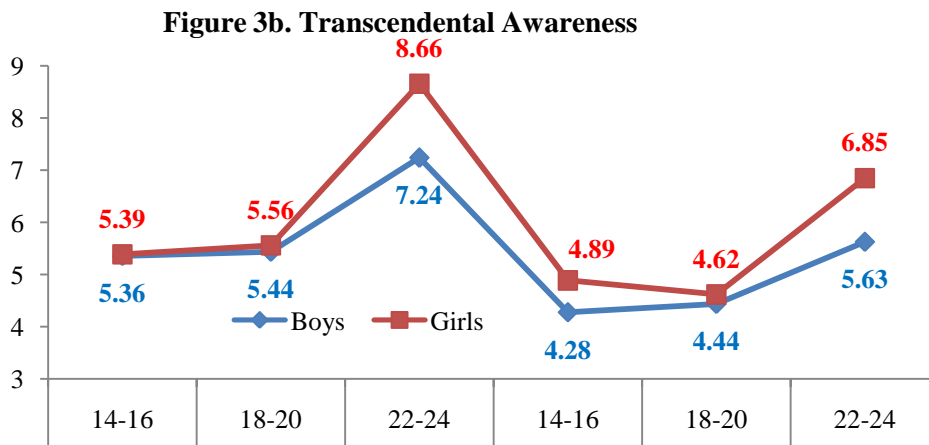
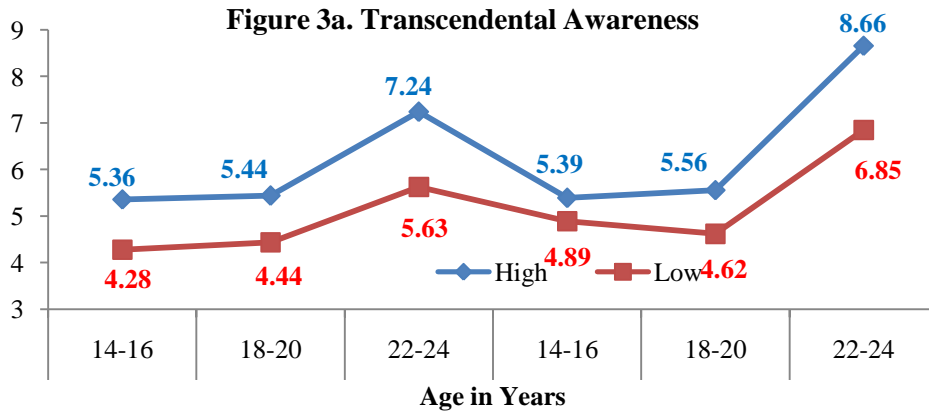
**4.1.3 Transcendental awareness:** The means, standard deviations, results of ANOVA and Tukey’s HSD test for the Transcendental Awareness are reported in Table 3 and the means of the sub-groups are presented in Figure 3a and 3b. Results of ANOVA point out that the main effects of gender, age, and SES are all significant. However, post hoc comparison of means and observation of the Figure 3b do not point to a clear gender difference in Transcendental Awareness across all the subgroups. Out of the six multiple comparisons of mean, only three are significant in favor of girls, and two of them at the highest age level. Hence, it may be concluded that gender difference in Transcendental Awareness appears in favor of girls during early adulthood. The observation of means also point out that development of Transcendental Awareness is very little even by early adulthood. It may be assumed that being a difficult and highest order skill, transcendental awareness develops slowly all across the lifespan. Observation of Figure 3a and 3b also point to a typical trend in the development of Transcendental Awareness. While no significant developmental differences were observed between 14 to 20 years of age, there are steep rise in the development between 20 to 24 years of age for both boys and girls. Results of multiple comparisons of means also confirmed this notion. Finally, about the impact of SES on the development of transcendental awareness, the high SES groups were found consistently higher than the low SES groups. Out of the six multiple comparisons of means relating to SES, five are significant. Hence, SES can be assumed as an important factor for the development of transcendental awareness.

Table 3. Means, Standard Deviations, results of Three way ANOVA, and Tukey’s HSD test for Transcendental Awareness

Source	SS	df	MS	F
Gender (A)	62.16	1	62.16	12.79**
Age Group (B)	157.56	2	78.78	16.21**
SES Group (C)	177.63	1	177.63	36.55**
AXB	74.65	2	37.32	7.68**
AXC	28.82	1	28.82	5.93**
BXC	56.47	2	28.24	5.81**
AXBXC	70.28	2	35.14	7.23**
Error	2276.62	468	4.86	

SES Group	Age	Boys			Girls		
		14-16	18-20	22-24	14-16	18-20	22-24
High	Mean	5.36(1)	5.44(2)	7.24(3)	5.39(4)	5.56(5)	8.66(6)
	SD	0.97	1.05	1.12	1.06	1.04	1.27
Low	Mean	4.28(7)	4.44(8)	5.63(9)	4.89(10)	4.62(11)	6.85(12)
	SD	0.37	0.68	0.81	0.74	0.56	0.83
Mean Combined		Boys- 5.40		Girls-6.00	HSES-6.28		LSES-5.12

Significant mean differences by Tukey's HSD Test:  
 Gender 3 vs.6, 7 vs. 10, 9 vs.12  
 Age 2vs.3, 5vs.6, 8vs.9, 11vs.12  
 SES 1vs.7, 2vs.8,3vs.9, 5vs.11, 6vs.12



**4.1.4 Conscious state expansion:**The means, standard deviations, results of ANOVA and Tukey's HSD test for the Conscious State Expansion are reported in Table 4 and the means of the sub-groups are plotted in Figure 4a and 4b. The results of ANOVA point out that the main effects of gender, age, and SES are all significant. In fact, the results of multiple comparisons of means and Figure 4b very clearly demonstrate that girls all across the age groups are significantly better than boys in Conscious State Expansion. The impact of age on the development of Conscious State Expansion is also very clear. Of the eight multiple comparison of means, six are found significant to suggest that age is definitely an important factor for Conscious State Expansion; however, the development is not as good among the low SES as in high SES groups. Hence, it may be assumed that age and SES interact in the development of Conscious State Expansion. Finally, only one of the six multiple comparisons for SES is found significant to suggest that SES does not have a big impact on the development of Conscious State Expansion of adolescents and young adults.

**Table 4. Means, Standard Deviations, results of Three way ANOVA, and Tukey’s HSD test for Conscientious State Expansion**

Source		SS	df	MS	F
Gender (A)		236.83	1	236.83	29.53**
Age Group (B)		292.09	2	146.04	18.21**
SES Group (C)		66.41	1	66.41	8.28**
AXB		84.05	2	42.02	5.24*
AXC		19.17	1	19.17	2.39
BXC		93.67	2	46.84	5.84**
AXBXC		43.15	2	21.57	2.69
Error		3753.98	468	8.02	

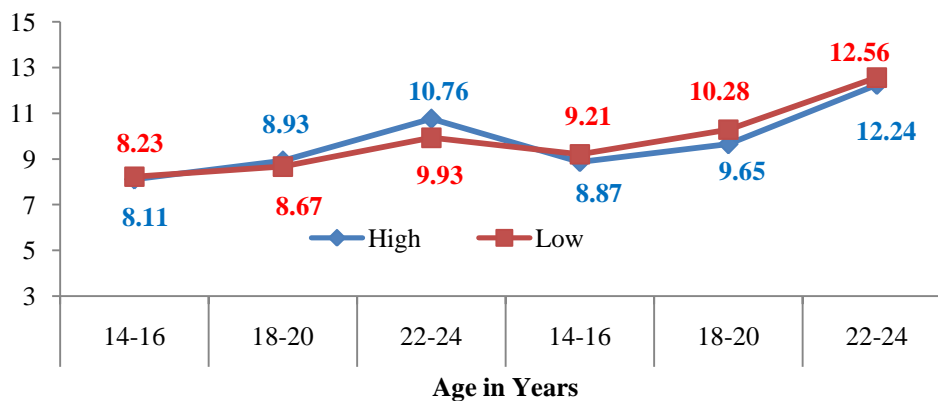
SES Group	Age	Boys			Girls		
		14-16	18-20	22-24	14-16	18-20	22-24
High	Mean	8.11(1)	8.93(2)	10.76(3)	8.87(4)	9.65(5)	12.24(6)
	SD	1.53	1.74	1.88	1.75	1.64	1.91
Low	Mean	8.23(7)	8.67(8)	9.93(9)	9.21(10)	10.28(11)	12.56(12)
	SD	1.61	1.51	1.38	1.86	1.62	1.81

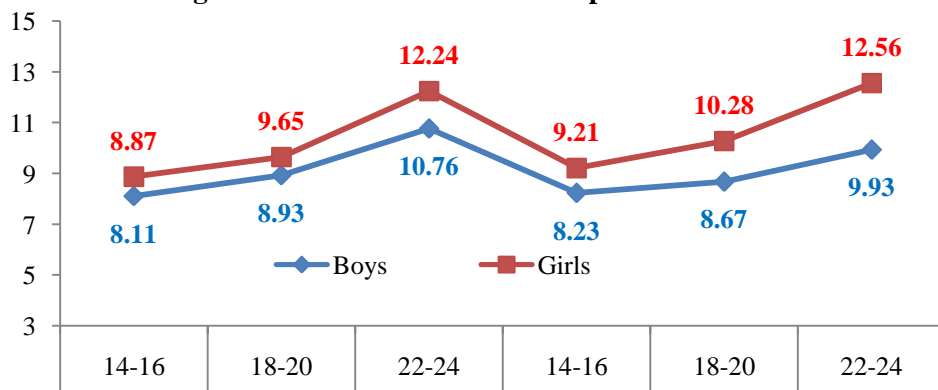
Mean Combined	Boys-9.11	Girls-10.47	HSES-9.76	LSES-9.81
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Significant mean differences from Tukey’s HSD Test:  
 Gender 1vs.4, 2vs.5, 3vs.6, 7vs.10, 8vs.11, 9vs.12  
 Age 1vs.2, 2vs.3,4vs.5,5vs.6, 8vs.9, 11vs.12  
 SES 3vs.9

**Figure 4a. Conscientious State Expansion**



**Figure 4b. Conscientious State Expansion**



**4.2 Conclusion**

Impact of three demographic factors namely; gender, age and SES on the development of King’s four domains of spiritual intelligence during the period of adolescence and early adulthood were examined. In Critical Existential Thinking and Conscious State Expansion, girls were consistently better than boys in all the



age groups. However, in Personal Meaning Production and Transcendental Awareness, gender difference in favor of girls appeared only in later years. Age is found to be significant for the development of each of the four domains of spiritual intelligence although the rate of development varies for the domains. High SES is also found to have favorable impact on the development of Personal Meaning Production and Transcendental Awareness. In general, it may be concluded that demographic variables have significant impact on the development of spiritual intelligence among adolescents and young adults.

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