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Gender differences in five factor model of personality and sensation seeking

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Abstract

The purpose of this study was to determine gender differences in five factor model of personality and sensation seeking. Hence, 177 undergraduate students (108 female and 69 male) were selected from University of Tehran using cluster sampling. SSS-V and NEO-FFI was used as instrument. According to the findings, significant difference in big five factors of personality was found between female and male students (P<0.01). Girls showed significantly higher scores on openness to experience and agreeableness compared with boys. Moreover, sensation seeking of boys was significantly different from girls (P<0.05). Male students showed significantly higher scores on subscales of thrill and adventure seeking, disinhibition and boredom susceptibility than female students.

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1. Introduction

The influence of gender differences on personality has been frequently studied. These differences have been documented in many studies (Buss & Plomin, 1984; Eysenck & Eysenck, 1985; Cox, 1994; Zuckerman, 1994; Feingold, 1994). Three important meta-analysis of Feingold (1994), Shuqin, Wang, & Rocklin (1995) and Costa, Terracciano & McCrae (2001) revealed that there are gender differences in personality traits.

Feingold (1994) were conducted four meta-analyses to examine gender differences in personality. The results revealed that males were found to be more assertive and had slightly higher self-esteem than females. On the other hand, extraversion, anxiety, trust, and especially, tender-mindedness (e.g., nurturance) of females were higher than males.

Secondary analyses of revised NEO personality inventory data from 26 cultures (N =23,031) suggest that differences are broadly consistent with gender stereotypes. Women reported themselves to be higher in neuroticism, agreeableness, warmth, and openness to feelings, whereas men were higher in assertiveness and openness to ideas (Costa, Terracciano, & McCrae, 2001).

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A psychometric meta-analysis of adult sex differences in self-reported personality was conducted based on each of the big five factors. Examination of 76 studies on 35 personality scales showed that women’s scores were significantly higher than men’s on measures of neuroticism and agreeableness (Shuqin, Wang, & Rocklin, 1995).

Woman scored higher on the factors of neuroticism and agreeableness in many studies (Shuqin, Wang, & Rocklin, 1995; Goldberg, Sweeney, Merenda, & Hughes, 1998; Budaev, 1999; Costa, Terracciano, & McCrae, 2001; Goodwin, & Gotlib, 2004; McCrae, et al., 2005; Chapman, Duberstein, Sörensen, & Lyness, 2007; Shokri, Kadivar, & Daneshvarpoor, 2007 Schmitt, Realo, Voracek, & Allik, 2008) while men scored higher on openness to experience (Goodwin, & Gotlib, 2004; Shokri, Kadivar, & Daneshvarpoor, 2007).

Results of few researches in the field of extraversion and conscientiousness showed some inconsistencies. Scores of extraversion, and conscientiousness among females in some researches were significantly higher (Goodwin, & Gotlib, 2004; Schmitt, Realo, Voracek, & Allik, 2008) whereas, other researchers showed significantly higher scores among males (Shokri, Kadivar, & Daneshvarpoor, 2007). In accordance with mentioned inconsistencies, some researchers (Feingold, 1994; Costa, Terracciano, & McCrae, 2001) stated that gender differences on extraversion and openness to experience have been either inconsistent or negligible. Costa, Terracciano, & McCrae (2001) in explanation of these results mentioned that men scored higher in some facets of openness and extraversion, while women scored higher in others. Moreover, it appears that a little difference exist between men and women on either specific aspects of conscientiousness or the sub dimensions it comprises.

Another factor that its role requires further study, particularly among youth and university students is sensation seeking. Sensation seeking is a primary group of personality traits (Glicksohn & Abulafia, 1998; Zuckerman, 1994). The explanation for sensation seeking is based on a model influenced by genetic, biological, physiological, psychological, and social factors (Zuckerman 1990, 1991, 1994, 1996; Zuckerman, Buchsbaum, & Murphy, 1980). Sensation seeking is sexually dimorphic characteristics (Zuckerman, Eysenck & Eysenck, 1978; Ridgeway & Russell, 1980; Ball, Farnill, & Wangeman, 1984; Butkovic & Bratko, 2003). Researchers (Wagner, 2001; Pyszczynski, 2002) identified that men have a higher willingness to engage in risky behaviors. Prior work (Zuckerman, Eysenck, & Eysenck, 1978; Sutker, Archer, & Allain, 1978; Zuckerman, 1979; Zuckerman & Neeb, 1980; Ball, Farnill, & Wangeman, 1984; Zuckerman, Kuhlman, Thornquist, & Kiers, 1991; Zuckerman, 1994; Rosenblitt, Soler, Johnson, & Quadagno, 2001; Roth, Schumacher, & Brähler, 2005) has demonstrated a significant gap between the women and men on various measures of sensation seeking –such as Zuckerman sensation seeking scale (SSS) and Arnett inventory of sensation seeking (AISS)- and has summarized that sensation seeking of men is higher that women.

It has been consistently found in different samples that men score higher than women on Thrill and Adventure Seeking (Zuckerman, Kuhlman, Thornquist, & Kiers, 1991; Zuckerman, 1994; Ball, Farnill & Wangeman, 1984), Disinhibition (Zuckerman, Eysenck & Eysenck, 1978; Ridgeway & Russell, 1980; Zuckerman, Kuhlman, Thornquist, & Kiers, 1991; Schroth, 1995; Jack & Ronan, 1998; Butkovic & Bratko, 2003; Hromatko & Butkovic, 2009) and boredom susceptibility (Zuckerman, 1994) subscales.

Results of researches in the field of experience seeking subscale showed some inconsistencies. no sex differences was found in some studies (Zuckerman, Eysenck & Eysenck, 1978; Ridgeway & Russell, 1980; Zuckerman, 1994; Schroth, 1995; Jack & Ronan, 1998) while, in some others men scored higher than women (Ball, Farnill & Wangeman, 1984), and others reported higher score in experience seeking for women compared with men (Hromatko & Butkovic, 2009).

There are different reasons for gender differences in personality and sensation seeking. Feingold (1994) reported three general models which address proximal causes of gender differences. The first model is biological models which emphasize on innate and biological bases underlying gender differences in personality. A good example for this model is Zuckerman (1991). The socio-cultural model is second model which emphasizes on social and cultural factors which produce gender differences in personality. A good example for this model is social role model (Eagly, 1987, Eagly & wood, 1991). Finally, the third model which is the biosocial model proposes that biological and socio-cultural factors are both proximal causes of gender differences in personality.

Another important issue in the mind of authors was the role of culture. Maccoby (2000) claims that males and females are much alike, and are self perceived by attributes that all individuals in a given culture have in common.
Costa, Terracciano, and McCrae (2001) found that the magnitude of gender differences varied across cultures. They mentioned that gender differences were most pronounced in prosperous, healthy, and egalitarian cultures - European and American cultures - in which traditional gender roles are minimized and women have more equal opportunities with men. Schenitt, Voracek, and Allik (2008) proposed that heightened levels of gender dimorphism result from personality traits of men and women being less constrained and more able to naturally diverge in developed nations. There are also significant cultural and racial differences on sensation seeking. Western cultures and white skin people have higher sensation seeking than Asians and other skin colors (Schultz & Schultz, 2009).

Iran is one of the youngest countries in the world with near 70 percent population under 35 years old. The percentage of the people between the ages of 19 to 29 has risen from 16 percent to 23 percent since ten years and it’s a demographic phenomenon in Iran (Iran statistical center website, 2008). Most of university students are young people among mentioned range (19-29); therefore university students were selected as a population of this study.

Significance of the cultural factors on gender differences and the mentioned inconsistencies in the results of previous studies were motivated us to investigate gender difference on personality and sensation seeking in Iran with special cultural and religious features, hence gender differences on personality and sensation seeking of Iranian university students was studied.

2. Method

The design of this study is non-experimental method and a causal-comparative research. Statistical population of the present study was all undergraduate students of University of Tehran in 2008. Subsequently, various faculties were divided to four academic disciplines namely humanities and social sciences, engineering, basic science and art. According to the population, sample of 177 undergraduate students (108 female and 69 male) were selected from various faculties (98 Humanities and Social Sciences students, 40 engineering students, 16 basic science students, and 23 art students) using cluster sampling based on gender and academic disciplines.

Two questionnaires were filled out by the subjects to provide the required data. At the beginning, preliminary questionnaires were evaluated using a pilot study with 33 students. The final version of the questionnaires was prepared after assurance of technical characteristics of questionnaires and filled out by the whole sample.

NEO- Five Factor Inventory (NEO-FFI, Costa and McCrae, 1992): A 60-item NEO-FFI with five degree Likert style scale was used to evaluate big five personality factors (Neuroticism, Extraversion, Openness to experience, Agreeableness, and Conscientiousness). The reliability of 0.63 to 0.83 in three-year intervals and 0.68 to 0.83 in six-year intervals were reported (Costa and McCrae, 1988). This inventory in Iran has been normalized by Haghshenas (1999). Cronbach’s alpha coefficients of big five personality factors in sixth and seventh months intervals for internal consistency were 0.81, 0.71, 0.57, 0.71 0.83 respectively.

Sensation Seeking Scale form V (SSS-V, Zuckerman, 1978): A 40-item SSS-V questionnaire with four subscales (Thrill and adventure seeking, Experience seeking, Disinhibition, and Boredom susceptibility) and a total score was used. Reliability and validity of SSS-V were reported in several articles (Zuckerman, 1979, 1994, 2007). In this study, questionnaire was translated to Persian and slightly modified in some items to be more consistent with the Iranian Culture. Cronbach's alpha coefficients for the reliability of this modified scale for total score and four sub-scales were 0.99, 0.98, 0.97, 0.97 and 0.96, respectively.

3. Results

108 female and 69 male students have been evaluated in this study. Big five factors of personality were compared between female and male. Significant difference in big five factors of personality was found between female and male using multivariate tests (Wilks' Lambda= 0.007, P<0.01, F= 3.32). Therefore, analysis of variance was separately done for each big five factors of personality.

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>Type III Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
</table>

Table 1. Between-subjects effects for big five factors of personality
As seen in table 1, calculated F for factors of openness and agreeableness was significant. The average of openness and agreeableness for females (29.44 and 31.36 respectively) were higher than the average for males (27.61 and 29.45 respectively). Thus, the scores of openness and agreeableness for females were significantly higher than males (both, P<0.05). It means that females have significantly higher openness and agreeableness than males.

Sensation seeking sub scales were compared between female and male. Significant differences were found in multivariate tests for the effect of gender on the sensation seeking sub scales (Wilks' Lambda= 0.012, P<0.05, F=3.34). Therefore sensation seeking of males was significantly (P<0.05) different from females. The average of males in overall sensation seeking (18.44) was higher than the average of females (15.38). Thus males obtained significantly (P<0.05) higher overall sensation seeking scores than females. In other words, males have significantly higher total sensation seeking than females. Considering the results of multivariate tests, analysis of variance was separately done for each sensation seeking subscales.

### Table 2. Between-subjects effects for sensation seeking subscales

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>Type III Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thrill and adventure seeking</td>
<td>48.24</td>
<td>1</td>
<td>48.24</td>
<td>7.97</td>
<td>.005</td>
</tr>
<tr>
<td>Experience seeking</td>
<td>13.37</td>
<td>1</td>
<td>13.37</td>
<td>3.08</td>
<td>.081</td>
</tr>
<tr>
<td>Disinhibition</td>
<td>27.46</td>
<td>1</td>
<td>27.46</td>
<td>4.76</td>
<td>.030</td>
</tr>
<tr>
<td>Boredom susceptibility</td>
<td>13.58</td>
<td>1</td>
<td>13.58</td>
<td>5.52</td>
<td>.020</td>
</tr>
</tbody>
</table>

As seen in table 2, calculated F for subscales of thrill and adventure seeking, disinhibition and boredom susceptibility was significant. The average of subscales of thrill and adventure seeking, disinhibition and boredom susceptibility in males (7.23, 3.97 and 3.65, respectively) was higher than females (6.14, 3.15 and 3.07, respectively). Thus significantly higher scores on subscales of thrill and adventure seeking (P<0.01), disinhibition and boredom susceptibility (P<0.05) were found in males compared with females and males have significantly higher thrill and adventure seeking, disinhibition and boredom susceptibility compared with females.

4. Conclusions & discussions

This research was done to investigating gender differences on personality and sensation seeking of Iranian university students. Significant effect of gender on big five factors of personality (P<0.01) and sensation seeking sub scales (P<0.05) were found in Multivariate tests. In accordance with interpretation of gender differences in personality (Feingold, 1994), the present results reflects the effect of biological, socio-cultural and biosocial factors. Hormonal and physiological differences between males and females, social and institutional context, gendered social norms and expectations, perceptions of their expected behaviour, media socialization, cultural features, prominent religion, and accepted gender roles in each society can have influence on gender differences.

The results of the current study showed that girls have significantly higher openness to experience than boys, which is in contrast to the results reported by Goodwin, & Gotlib, (2004) and Shokri, Kadivar, and Daneshvarpoor, (2007). Feingold (1994) claimed that gender differences in openness to experience have been either inconsistent or of negligible. Costa, Terracciano, & McCrae (2001) finding showed that score of the males in some facets of openness, such as openness to ideas is higher than females, but women scored higher in others such as openness to aesthetics and feelings. Therefore, comparisons of general openness without considering its subscales are less meaningful and that’s the reason our finding have contradiction with some other researches.

We also found that females have significantly higher agreeableness than males. Higher agreeableness in female is consistent with the results of many researchers (Shuqin, Wang, & Rocklin, 1995; Goldberg, Sweeney, Merenda, & Hughes, 1998; Budaev, 1999; Costa, Terracciano, & McCrae, 2001; Goodwin, & Gotlib, 2004; McCrae, et al.,
2005; Chapman, Duberstein, Sörensen, & Lyness, 2007; Shokri, Kadivar, and Daneshvarpoor, 2007 Schmitt, Realo, Voracek, & Allik, 2008). This finding could be interpreted by both evolutionary and social role theories. Evolutionary explanations emphasize the adaptive advantage for reproduction and preservation of offspring granted by sensitivity, nurturance and agreeableness (Buss, 1995), while social role theory attributes female nurturing behavior and agreeableness to socialization of feminine gender role (Eagly, 1987).

Our findings revealed that boys have significantly higher thrill and adventure seeking than girls. High thrill and adventure seeking in boys is consistent with the results of Zuckerman, Kuhlman, Thornquist, & Kiers (1991), Zuckerman (1994) and Ball, Farnill & Wangeman (1984). Researchers (Ball, Farnill & Wangeman, 1984) mentioned that thrill and adventure seeking showed gender differences most clearly compared with other subscales. We also found that boys have significantly higher disinhibition than girls. High disinhibition in male students is consistent with the results of Zuckerman, Eysenck & Eysenck (1978), Ridgeway & Russell (1980), Zuckerman, Kuhlman, Thornquist, & Kiers (1991), Schroth (1995), Jack & Ronan (1998), Butkovic & Bratko (2003), and Hromatko & Butkovic (2009).

Boys in the current study had significantly higher boredom susceptibility than girls. High boredom susceptibility of males is consistent with the findings of Zuckerman (1994).

Higher thrill and adventure seeking, disinhibition and boredom susceptibility in male students can be explain based on a model influenced by genetic, biological, physiological, psychological, and social factors.

This study, like every research has some limitations. While the students from University of Tehran were only included in the current study, result should be generalized with cautious. Preparing and standardization of sensation seeking instrument based on the cultural characteristics of Iran are suggested.

It seems possible that gender differences in some factors alleviated in older adulthood due to shifting role demands (Guttman, 1987; Sinnott & Shifren, 2001); so one important question is whether gender differences in personality traits are replicable in older ages and life span. According to what mentioned, we suggest a longitudinal study with using NEO_PI_R (240-item) for a deeper investigation in life span, especially in factors of extraversion, openness and conscientiousness which has inconsistencies in results from short form questionnaire (60-item) in previous researches.

References


