Survey the Relationship between Five Factor Model and Intelligence in Student

Parvaneh Gostari

MA in Educational Psychology, Shiraz University, Shiraz, Iran.

ARTICLE INFO

Article history:
Received 25 September 2014
Received in revised form 26 October 2014
Accepted 22 November 2014
Available online 1 December 2014

Keywords:
Five factor model, Intelligence, Student.

ABSTRACT

The main aim of the current study was to Survey the relationship between five factor model and intelligence in student. In this scientific –comparative investigation, community investigation include of student (N = 398) from a high schools in Tehran were selected by use of random cluster sampling method and the data were collected by use of the two questionnaires: 'The NEO-FFI (Costa et al., 1992) is a 60-item inventory and Wonderlic Personnel Test (WPT)'. Results indicated that intelligence scores were positively correlated with agreeableness (A), conscientiousness(C), openness (O) and negatively correlated with neuroticism (N) and tow significant predictors in the model are, agreeableness (A) and conscientiousness (C). More research regarding the studied variables can render brighter data.

INTRUDUCTION

Intelligence derives from the Latin verb intelligere, to comprehend or perceive. A form of this verb, intellectus, became the medieval technical term for understanding, and a translation for the Greek philosophical term nous. This term was however strongly linked to the metaphysical and cosmological theories of teleological scholasticism, including theories of the immortality of the soul, and the concept of the Active Intellect (also known as the Active Intelligence). This entire approach to the study of nature was strongly rejected by the early modern philosophers such as Francis Bacon, Thomas Hobbes, John Locke, and David Hume, all of whom preferred the word "understanding" in their English philosophical works [1, 2]. Hobbes for example, in his Latin De Corpore, used "intellectusintelligit" (translated in the English version as "the understanding understandeth") as a typical example of a logical absurdity [2] The term “intelligence” has therefore become less common in English language philosophy, but it has later been taken up (with the scholastic theories which it now implies) in more contemporary psychology.

Intelligence has been defined in many different ways such as in terms of one’s capacity for logic, abstract thought, understanding, self-awareness, communication, learning, emotional knowledge, memory, planning, creativity and problem solving. It can also be more generally described as the ability to perceive and/or retain knowledge or information and apply it to itself or other instances of knowledge or information creating referable understanding models of any size, density, or complexity, due to any conscious or subconscious imposed will or instruction to do so.Intelligence is most widely studied in humans, but has also been observed in non-human animals and in plants. Artificial intelligence is the simulation of intelligence in machines. Within the discipline of psychology, various approaches to human intelligence have been adopted. The psychometric approach is especially familiar to the general public, as well as being the most researched and by far the most widely used in practical settings [1].

Although the link between self-rated personality and psychometrically measured intelligence has been studied for decades, surprisingly little is known about the perceived relationships of Personality to intelligence. Some psychologists believe that generalability is so potent and ubiquitous that it is an inseparable complemento many pure personality factors [3]. Nevertheless, empirical studies have typically found only modest correlations between measures of personality and intelligence [4]. Of the Big Five dimensions, only Openness has demonstrated fairly small but still steady overlap with intellectualualities [5]. At the level of perceived relationships, however, several findings point to the existence of a general belief that intelligent people can be distinguished from less intelligent not only by their mental capacities but also by their personality dispositions.

Corresponding author: Parvaneh Gostari, MA in Educational Psychology, Shiraz University, Shiraz, Iran, E-mail: gostary@yahoo.com
For example, when people have been asked to name famous examples of an intelligent person, Martin Luther King, Mahatma Gandhi, and Mother Theresa have regularly been suggested, indicating that spiritual strength is considered an indicator of intelligence [6]. When lay judges are asked what they mean by the term intelligence, besides cognitive aptitude, they usually propose competencies related to social and interpersonal skills [6, 7, 8]. Nevertheless, there is no detailed knowledge on how intelligence is perceived to be related to a wider spectrum of personality traits.

MATERIAL AND METHOD

Participants:
Participants were men student (N = 398) from a high school in Tehran. The mean age for the total sample was 15 (SD = 8/14, range = 13-16), were selected through random cluster sampling.

Assessments:

Neo-FFI:
The NEO-FFI (Costa et al., 1992) is a 60-item inventory. It is one of the most widely used questionnaires for measuring the Big Five personality factors (neuroticism, extraversion, openness, conscientiousness, and agreeableness). Participants in our study rated the 60 behavior-descriptive statements on 5-point Likert-type scales, ranging from 1 (strongly disagree) to 5 (strongly agree), indicating the degree to which they thought the items were characteristic of them.

Intelligence:
Intelligence was measured through the Wonderlic Personnel Test (WPT) [9]. This 50-item test measures general intelligence, and was administered in 12 min. Studies have reported good validity and reliability for this measure, and correlates very highly (r = 0.92) with the WAIS-R [10, 11].

RESULTS AND DISCUSSION

The means, standard deviations and ranges of the NEO-FFI inventory and intelligence scores are also described in Table 1.

Table 1: Descriptive statistics for the NEO-FFI and intelligence scores in a students.

<table>
<thead>
<tr>
<th>Variables</th>
<th>M</th>
<th>S.D</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>NEO-FFI</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Neuroticism</td>
<td>33.35</td>
<td>4.99</td>
<td>11-56</td>
</tr>
<tr>
<td>Extraversion</td>
<td>29.36</td>
<td>6.15</td>
<td>14-35</td>
</tr>
<tr>
<td>Openness</td>
<td>30.25</td>
<td>8.01</td>
<td>9-48</td>
</tr>
<tr>
<td>Agreeableness</td>
<td>21.99</td>
<td>3.90</td>
<td>14-44</td>
</tr>
<tr>
<td>Conscientiousness</td>
<td>28.14</td>
<td>9.02</td>
<td>11-45</td>
</tr>
<tr>
<td>Intelligence</td>
<td>113</td>
<td>11.58</td>
<td>108-139</td>
</tr>
</tbody>
</table>

Correlations between intelligence scores and NEO-FFI are demonstrated in Table 2. Intelligence scores were positively correlated with agreeableness (A), conscientiousness(C), openness (O) and negatively correlated with neuroticism (N).

Table 2: Correlations between Intelligence scores and NEO-FFI

<table>
<thead>
<tr>
<th>Variables</th>
<th>A</th>
<th>C</th>
<th>E</th>
<th>O</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intelligence</td>
<td>0.69**</td>
<td>0.52**</td>
<td>0.10</td>
<td>0.31**</td>
<td>-0.11</td>
</tr>
</tbody>
</table>

*p≤0.05, **p≤0.00

The next stage in analysis was to use regression analysis with intelligence as the dependent variable to try and identify the best predictive model. The results are shown in Table 3. The tow significant predictors in the model are, agreeableness (A) and conscientiousness (C).

Table 3: Predictors of Intelligence from regression analysis.

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>Neuroticism</td>
<td>-.002</td>
<td>.024</td>
<td>-.003</td>
<td>-076</td>
</tr>
<tr>
<td>Extraversion</td>
<td>.001</td>
<td>.026</td>
<td>.003</td>
<td>.055</td>
</tr>
<tr>
<td>Openness</td>
<td>.014</td>
<td>.027</td>
<td>.024</td>
<td>.503</td>
</tr>
<tr>
<td>Agreeableness</td>
<td>-.376</td>
<td>.026</td>
<td>-.735</td>
<td>-16.89</td>
</tr>
<tr>
<td>Conscientiousness</td>
<td>-.083</td>
<td>.028</td>
<td>-.149</td>
<td>-2.943</td>
</tr>
</tbody>
</table>
Discussion:

The results showed that Intelligence scores were positively correlated with agreeableness (A), conscientiousness (C), openness (O) and negatively correlated with neuroticism (N). The results also shown that tow significant predictors in the model are, agreeableness (A) and conscientiousness (C). Although the link between self-rated personality and psychometrically measured intelligence has been studied for decades, surprisingly little is known about the perceived relationships of personality to intelligence. Some psychologists believe that general ability is so potent and ubiquitous that it is an inseparable complement to many pure personality factors [3]. Nevertheless, empirical studies have typically found only modest correlations between measures of personality and intelligence [4]. Of the Big Five dimensions, only Openness has demonstrated a fairly small but still steady overlap with intellectual abilities [5]. At the level of perceived relationships, however, several findings point to the existence of a general belief that intelligent people can be distinguished from less intelligent not only by their mental capacities but also by their personality dispositions. For example, when people have been asked to name famous examples of an intelligent person, Martin Luther King, Mahatma Gandhi, and Mother Theresa have regularly been suggested, indicating that spiritual strength is considered an indicator of intelligence [6]. When lay judges are asked what they mean by the term intelligence or mental abilities, besides cognitive aptitude, they usually propose competencies related to social and interpersonal skills [6, 7, 8]. Nevertheless, there is no detailed knowledge on how intelligence is perceived to be related to a wider spectrum of personality traits.

REFERENCE