The Relationship between Eight Components of Multiple Intelligences (MI) and Consecutive Interpreting Performance of Iranian Male and Female Trainee Interpreters¹

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Abstract

Gardner's Multiple-Intelligences profile can serve as a powerful instrument for assessment of learners' abilities and aptitudes. This empirical study aims at finding any potential relationship between Iranian male and female trainee interpreters' scores in Multiple Intelligences (MI) and their performance in consecutive interpreting. 109 participants were chosen for the study. The instruments include 3 questionnaires and a summative test. Pearson's product-moment correlation coefficient and Kendall's partial rank correlation coefficient were used for analyzing the data. The Pearson correlation coefficient showed a significant correlation between bodily-kinesthetic intelligence and consecutive interpreting performance in males and a significant linguistic-verbal correlation between and mathematical-logical intelligences and consecutive interpreting performance in females. It can be concluded that among male trainee interpreters, those with a higher bodily-kinesthetic intelligence can be more promising candidates for interpreting courses. And among female trainee interpreters, those with a higher linguistic-verbal and mathematical-logical intelligences can become more competent interpreters.

Keywords: Consecutive interpreting, Interpreter trainees, MI scores, Multiple intelligences (MI)

^{1.} This paper was received on 01.05.2021 and approved on 30.08.2021.

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1. Introduction

Pöchhacker (2004) believes interpreting is a kind of translating in which an interpreter produces a first and final version of a speech in another language. On the other hand, Gile (2001) defines it as rewording the source speech's full content, not producing a report, a summary, or comments on the source speech. Consecutive interpretation is defined as the process of interpreting after the speaker has completed one or more ideas in the source language and pauses while the interpreter transmits that information (Debra Russel, p. 136).

According to the previous works by Mousavi Razavi on SI (2017), and Ferdowsi and Tajvidi (2018) on CI, there seems to be extralinguistic factors affecting the performance of trainee interpreters in interpreting training classes. Foong, Shariffudin, and Mislan (2012) examined the pattern of multiple intelligences, personality traits and critical thinking skills among high achievers in Malaysia. Koura, and Al-Hebaishi (2014) aimed to find out the relationship of multiple intelligences with the respondents' achievement in EFL language skill. Zarei and Mohseni (2012) sought to find out the relationship between four types of intelligences — logical-mathematical, interpersonal, linguistic and intrapersonal intelligences — and grammatical and writing accuracy of foreign language learners. In this study the relationship between eight MI scores and the CI performance is analyzed.

1.1. Multiple Intelligences (MI) Theory

As human beings are complicated creatures, this complexity can affect their performance in different functions like interpreting. It is very important that personality differences and levels of intelligences are taken into account when recruiting people for interpreting and also placing them in an interpreting program or courses. One of the theories that focuses on the personality traits is the theory of Multiple Intelligences (MI) proposed by Gardner (1983). Gardner began the work on multiple intelligences in the 1980s, and the research has continued since then.

Evidently, there has been a good number of studies abroad on the relationship of MI and education. For example, Charles and Jefferson (2007), investigated the effectiveness of Gardner's theory in math classes. Kandeel (2016), tried to determine the multiple intelligences patterns of students at King Saud University, Saudi Arabia.

In addition to the international studies, there are some national studies such as; Mojgan, Zeraatian, Hosseini, Naseripour, and Pazouki (2018) attempted to investigate the relationship between multiple intelligences and reading comprehension ability of medical students of Guilan University of Medical Sciences. Salehi, and Gerami (2012) conducted a study on 50 engineering students of Sharif University, Iran, to find out which type of multiple intelligences were dominant in them and predictor of their success in English language learning.

Gardner classified "intelligences" under eight items (Gardner, 1983/2011, pp. 77–217):

- 1) Linguistic Intelligence: The capacity to use words effectively, whether orally (e.g., as a storyteller, orator, or politician) or in writing (e.g., as a poet, playwright, editor, or journalist).
- 2) Logical-Mathematical Intelligence: The capacity to use numbers effectively (e.g., as a mathematician, tax accountant, or statistician) and reason well (e.g., as a scientist, computer programmer, or logician).
- 3) Spatial Intelligence: The ability to perceive the visual-spatial world accurately (e.g., as a hunter, scout, or guide) and perform

- Translation Studies, Vol. 19, No. 75, Autumn 2021 transformations upon those perceptions (e.g., as an interior decorator, architect, artist, or inventor).
 - 4) Bodily-Kinesthetic Intelligence: Expertise in using one's whole body to express ideas and feelings (e.g., as an actor, a mime, an athlete, or a dancer) and facility in using one's hands to produce or transform things (e.g., as a craftsperson, sculptor, mechanic, or surgeon).
 - 5) Musical Intelligence: The capacity to perceive (e.g., as a music aficionado), discriminate (e.g., as a music critic), transform (e.g., as a composer), and express (e.g., as a performer) musical forms.
 - 6) Interpersonal Intelligence: The ability to perceive and make distinctions in the moods, intentions, motivations, and feelings of other people.
 - 7) Intrapersonal Intelligence: Self-knowledge and the ability to act adaptively based on that knowledge.
 - 8) Naturalistic Intelligence: The ability to quickly recognize and classify plants, animals, and other things in nature.

The theory of multiple intelligences has proved helpful for many educators. Several studies show the role of MI in language teaching and learning contexts. (Richards, Rodgers, 2001. Gardner, 2006; Arnold and Fonseca, 2004).

1.2. Gender and Interpreting

Gender difference is another issue dealt with in this study. Most relevant here is the difference in the mental processes. Many disciplines, including but not limited to biology, psychology, medicine, marketing, management, education, etc. have attempted to highlight the differences between males and females' performance in different areas. Language scholars have also paid considerable attention to differences between males and females. There are four theoretical positions for research on language and gender proposed by Brown (2007). He

The Relationship between Eight Components of Multiple Intelligences (MI) also cites the scholars who have studied a broad range of topics and issues related to this field (Lakoff, 1975; Nilsen et al., 1977; Holmes, 1991, 1998; Tannen, 1996, 1990; Sunderland, 2000; Davis, Skilton-Sylvester, 2004; Mckay, 2005)

Recently, gender has also been the focus of some research in interpreting and translating studies. Some of the scholars who have investigated this subject are (State 1994; Simon 1996; Von Flotow, 1997, 2001; Chamberlain, 1998; Strauss, 1998; Santaemilia, 2005)

Research Question and Null Hypothesis

As noted above, Multiple Intelligences Theory consists of eight categories of intelligences that are separately studied in this research. The eight intelligence types include linguistic-verbal, mathematical-logical, musical, visual-spatial, bodily-kinesthetic, interpersonal, intrapersonal, and naturalist intelligence (Gardner, 1983/2011, pp. 77-217).

To fulfill the purpose of the study, the researcher proposes the following research question:

RQ: Is there a statistically significant relationship between male and female learners' intelligences and their consecutive interpreting performance?

To find the answer to the research question above, the following null hypothesis must be tested:

HO: There is no statistically significant relationship between the male and (female) learners' intelligences and their consecutive interpreting performance.

2. Methodology

According to Williams and Chesterman (2002), there are three types of research: (i) empirical, (ii) conceptual, and (iii) experimental. The present study tried to find a relationship between the multiple intelligences and consecutive interpreting performance using the MI questionnaire's information by carrying out an empirical study. According to Chesterman and William's typology (2002), in collecting data, the one that involves the researcher's intervention is categorized as "experimental"; otherwise, it is an "observational" one. As the researcher in this study remained an observer or analyzer, and there existed no this study be "observational" treatment, may categorized as an (descriptive/natural) one.

2.1 Subjects

The subjects in this study included 109 consecutive interpreting trainees majoring in English Translation, male and female, studying at Allameh Tabataba'i University and Azad University, Shahre Qods Branch. The participants did not have any prior professional experience in translating or interpreting. They were all senior undergraduate students of English Translation and had passed the general and required courses. Most fell under the age group of 20–30 years old. Persian was their language A (mother tongue), and English their language B (foreign language).

2.2 Instruments

At the onset of the experiment, an IELTS test was run to homogenize the subjects. As the listening skill was an essential component of the study, the participants took the listening exam. One version of the listening test was used for all classes.

Another instrument of this study was a Multiple Intelligence (MI) questionnaire translated and edited by Azmoonyar Institute, a credited institute in translating and editing international psychological questionnaires. It includes 80 questions and covers the eight categories of intelligence Gardner (2004) proposed.

The researcher developed another questionnaire to collect information about students' backgrounds. It was intended to expose information about the subjects' A and B language and whether they came from a bilingual or multilingual family and had any prior professional translating and interpreting

experience.

At last, their performance in consecutive interpreting was tested at the end of the semester. The test included the skills taught during the course, such as public speaking skills, notetaking, etc. Two raters graded the students in this study, their performance was recorded, and their notes were collected. The raters were lecturers at the English Translation Department of Allame Tabataba'i University and had at least two-year prior experience of teaching specialized courses in different universities, especially interpreting courses.

The method of rating included testing the students' comprehension, notetaking, and production. A VOA podcast was played for the participants chunk by chunk. They took notes. Then produced their interpretation. The whole process was recorded for every student, then delivered to the raters.

2.2.1 Language Proficiency Test

The proficiency test used here was the listening part of a formal IELTS General exam. There were 40 questions to be answered in 40 minutes. Every attempt was made to simulate the exam conditions as the actual exams in all classes. The time and the instructions were the same as the actual exams. The scoring conformed to the IELTS General listening band's standard band score on the official site of www.ieltstehran.com.

2.2.2 Multiple Intelligences Questionnaire

As an essential part of this research concerned multiple intelligences, and the original MI test was in English, finding a localized version of the test was necessary. The English version of the test included 80 questions with Likert scale

answers, which consisted of "very low," "low," "medium," "high," and "very high." There were ten questions for every intelligence type, and it was rated out of 50. So, the highest score for every intelligence measured 50. There was no time limit, and the subjects were at liberty and had enough time to think about every item carefully before answering them. The highest total score each participant could gain was the product of the sum of scores gained in each and every MI component.

A translated and localized version of the test developed and produced by the Azmoonyar institute was used to reduce and hopefully eradicate the foreign language interference in cognitive processing of the questions. A psychologist from the same institute was asked to score the answer sheets and analyze the data.

2.2.3 Background Questionnaire

To control other factors that might affect the experiment results, the researcher developed a questionnaire to check the subjects' backgrounds. The items included family, language, education, professional work, and travel background.

Family background was included to see if the subjects used one language or more at home. There was also a language background to determine whether the subjects were professionals in English or other languages. Educational background was considered to see if they had any degrees in languages. Their professional background was checked to see if they had any prior experience in translating or interpreting, making those amateurs in this field. Finally, their travel background was checked to see whether they had any experience communicating in other languages in real situations.

2.2.4 Consecutive Interpreting Performance Test

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As this study was carried out at the undergraduate level, the subjects were the students of consecutive interpreting courses. The study used "Consecutive Interpreting: A Practice Book" (Farahzad, Mousavi, Ghomi, 2017) as the semester's coursebook. All the skills which were deemed necessary to be taught in this course are included in this book comprising memory enhancement, public speaking skills, and notetaking. At the end of the semester, a summative test checked all the skills mentioned above. A VOA podcast, Modern Love, (Audio recorded) was used for all subjects to homogenize the test material. Their performances were recorded, and their notes were collected for rating purpose and further analysis.

The method of rating includes testing the students' comprehension, notetaking, and production. The podcast was played for them chunk by chunk. They took notes and then produced their translation. The whole process was recorded for every student, and delivered to the raters.

3. Data Analysis

The study was meant to investigate any significant correlations between eight components of MI and consecutive interpreting performance. The data collected in this study were explored through Pearson's product-moment correlation coefficient and Kendall's partial rank correlation coefficient. Before discussing the results, it should be noted that the assumptions of lack of univariate and multivariate outliers and normality were checked. The standardized scores (Z-scores) were computed for eight MI components and consecutive interpreting performance to test the lack of univariate outliers. Table 3.1 displays the descriptive statistics for the Z-scores. The results indicated that all Z-scores were within the ranges of +/- 3 except for interpersonal intelligence and consecutive interpreting performance. An inspection of the data indicated that the subject under ID number 29 and 33 among female participants, and ID

number 72 and 74 among male students, had Z-scores higher than -3. These four students were dropped out to reduce the sample size from 113 to 109. It should be noted that Z-scores can be evaluated at .05, .01, and .001 levels. That is to say, any Z-score beyond +/- 1.96 is significant at .05 levels. The critical values for .01 and .001 levels are +/- 2.58 and +/-3.29 (Field, 2018, p. 79).

Table 3.1. Descriptive Statistics of Standardized Scores

| | N | Minimum | Maximum | Mean | Std. |
|----------------------|-----|----------|---------|-------|-----------|
| Standardized Scores | 14 | Willimom | Maximum | Mean | Deviation |
| Linguistic-Verbal | 113 | -2.816 | 2.895 | 0.000 | 1.000 |
| Mathematical-Logical | 113 | -2.268 | 2.714 | 0.000 | 1.000 |
| Visual-Spatial | 113 | -2.901 | 2.125 | 0.000 | 1.000 |
| Bodily-Kinesthetic | 113 | -2.427 | 2.225 | 0.000 | 1.000 |
| Intrapersonal | 113 | -2.307 | 2.429 | 0.000 | 1.000 |
| Interpersonal | 113 | -3.045 | 2.068 | 0.000 | 1.000 |
| Musical | 113 | -2.542 | 2.200 | 0.000 | 1.000 |
| Naturalist | 113 | -2.098 | 2.227 | 0.000 | 1.000 |
| IELTS | 113 | -1.671 | 2.639 | 0.000 | 1.000 |
| Interpreting | 113 | -3.899 | 1.503 | 0.000 | 1.000 |

Lack of multivariate outliers was probed through Mahalanobis Distances (M.D.), which were compared against chi-square's critical value at .001 levels for 11 variables, i.e., 31.26 (Tabachnick, Fidell, 2014). Table 3.2 displays the descriptive statistics for the M.D. Since the maximum MD of 20.03 was lower than 31.26, it was concluded that the present data did not suffer from any multivariate outliers.

Table 3.2. Descriptive Statistics of Mahalanobis Distances; Testing Multivariate Outliers

| | | | | | • • • |
|-------------------------|-----|---------|---------|---------------|-------------------|
| | Ν | Minimum | Maximum | Mean | Std. Deviation |
| Mahalanobis Distance | 109 | 2.434 | 20.035 | 8.91 <i>7</i> | 4.105 |

The normality assumption was checked through skewness and kurtosis indices and their ratios over the standard errors (Table 3.3). The absolute value of skewness and kurtosis ratios was lower than 1.96 for all variables except for the male participants' scores on linguistic/verbal intelligence and the female group's scores on visual/spatial. That was why the research questions related to these groups were analyzed through non-parametric Kendall's correlation. The skewness and kurtosis ratios of +/- 1.96 were suggested by Field (2018), "The resulting z-scores can be compared against values that you would expect to get if skew and kurtosis were not different from 0. So, an absolute value greater than 1.96 is significant at p < 0.05, above 2.58 is significant at p < 0.01 and above 3.29 is significant at p < 0.001". (p 345–46)

Table 3.3. Descriptive Statistics; Testing Normality of data

| | | Ν | Skewness | | Kurtosis | | | |
|--------|--------------------------|------------|-----------|---------------|-----------|-----------|-----------|-----------|
| Gende | r | Statistic | Statistic | Std. Error | Ratio | Statistic | Std.Error | Ratio |
| | Linguistic-Verbal | 53 | .573 | .327 | 1.75 | 1.337 | .644 | 2.08 |
| | Mathematical- Logical | 53 | .135 | .327 | 0.41 | .180 | .644 | 0.28 |
| | Visual-Spatial | 53 | 213 | .327 | - 0.65 | 619 | .644 | 0.96 |
| Male | Bodily-Kinesthetic | 53 | 436 | .327 | - 1.33 | 360 | .644 | 0.56 |
| 771010 | Intrapersonal | 53 | 310 | .327 | - 0.95 | 440 | .644 | 0.68 |
| | Interpersonal | 53 | .223 | .327 | 0.68 | 584 | .644 | - 0.91 |
| | Musical | <i>5</i> 3 | .004 | .327 | 0.01 | .102 | .644 | 0.16 |
| | Naturalist _ | 53 | 441 | .327 | - 1.35 | 446 | .644 | - 0.69 |

| | _ | | | | | | | |
|--------|--------------------------|----|--------------|------|-------------------|-------|------|-------------------|
| | IELTS | 53 | .537 | .327 | 1.64 | 473 | .644 | - 0.73 |
| | Total MI | 53 | 092 | .327 | - 0.28 | 709 | .644 | - 1.10 |
| | Linguistic-Verbal | 56 | .237 | .319 | 0.74 | 655 | .628 | - 1.04 |
| | Mathematical- Logical | 56 | .346 | .319 | 1.08 | 294 | .628 | - 0.47 |
| | Visual-Spatial | 56 | 199 | .319 | - 0.62 | 1.236 | .628 | 1.97 |
| | Bodily-Kinesthetic | 56 | .052 | .319 | 0.16 | 827 | .628 | - 1.32 |
| Female | Intrapersonal | 56 | 210 | .319 | - 0.66 | 148 | .628 | 0.24 |
| | Interpersonal | 56 | .366 | .319 | 1.15 | 461 | .628 | - 0.73 |
| | Musical | 56 | 1 <i>7</i> 8 | .319 | - 0.56 | .125 | .628 | 0.20 |
| | Naturalist | 56 | 053 | .319 | - 0.1 <i>7</i> | 665 | .628 | - 1.06 |
| | IELTS | 56 | .582 | .319 | 1.82 | 343 | .628 | - 0. <i>55</i> |
| | Total MI | 56 | .005 | .319 | 0.02 | .500 | .628 | 0.80 |

4. Exploring the Research Question

Evidently the research question of the study will address eight components of MI. The results for each intelligence is shown in Tables 4.1. to 4.8. The scatter plots 4.1 to 4.8 check the assumptions of linearity and homoscedasticity (see attachment 1). The results show that the assumption of linearity was violated for all groups. The relationship between eight intelligences and consecutive interpreting performance showed clear rising-and-falling patterns. However, the assumption of homoscedasticity was retained. None of the scatter plots formed a funnel shape, i.e., narrow at one end and wide at the other end.

4.1 Linguistic-verbal Intelligence: As it is shown in Table 4.1, the results indicated that there was not any significant correlation between consecutive

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interpreting performance and linguistic-verbal intelligence among male trainee interpreters (τ (51) = .070, representing a weak effect size, p = .482). However, there was a significant relationship between consecutive interpreting performance and linguistic-verbal intelligence among female trainee interpreters (τ (54) = .391, representing a moderate effect size (p = .003).

Table 4.1. Pearson Correlations; Consecutive Interpreting Performance with Linguistic-Verbal Intelligence

| | | Consecutive Interpreting Performance | | |
|----------------------|---------------------|--------------------------------------|--------|--|
| | | Male | Female | |
| | Pearson Correlation | .070 | .391 | |
| Linguistic Verbal | Sig. (2-tailed) | .482 | .003 | |
| verbai | N | 53 | 56 | |

4.2: Mathematical-logical Intelligence: According to table 4.2, the results indicated that there was not any significant correlation between consecutive interpreting performance and mathematical-logical intelligence among male trainee interpreters (r(51) = .144, representing a weak effect size, p = .302). However, there was a significant relationship between consecutive interpreting performance and mathematical-logical intelligence among female trainee interpreters (r(54) = .445, representing a moderate effect size (p = .000).

Table 4.2. Pearson Correlations; Consecutive Interpreting Performance with Mathematical-Logical Intelligence

| | | | Consecutive Interpreting Performance | | |
|--------------|---------------------|------|--------------------------------------|--|--|
| | | Male | Female | | |
| Mathematical | Pearson Correlation | .144 | .445 | | |

| Logical | Sig. (2-tailed) | .302 | .000 |
|---------|-----------------|------|------|
| | N | 53 | 56 |

4.3. Musical Intelligence: According to table 4.3, the results indicated that there was not any significant correlation between consecutive interpreting performance and musical intelligence among male (r(51) = .160), representing a weak effect size, p = .252, and female (r(54) = .003), representing a weak effect size, p = .985) trainee interpreters.

Table 4.3. Pearson Correlations; Consecutive Interpreting Performance with Musical Intelligence

| | | | Consecutive Interpreting Performance | |
|---------|---------------------|------|--------------------------------------|--|
| | | Male | Female | |
| | Pearson Correlation | .160 | .003 | |
| Musical | Sig. (2-tailed) | .252 | .985 | |
| | Ν | 53 | 56 | |

4.4. Visual-spatial Intelligence: As it is shown in table 4.4, the results indicated that there was not any significant correlation between consecutive interpreting performance and visual-spatial intelligence among male (r (51) = .095, representing a weak effect size, p = .498), and female (τ (54) = .045, representing a weak effect size, p = .643) trainee interpreters.

Table 4.4. Pearson Correlations; Consecutive Interpreting Performance with Visual-Spatial Intelligence

| | | Consecutive Interpreting Performance | | |
|----------------|---------------------|--------------------------------------|--------|--|
| | | Male | Female | |
| Visual-Spatial | Pearson Correlation | .095 | .006 | |

4.5. Bodily-kinesthetic Intelligence: According to table 4.5, the results indicated a significant correlation between consecutive interpreting performance and bodily-kinesthetic intelligence among male trainee interpreters (r (51) = -.326, representing a moderate effect size (p = .017). However, there was no significant relationship between consecutive interpreting performance and bodily-kinesthetic intelligence among female trainee interpreters (r (54) = .005, representing a weak effect size (p = .969).

Table 4.5. Pearson Correlations; Consecutive Interpreting Performance with Bodily-Kinesthetic Intelligence

| | | | Consecutive Interpreting Performance | | |
|-----------------------|---------------------|------|--------------------------------------|--|--|
| | | Male | Female | | |
| n lu | Pearson Correlation | 326 | .005 | | |
| Bodily Kinesthetic | Sig. (2-tailed) | .017 | .969 | | |
| MITESTITETIC | N | 53 | 56 | | |

4.6. Interpersonal Intelligence: As shown in table 4.6, the results indicated that there was not any significant correlation between consecutive interpreting performance and interpersonal intelligence among male (r (51) = .157, representing a weak effect size, p = .260), and female (r (54) = .119, representing a weak effect size, p = .383) trainee interpreters.

Table 4.6. Pearson Correlations; Consecutive Interpreting Performance with Interpersonal Intelligence

| | | Consecutive Interpreting Performance | | |
|---------------|---------------------|--------------------------------------|------|--|
| | | Male Female | | |
| | Pearson Correlation | .157 | .119 | |
| Interpersonal | Sig. (2-tailed) | .260 | .383 | |
| | N | 53 | 56 | |

4.7. Intrapersonal Intelligence: According to table 4.7, the results indicated that there was not a significant correlation between consecutive interpreting performance and intrapersonal intelligence among male (r (51) = -.104, representing a weak effect size, p = .458), and female (r (54) = .174, representing a weak effect size, p = .199) trainee interpreters.

Table 4.7. Pearson Correlations; Consecutive Interpreting Performance with Intrapersonal Intelligence

| | | | Consecutive Interpreting Performance | | |
|---------------|---------------------|------|---|--|--|
| | | Male | Female | | |
| | Pearson Correlation | 104 | .174 | | |
| Intrapersonal | Sig. (2-tailed) | .458 | .199 | | |
| | Ν | 53 | 56 | | |

4.8. Naturalist Intelligence: As shown in table 4.8, the results indicated that there was not any significant correlation between consecutive interpreting performance and naturalist intelligence among male (r (51) = -.071, representing a weak effect size, p = .614), and female (r (54) = -.088, representing a weak effect size, p = .521) trainee interpreters.

Table 4.8. Pearson Correlations; Consecutive Interpreting Performance with Naturalist Intelligence

| | | Consecutive Interpreting Performance | |
|------------|---------------------|--|--|
| | | Male Female | |
| Naturalist | Pearson Correlation | 07188 | |
| | Sig. (2-tailed) | .614 .521 | |
| | Ν | 53 56 | |

5. Conclusion

The present research attempted to investigate the relationship between eight components of MI and consecutive interpreting performance in male and female interpreter trainees in Iranian universities. An attempt was made to provide a similar situation for all classes and control other variables that might have affected the results, such as being bilingual, being raised in a bilingual family, being a professional or amateur translator or interpreter, etc.

As the results presented in Section 4 above and summarized in Table 5.1 below indicate, there were no significant correlations between consecutive interpreting performance and (i) music, (ii) visual-spatial, (iii) interpersonal, (iv) intrapersonal, and (v) naturalistic intelligences. However, there was a significant correlation between consecutive interpreting performance and linguistic-verbal intelligence in female trainee interpreters. There was also a significant correlation between consecutive interpreting performance and mathematical-logical intelligence in female trainee interpreters. Finally, there was a significant correlation between consecutive interpreting performance and bodily-kinesthetic intelligence in male trainee interpreters.

Table 5.1. A summary of the results

| Multiple Intelligences | Consecutive Interpreting Performance | |
|------------------------|--------------------------------------|--------|
| | Male | Female |
| Linguistic-verbal | - | + |
| Mathematical-logical | - | + |
| Musical | - | - |
| Visual-spatial | - | - |
| Bodily-kinesthetic | + | _ |
| Interpersonal | - | - |
| Intrapersonal | - | - |
| Naturalist | _ | _ |

There has been a lot of international research about using MI theory in educational settings. For example, Foong, Shariffudin, and Mislan (2012) examined the pattern of multiple intelligences, personality traits and critical thinking skills among high achievers in Malaysia. Data analysis showed the majority of high achievers having high intrapersonal intelligence, followed by existential, kinesthetic, logical-mathematical, spatial, interpersonal, linguistic, naturalist and musical intelligences.

It has also entered language teaching settings, and educators have benefitted from the research in this field. Koura, and Al-Hebaishi (2014) aimed to find out the relationship of multiple intelligences with the respondents' achievement in EFL language skills. The results of data analysis revealed that both gifted and regular participants scored higher in interpersonal intelligence than any other intelligence types.

The result of this study is in line with some works in the field of education such as Poursaberi and Mohammadi (2017) who found a significant relationship

between linguistic-verbal intelligence and academic success. Also, Ghazi, Shahzada, Gilani, Shabbir, and Rashid (2011) led a study in Bannu district, Pakistan, to investigate into the relationship between students' self-perceived multiple intelligences and their academic achievement. A significant correlation was found between students' self-perceived linguistic, logical-mathematical, interpersonal, intrapersonal, naturalist intelligences and their academic achievement. The results of this study regarding the relationship between bodily-kinesthetic intelligence and consecutive interpreting performance is in line with the results of the study led by Foong, Shariffudin, and Mislan (2012) explained above.

It may also be helpful in translator and interpreter training settings. One of the significant studies in this field is the work of Mousavi Razavi (2017) on simultaneous interpreting (SI). He found out that interpersonal, intrapersonal, and natural intelligences have a significant relationship with SI performance of trainee interpreters. As compared to the results of this study, the difference may be due to differences in the processes of CI vs. SI and other linguistic or extralinguistic factors that may have escaped the attention of the researchers.

Becoming familiar with different aspects of intelligence in would-be translators and interpreters can help trainers devise new methods and strategies in their classes. Finally, it is hoped that the present study's results and similar ones can help develop procedures for selecting would-be interpreters and design entrance exams for interpreting training courses, and devising or refining curricula for training courses.

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ار تباط بین هشت مولفهٔ هوشهای چندگانه و عملکرد دانشجویان دختر و پسر در ترجمهٔ شفاهی پیاپی در ایران

 $_$ زهرا گلشاهی $^{\mathsf{Y}}$ و غلامرضا تجویدی $^{\mathsf{T}}$

چکیده

آزمون مؤلفههای هوشهای چندگانه گاردنر را میتوان ابزار قدرتمندی برای ارزیابی استعداد و توانایی دانشجویان دانست. این تحقیق تجربی با هدف کشف رابطهٔ احتمالی بین نمرهٔ دانشجویان پسر و دختر در آزمون هوشهای چندگانه و عملکرد آنها در ترجمهٔ شفاهی پیاپی انجام شد. صد و نه دانشجو برای شرکت در این تحقیق انتخاب شدند. ابزار تحقیق شامل سه پرسشنامه و یک آزمون نهایی بود. ضریب همبستگی پیرسون و ضریب همبستگی نسبی کندال برای بررسی دادهها مورد استفاده قرار گرفت. ضریب همبستگی پیرسون ارتباط معناداری را بین هوش بدنی-جنبشی و عملکرد دانشجویان پسر در ترجمهٔ شفاهی پیاپی، و همچنین بین هوشهای کلامی-زبانی و منطقی-ریاضی و عملکرد دانشجویان دختر در ترجمهٔ شفاهی پیاپی نشان داد. میتوان از نتایج این تحقیق به این فرضیه رسید که احتمالاً دانشجویان پسری که از هوش بدنی-جنبشی بالاتری برخوردارند، در درس ترجمهٔ شفاهی پیاپی عملکرد بهتری دارند. بدین ترتیب از ارتباط معناداری که بین هوشهای کلامی-زبانی و منطقی-ریاضی و عملکرد که این ترتیب از ارتباط معناداری که بین هوشهای پیاپی بهدست آمد، میتوان نتیجه گیری کرد که این دانشجویان دختر در ترجمهٔ شفاهی پیاپی موفقتری خواهند بود.

واژههای راهنما: ترجمهٔ شفاهی پیاپی، دانشجویان ترجمهٔ شفاهی پیاپی، نمرهٔ هوشهای چندگانه، هوشهای چندگانه

۱. این مقاله در تاریخ ۱۴۰۰/۰۲/۱۱ دریافت شد و در تاریخ ۱۴۰۰/۰۶/۰۸ به تصویب رسید.

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