

# Depression

## *Does it affect the comprehension of receptive skills?*

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### ABSTRACT

**الأهداف:** عمل مقارنة بين الطلبة الذكور والإناث المصابين بالاكتئاب وغير المصابين بالاكتئاب اعتماداً على استيعاب مهارات التلقي أثناء تعلم اللغة الإنجليزية كلغة ثانية، والتحقق ما إذا كان للاكتئاب علاقة بعدم الكفاءة في استيعاب اللغة الإنجليزية.

**الطريقة:** لقد اخترنا عينة الدراسة عشوائياً من طلاب مدرستين ثانويتين في كرمان، إيران حيث شملت 126 ذكر و96 أنثى تتراوح أعمارهم ما بين 15 إلى 18 عاماً. وقد أجريت هذه الدراسة الوصفية خلال الفترة من يناير إلى مايو 2011م. ولقد وجدنا بعد تطبيق مقياس بيك للاكتئاب بأن 65 طالباً كان مصاباً بالاكتئاب البسيط، و48 بالاكتئاب المتوسط، و16 طالباً بالاكتئاب الحاد.

**النتائج:** أشارت العلاقة بين درجات الطلبة في اختباري القراءة والاستماع ومستويات الاكتئاب إلى وجود علاقة واضحة من الناحية الإحصائية بين الاكتئاب واستيعاب مهارات القراءة والاستماع. وأحرز الذكور درجات عالية في مهارات القراءة والاستماع. ولم يكن هناك فرق واضح من الناحية الإحصائية في مهارات الاستماع بين مستويات الاكتئاب والذكور والإناث. وفيما يخص مهارات القراءة فلم يكن هنالك فرق واضح بين مستويات الاكتئاب، غير أن مهارات استيعاب القراءة بين الذكور والإناث قد اختلفت اختلافاً واضحاً من الناحية الإحصائية.

**خاتمة:** أظهرت الدراسة بأن متعلمي اللغة الذين يظهرون عدم الكفاءة في استيعاب مهارات التلقي يجب أن يتم فحصهم نفسياً لاحتمال معاناتهم من بعض درجات الاكتئاب.

**Objectives:** To compare the comprehension of depressed and non-depressed male and female Iranian learners of English as a Foreign Language (EFL) in receptive skills, and to investigate whether inefficiency in learning English could be due to depression.

**Methods:** We selected 126 boys and 96 girls aged between 15 and 18 by simple random sampling from 2 high schools in Kerman, Iran to examine whether

there was any significant relationship between depression and comprehension of receptive skills in males and females. We undertook this descriptive, correlational study between January and May 2011 in Kerman, Iran. After administration of the Beck Depression Inventory (BDI), we found that 93 students were non-depressed, 65 had minimal depression, 48 mild depression, and 16 suffered from severe depression.

**Results:** The correlation between participants' scores on listening and reading test with depression level indicated a significant relationship between depression and comprehension of both listening, and reading. Males had higher scores in both reading and listening. In listening, there was no significant difference among the levels of depression and males and females. Regarding the reading skill, there was no significant difference among levels of depression; however, the reading comprehension of males and females differed significantly.

**Conclusion:** Learners who show a deficiency in receptive skills should be examined for the possibility of suffering from some degree of depression.

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Depression is one of the most common psychiatric disorders, its incidence increases every year and it is ranked as the single most burdensome disease in the world.<sup>1</sup> It affects memory and learning, as the same areas that play a role in memory and quick thinking also perform an important role in the stress response, which is associated with different mental disorders such as depression. Hormones such as cortisol and adrenalin are released during stress, bathe these brain areas, and cause changes in their function.<sup>2-4</sup> According to Beck's cognitive theory of depression,<sup>5</sup> in achievement oriented environments, depressed individuals have a stronger tendency to obtain lower grades and thus, are apt to fail due to pessimistic views of themselves. Hence, they are more threatened by the difficulty of the academic tasks they are supposed to accomplish, which negatively affect their academic potential.<sup>6</sup>

The role of receptive skills in learning a second language is crucial. Listening and reading skills are not merely the driving forces behind the development of first language, they also play a key role in the process of second language acquisition. Through reading, students obtain new information and broaden their understanding of their environment and the world.<sup>7</sup> Moreover, listening helps students toward their success in the acquisition of language; it facilitates learning, and develops the learners' proficiency for later productive skills.<sup>8</sup> Comprehension is affected by a wide range of variables that affect the comprehension of the message.<sup>9</sup> The notions of affective filter and comprehensible input are fundamental principles in language acquisition, which facilitates the receipt of information and hence contributes to the learning of the learners.<sup>10</sup> Affective factors such as anxiety, desperation, anger, and other emotional responses can help or hinder language learning and can prevent the processing of input; which is why teachers should consider these factors if they intend to enhance learning.<sup>11</sup> As Blakemore and Frith suggested,<sup>12</sup> understanding the brain mechanisms that underlie learning and memory, realizing the effects of environment, emotion, and age on learning can transform educational strategies and enable us to design programs that optimize learning for people of all ages with different needs.

There are numerous articles on the role of depression or the comprehension of receptive skills in native speakers, but few involve the comprehension of receptive skills among depressed individuals who are English as a Foreign Language (EFL) learners. Therefore, this study aims to compare the comprehension of receptive skills in depressed and non-depressed Iranian EFL learners with the focus on probable differences between different levels of depression in males and females.

**Methods.** We performed this study between January and May 2011 after approval by the Local Ethics Committee of Kerman University of Medical Sciences, Kerman, Iran. Categorized under descriptive research, the study was a descriptive correlational study, the participants of which were 222 high school students from Kerman, a province in Iran, including 126 boys, from Kamaloddin Mousavi High School, and 96 girls from Fatemeh High School. We selected these participants through simple random sampling, and they were aged between 15 and 18. We described the study objectives to them, and they consented to voluntarily participate in the study. To separate the depressed from the non-depressed, we administered the Beck Depression Inventory (BDI). The BDI-II, which we used in this study, comprises 21 multiple choice self-report items each of which has 4 statements describing increasing levels of severity, and the total score ranges from 0-84.<sup>13</sup> Scores of 0 to 9 are considered minimal or non-depressed; 10 to 16 mild; 17 to 29 moderate; and 30 to 63 severe depression.<sup>14</sup> We found that out of 222 participants, 93 were non-depressed, 65 had mild depression, 48 were moderately depressed, and 16 suffered from severe depression. The second instrument used in the study was the Key English Test, which is appropriate for basic communication level according to the "Common European Framework of Reference for Language," available at <http://www.cambridgeESOL.org>.

We used the Statistical Package for Social Sciences version 17 (SPSS Inc., Chicago, IL, USA) for the analysis of the data. We ran the Pearson product-moment correlation coefficient at the onset of the study to examine whether there was any significant correlation between depression and reading on the one hand, and depression and listening on the other. Subsequently, through a 2-way-ANOVA (Tables 1 & 2), we compared the mean of listening and reading scores, as 2 independent variables, based on depression severity in males and females as 2 dependent variables. We used the Scheffe Test (Tables 3 & 4) to compare the performance of different levels of depressed participants in the comprehension of receptive skills. We considered a *p*-value less than 0.05 significant.

**Results.** The results of the study indicated that there was a significant correlation between depression and listening, ( $r=-0.141$ ) significant at the 0.05 level, denoting that the more depressed the students were, the less success they had in the comprehension of listening. The negative relationship between depression and reading ( $r=-0.167$ ), statistically significant at the 0.05

level, signified that as the score of depression increased, the score of reading decreased. The comparison of the comprehension of male and female students with different levels of depression demonstrated that all male students (14.2381) had higher mean scores in listening ability in every level of depression than females (12.0833), except in severe depression, where the difference was not large (male mean=12.1429, female mean=12.1111) (Figure 1). The mean scores of the male participants (16.6111) in reading ability in all levels of depression appeared to be higher than that of the female students (10.1146) (Figure 2). As far as listening skill is concerned, there was no significant difference among levels of depression ( $p>0.05$ ). Furthermore, there was no significant difference between males and females ( $p>0.05$ ). Also, the difference between levels of depression and groups was not statistically significant ( $p>0.05$ ) (Table 1).

Regarding reading skills, there was no significant difference among levels of depression ( $p>0.05$ ). However, there was a significant difference between reading comprehension ability of males and females

( $p<0.001$ ). The effect size, using eta-squared was 0.091, indicating that the reading ability of male and female participants by itself accounted for 9% of the overall variance. Moreover, as the results displayed (Table 2), the interaction effect between different levels of depression and gender was not significant ( $p>0.05$ ). In other words, different depression levels did not lead to any difference in the reading ability of males and females. The results of the Scheffe test showed that those participants with no sign of depression obtained higher scores in listening (Table 3) in comparison with participants with different levels of depression, although this difference was not statistically significant. For reading (Table 4), there was a statistically significant difference between participants with severe depression and the non-depressed participants, as the participants with severe depression obtained the lowest scores, and the non-depressed, the highest ( $p=0.007$ , 95% Confidence Interval: 1.43-9.21) (Table 5). Conversely, there was no significant difference among the participants with mild and moderate depression, and the non-depressed and severely depressed participants.

**Table 1** - Tests of between-subjects effects/dependent variable listening among Iranian English as a Foreign Language students (N=222).

| Source            | Type III sum of squares | df  | Mean square | F       | Sig.  | Partial eta-squared |
|-------------------|-------------------------|-----|-------------|---------|-------|---------------------|
| Correct model     | 496.093                 | 7   | 70.870      | 2.823   | 0.054 | 0.096               |
| Intercept         | 23515.055               | 1   | 23515.055   | 604.901 | 0.000 | 0.739               |
| Depression        | 166.065                 | 3   | 55.355      | 1.42    | 0.237 | 0.020               |
| Groups            | 81.438                  | 1   | 81.438      | 2.09    | 0.149 | 0.010               |
| Depression groups | 41.880                  | 3   | 13.960      | 0.359   | 0.783 | 0.005               |
| Error             | 8319.078                | 214 | 38.874      |         |       |                     |
| Total             | 48122.000               | 222 |             |         |       |                     |
| Corrected total   | 8815.171                | 221 |             |         |       |                     |

df - degrees of freedom, Sig. - significance

**Table 2** - Tests of between-subjects effects/dependent variable reading among Iranian English as a Foreign Language students (N=222).

| Source            | Type III sum of squares | df  | Mean square | F       | Sig.  | Partial eta-squared |
|-------------------|-------------------------|-----|-------------|---------|-------|---------------------|
| Correct model     | 2864.206                | 7   | 409.172     | 7.702   | 0.000 | 0.201               |
| Intercept         | 22771.960               | 1   | 22771.960   | 428.636 | 0.000 | 0.667               |
| Depression        | 211.164                 | 3   | 70.388      | 1.325   | 0.267 | 0.018               |
| Groups            | 1131.678                | 1   | 1131.678    | 21.302  | 0.000 | 0.091               |
| Depression groups | 295.779                 | 3   | 98.593      | 1.856   | 0.138 | 0.025               |
| Error             | 11369.074               | 214 | 53.127      |         |       |                     |
| Total             | 56522.000               | 222 |             |         |       |                     |
| Corrected total   | 14233.279               | 221 |             |         |       |                     |

df - degrees of freedom, Sig. - significance

**Table 3** - Results of the Scheffe test for listening among Iranian English as a Foreign Language students (N=222).

| Levels of depression | N  | Subtest 1 |
|----------------------|----|-----------|
| Severe               | 16 | 12.1250   |
| Moderate             | 48 | 13.0208   |
| Mild                 | 65 | 12.1231   |
| Non-depressed        | 93 | 14.4839   |
| Sig.                 |    | 0.456     |

Sig. - significance. The error term is mean square (Error) = 38.874, harmonic mean sample size = 36.539.

**Table 4** - Results of the Scheffe test for reading among Iranian English as a Foreign Language students (N=222).

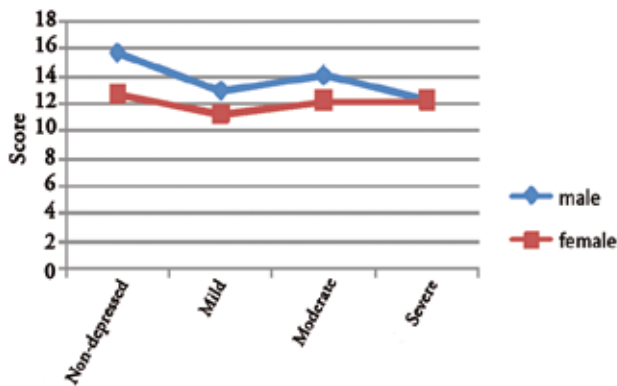
| Levels of depression | N  | Subtest 1 | Subtest 2 |
|----------------------|----|-----------|-----------|
| Severe               | 16 | 9.8125    | 13.5208   |
| Moderate             | 48 | 13.5208   | 13.0769   |
| Mild                 | 65 | 13.0769   | 15.1398   |
| Non-depressed        | 93 |           |           |
| Sig.                 |    | 0.196     | 0.691     |

Sig. - significance. The error term is mean square (Error) = 53.127, harmonic mean sample size = 36.539.

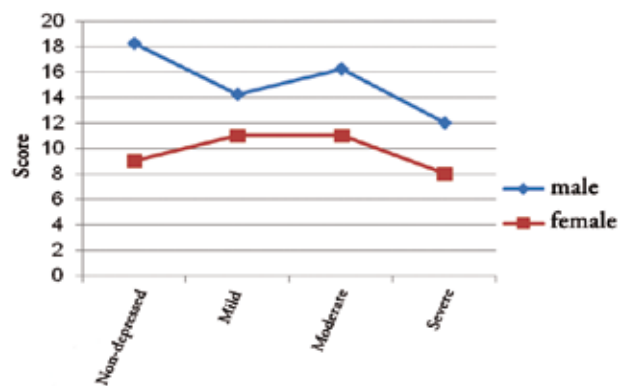
**Table 5** - The reading performance of Iranian English as a Foreign Language students with different degrees of depression.

| Difference between levels of depression |               | Mean difference | Std. error | Sig.  | 95% Confidence Interval |             |
|---|---------------|-----------------|------------|-------|-------------------------|-------------|
|   |               |                 |            |       | Lower bound             | Upper bound |
| Non-depressed                           | Mild          | 2.0629          | 1.17838    | 0.081 | 0.2599                  | 4.3856      |
|   | Moderate      | 1.6190          | 1.29540    | 0.213 | 0.9344                  | 4.1723      |
|   | Severe        | 5.3273          | 11.97273   | 0.007 | 1.4388                  | 9.2115      |
| Mild                                    | Non-depressed | 2.0629          | 1.17838    | 0.810 | 4.3856                  | 0.2599      |
|   | Moderate      | 0.4439          | 1.38713    | 0.749 | 3.1781                  | 2.2903      |
|   | Severe        | 3.2644          | 2.03414    | 0.110 | 0.7451                  | 7.2739      |
| Moderate                                | Non-depressed | 1.6190          | 1.29540    | 0.213 | 4.1723                  | 0.9344      |
|   | Mild          | 0.4439          | 1.38713    | 0.749 | 2.2903                  | 3.1781      |
|   | Severe        | 3.7083          | 2.10409    | 0.079 | 0.4391                  | 7.8557      |
| Severe                                  | Non-depressed | 5.3273          | 1.97272    | 0.007 | 9.2158                  | 1.4388      |
|   | Mild          | 3.2644          | 2.03414    | 0.110 | 7.2739                  | 0.7451      |
|   | Moderate      | 3.7083          | 2.10409    | 0.079 | 7.8557                  | 0.4391      |

Based on observational means, Std - standard, Sig. - significance



**Figure 1** - Estimated marginal means of listening among Iranian English as a Foreign Language students.



**Figure 2** - Estimated marginal means of reading among Iranian English as a Foreign Language students.

**Discussion.** Based on Sadock & Kaplan's<sup>15</sup> and Medin et al's<sup>16</sup> views, both the language center and the area responsible for depression are in the left hemisphere of the brain. By investigating the relation between depression and receptive skills, they revealed that as depression severity increased in participants,

their success in listening and reading decreased. Thus, depression can be considered a primary factor in the dimness of comprehension. Furthermore, the superiority of male students to females could be because the right hemisphere of males is thicker than that of females, and thus, has the capacity to comprehend

some language, although it cannot produce language, in comparison to the left hemisphere.<sup>17,18</sup> Since the results of the study revealed that males had higher mean scores in both listening and reading comprehension with all levels of depression, we can propose that males obtained higher scores in comprehension because of the thicker hemisphere for comprehension. Nonetheless, the lack of a significant difference between the comprehension of depressed and non-depressed participants might be due to the limited number of participants in this study.

It is worth mentioning that the present study suffered from certain limitations. First, the sample sizes were small. Also, although we fully instructed the learners on how to answer the questionnaire and the test, answering by chance is still a possibility in some cases. Thus, we strongly recommend future researchers interested in the same area to focus on other psychological disorders, and other language skills, and sub skills. We also recommend the replication of the study in other settings, with participants of different ages, and larger sample sizes.

In conclusion, this study aimed to signify that if teachers intend to improve second language abilities of their learners and to guarantee their success, they should be attentive to the psychological characteristics of their learners including affective factors and mental health. Thus, bombarding learners with vast amounts of information will not motivate those learners suffering from an internal disease, and this is just a waste of time and energy. The significant negative correlation between depression and receptive skills shows that inattentiveness of a student in English classes could be because of depression and not an incapability to learn the language. Hence, the student should be referred to a psychologist or a consultant for further evaluation and treatment.

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