

## Relation between Linguistic Intelligence and Obsessive-Compulsive Disorder

(Comparative Study)

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**Abstract:** This research aimed at investigating the correlation between linguistic intelligence, and having Obsessive-compulsive disorder and the differences in linguistic intelligence due to differences in gender, as well as knowing the effect of interaction between gender and linguistic intelligence on having Obsessive-compulsive disorder. The sample consisted of (200) individuals; (100) of them having Obsessive-compulsive disorder, the other (100) individuals were normal people. Age for the two groups ranged between (20-39) years and they were selected by the purposive sampling method. The researcher used the OCD Scale and the Linguistic Intelligence Scale. The collected data were analyzed using the following tools: Point-Biserial Correlation coefficient, T-test, two-way ANOVA test. The results of this research were; there were correlations between linguistic intelligence and having an Obsessive-compulsive disorder, there are no statistically significant differences between males and females in linguistic intelligence, and there is statistically significant interaction between gender and linguistic intelligence which has effect on Obsessive-compulsive disorder.

**Keywords:** linguistic intelligence, compulsive disorder, OCD Scale

### INTRODUCTION

The intelligence is one of the topics that is gaining an increasing interest recently from psychologists because of its vital relation with all different fields of life; academic, social, psychological, professional and others. The intelligence is considered one of the personality dimensions that psychologists were able to measure with a high precision. The IQ has extended from determining the mental level of individuals to determining some psychological characteristics that distinguish the different clinical groups. The linguistic concept of intelligence emphasizes the importance of the intelligence impact on interaction, success and adjustment, whereas the individual affects and is affected by the society he lives in. The concept of intelligence has then settled in its psychological field that studies it as a mental phenomenon of the behavioral phenomena subject to the objective mental measurement [1]. Thus, the family atmosphere represented in the nature of the psychological, social and spiritual life that prevails among family members and the nature of social relations within the family, plays an important role in the personalities of the children, their behavioral patterns, and their methods of personal and social adjustment, and thus, plays an essential role in the psychological and mental health of the family. Clinical studies indicate that disordered families produce

disordered children and many of the child disorders are only symptoms of family disorders of unsuitable conditions and the problems in family education and upbringing [21]. This study is carried out to shed light on some issues related to psychological and mental health of human.

### Study problem

Clinical Psychology addresses the problem of psychological disease in order to help troubled people to live a less anxious and more compatible life. It is considered one of the most important research fields of the human psyche. It, therefore, fills an essential cultural gap and a necessity that was and still a popular demand in the age of anxiety that people and communities are living currently [35]. The era in which the whole human society are living right now is characterized by complicated problems, that poverty, disease and family disintegration has put the contemporary man under complex crises regarding his daily subsistence, his work and his psychological health. A strong materialistic current has swept the world and could shake the values and perceptions and led to the prevalence of mental diseases. As a result, psychology had to rapidly develop to be able to deal with current problems and contain them in the era of increased communication speed and computer controlling most aspects of scientific life including

fields of diagnosis and treatment. The rapid change is sweeping every aspect of human life and society. The study problem can be determined in the following questions:

- Is there a correlation between the Linguistic Intelligence and having an Obsessive-Compulsive Disorder, OCD?
- Are there any statistically significant differences in linguistic intelligence due to difference in gender?
- Is there a statistically significant interaction between gender and linguistic intelligence that has an effect on having an OCD?

#### **Importance of the study**

- The importance of this study comes from the topic it addresses. As the psychological disorder has vastly spread among people in the twentieth century and had dominated many of their behavioral aspects, thus it became the topic of various researches that aim at elevating much of unfamiliar behavioral phenomena.
- The study deals with an important topic in the field of linguistic, psychological and clinical studies.
- The researcher expects that the results of this research should encourage psychologists, counselors and workers in the field of psychological health to design and develop treatment programs for the sufferers of psychologically diseases.
- Help parents and educators to develop and design educational and guidance programs which enables the maximum use of linguistic abilities of children in order to enjoy psychological health and avoid neurotic disorders.

#### **Objectives of the study**

- Study the correlation between linguistic intelligence and having an OCD.
- Study of the differences in linguistic intelligence, due to the difference in gender.
- Study the statistically significant interaction between gender and linguistic intelligence which has effect on having an OCD.

#### **Hypotheses of the study**

- There is a correlation between Linguistic Intelligence and having an OCD.
- There are statistically significant differences in Linguistic Intelligence due to difference in gender.
- There are statistically significant interaction between gender and Linguistic Intelligence which has effect on having an OCD.

#### **Boundaries of the study**

**Spatial border:** Khartoum State,

**Temporal boundaries:** The study was conducted in the academic year 2016.

#### **Definitions**

**Linguistic intelligence:** is the ability to use linguistic expression and words which enables creativity in writing, speaking and rhetoric. The linguistically intelligent person will be more able to learn languages and to use them to reach certain goals. [5]

**The researcher defines it procedurally as:** the degree obtained by individuals as a result of their responses to the Linguistic Intelligence Test used in this research.

**Obsessive-compulsive disorder:** defines the obsession as a dominating thinking, and compulsion as a repeated compelling behavior that imposes itself upon the patient and which the patient cannot resist and it makes him tense and anxious and have internal urge to do it [19].

**The researcher defines it procedurally as:** the degree obtained by individuals as a result of their responses to the OCD Test used in this research.

#### **Theoretical framework**

##### **Linguistic intelligence**

The concept of intelligence is completely new to the scientific literature as it did not have a distinctive presence before in any form and we can notice the absence of the expressions of intelligence in writings of the 19<sup>th</sup> century whether psychological or philosophical [31]. The human intelligence is one of the controversial fields that received great deal of attention not only from psychologists and psychometric specialists but also from scientists in various fields of science. As a result the mental measurements have witnessed important developments with the establishment of specialized centers and the conduction of more studies in the mental powers. [1]

##### **Definition of intelligence**

**Linguistically:** the word intelligence comes from the Latin source *intelligere* 'understand' via old French to Middle English and it is defined as the ability to acquire and apply knowledge and skills. Arabs and Muslims used to recognize intelligence of individual through the following:

- Exterior personal appearance.
- Appropriate response to the surrounding alerts.
- Good management of personal and social matters that fits with the current situation and future planning [4].

**Idiomatically:** the concept of intelligence is characterized by the multiplicity and diversity of its definitions due to its ambiguity and inexactness. This situation has led to an increased controversy more than to highlighting the concept of intelligence. The concept is difficult to define as it is the case for general abstract concepts. In general, the definitions of intelligence provided by psychologists fall into three distinct categories:

**First category:** defines the intelligence as ability of the individual to adjust with his overall environment or some of its specific aspects. The intelligence is then considered as a general ability to adjust with and adapt to the new problems and situations in life. [18].

**Second category:** defines intelligence as the ability to learn. According to this, the intelligence of an individual is his ability to learn, in the broad sense of learning [16].

**Third category:** defines intelligence as the ability to handle and think of the abstracts to the effective use of symbols and concepts in dealing with different situations[3].

**Psychological definition:** The term, as used by modern psychology, describes the concept of individual differences in mental cognitive behavior of humans. It does not manifest in a certain external appearance or physical properties of a part of the body [2].

**Nature of intelligence:** There are several theories in explaining the nature of intelligence and its components, some of which state that the intelligence is one ability, and some state that it is a number of independent abilities. Muhy Ad-Din Toug indicates that the intelligence is a latent ability depends on genetics and on the sound growth and development. As it is a latent ability, then it can be modified by stimulation as any other physical characteristics of individual. The appropriate environmental conditions and the all the knowledge, education and related stimuli cannot increase the level of latent ability of an individual, but it can only help in approaching the predefined maximum level of that ability. This ability stops at a certain age [27].

**Psychological dimensions of intelligence:** Stuart tried to combine all these meanings in a one general concept of intelligence. He defined intelligence as (mental activity characterized by difficulty, complexity, innovation, economy, meaningful adaptation, social value, concentration of power and resistance to the emotional impulse in the mental activity of an individual [21].

**Definition of language:** Language is a collection of definitions and symbols in the form of certain sounds

that are translated in the form of certain idiomatic words [30]. Ibn Khuldun defines it as an endowment of the tongue to express meanings, and it differs for each nation according to its terminologies. Saad defines it as a particular set of symbols as the sounds of the speaker are symbolically related to the objects and events in the outside world, and that what gives meaning to the symbols [32]. Al-Shirazi defines the language as sounds used by people to express their own purposes [28].

**Language Functions:** Language is considered as a social being, and it can only be understood through its role in the life of the individual and the group. It is also a symbolic convention of cultural reference associated with a linguistic group without the other. Halliday classifies language functions as follows:

- **Instrumental:** To obtain goods and services - e.g. "I want"
- **Regulatory:** To control behavior of others - e.g. "Do this"
- **Interactional:** To relate to others, to interact - e.g. "Me and you"
- **Personal:** To express self - e.g. "Watch me"
- **Heuristic:** To explore and gain knowledge of the environment - e.g. "What's that?"
- **Imaginative:** To use language imaginatively, for example telling stories, jokes or creating an imaginary environment - e.g. "let's pretend"
- **Informative (representational):** To convey facts and information - e.g. "I've got something to tell you"[35].

**Language Skills:** The ability to comprehend receptive language and use expressive language to communicate. According to this concept, language skills are divided into two parts:

- Receptive skills: listening and reading.
- Productive skills: writing and speaking [29].

**Vocabulary:** is a criterion adopted by psychologists as a means of measuring the language development in humans Syed. Abdul Majid points out to some of the difficulties faced by this type of measurement, arising from the manner and the nature of use of the vocabulary by individual. He also indicates the following different categories of vocabulary:

- Vocabulary used in speech; around 4,000 - 6,000 words.
- Vocabulary used in writing; more than 10,000 words.
- Vocabulary that the individual is aware of their meanings but he rarely use[31].

Abdul Majid Syed Ahmed also indicates that the identification of vocabulary happens through three ways:

- Automatic identification of vocabulary perceived once seen or heard.
- Identification by remembering the familiar vocabulary.
- Identification by other means such as analogy to vocabulary that is identified one read or heard.

He does not see barriers between language of speech and writing, or even the language of reading, but individual differences attributed to conditions of language education, level of intelligence, age and milieu [32].

#### **Linguistic intelligence:**

Linguistic intelligence is the ability to think in words and to use language to express and appreciate complex meanings. Linguistic intelligence allows us to understand the order and meaning of words and to apply meta-linguistic skills to reflect on our use of language. Linguistic intelligence is the most widely shared human competence and is evident in poets, novelists, journalists, and effective public speakers. Young adults with this kind of intelligence enjoy writing, reading, telling stories or doing crossword puzzles [6].

#### **Obsessive-compulsive disorder (OCD)**

OCD is characterized by unreasonable thoughts and fears (obsessions) that lead you to do repetitive behaviors (compulsions). It's also possible to have only obsessions or only compulsions and still have OCD [7]

#### **Types of obsessive-compulsive disorder**

**Intrusive thoughts** are unwelcome involuntary thoughts, images, or unpleasant ideas that may become obsessions, are upsetting or distressing, and can be difficult to manage or eliminate. When they are associated with obsessive-compulsive disorder (OCD), depression, body dysmorphic disorder (BDD), and sometimes attention-deficit hyperactivity disorder (ADHD), the thoughts may become paralyzing, anxiety-provoking, or persistent. Intrusive thoughts, urges, and images are of inappropriate things at inappropriate times, and they can be divided into three categories: "inappropriate aggressive thoughts, inappropriate sexual thoughts, or blasphemous religious thoughts[8]

**Rumination:** is the uncontrollable preoccupation with the past. Rumination is experienced as guilt, regret and anger, over perceived mistakes, losses, slights, actions taken or not taken, opportunities forever lost, with irreversible, catastrophic results. Rumination is accompanied by condemning, all-or-none criticism, and the overwhelming belief that if things had been different then existing and future misery could be avoided.

**Compulsive behavior:** is defined as performing an act persistently and repetitively without it necessarily leading to an actual reward or pleasure. The main idea of compulsive behavior is that the likely excessive activity is not connected to the purpose it appears to be directed to. Furthermore, there are many different types of compulsive behaviors including, shopping, hoarding, eating, gambling, trichotillomania and picking skin, checking, counting, washing, sex, and more. Also, there are cultural examples of compulsive behavior.[6]

#### **Causes of obsessive-compulsive disorder**

**Physiological theories:** Research revealed a link between OCD and insufficient levels of the brain chemical, serotonin. Serotonin is one of the brain's chemical messengers that transmit signals between brain cells. Serotonin plays a role in the regulation of mood, aggression, impulse control, sleep, appetite, body temperature and pain. All of the medicines used to treat OCD raise the levels of serotonin available to transmit messages. Modern brain imaging techniques have allowed researchers to study the activity of specific areas of the brain. Such studies have shown that people with OCD have more than usual activity in three areas of the brain. Some researchers believe that cases where children suddenly develop OCD or TS may be linked to a recent infection with streptococcus, the bacteria that cause the common "strep throat." In these cases, the body may be forming antibodies to the infection, which may mistakenly react to the basal ganglia, an area of the brain linked to OCD. [23].

**Cognitive and behavioral theories:** The behavioral theory suggests people with OCD associate certain objects or situations with fear and learn to avoid those things that trigger fear or to perform "rituals" in order to help reduce the fear. This fear and avoidance/ritual cycle may begin when an individual is under high periods of stress, such as starting a new job or the ending of a relationship. The cognitive theory focuses on how people with OCD misinterpret their thoughts. For those with OCD the importance of unwelcome or intrusive thoughts are exaggerated. OCD sufferers who fear their own thoughts attempt to neutralize negative feelings that arise from their thoughts by avoiding the situations that trigger the thoughts or engaging in rituals such as excessively self-cleaning or praying[26].

#### **Genetics**

Genetics is thought to play a part in some cases of OCD. Research suggests OCD may be the result of certain inherited genes that affect the development of the brain. Although no specific genes have been linked to OCD, there is some evidence that suggests a person with OCD is more likely to have another family member with the condition compared with someone who does not have OCD. However, it is possible there may sometimes be other reasons for this.

For example, it has been suggested some people may "learn" OCD as a result of witnessing other family members with the condition [25].

### **Environmental**

Environmental stressors may be a trigger for OCD in people with a tendency toward developing the condition. Twin studies of adults suggest that obsessive-compulsive symptoms that are attributed to environmental factors contribute 53-73% of variance in scores on measures of obsessive-compulsive symptoms.<sup>8-10</sup> Overall, studies indicate that patients with OCD frequently report stressful and traumatic life events before the illness begins. These events may also cause a worsening of the symptoms. Possible environmental factors include:

- Abuse
- Changes in living situation
- Illness
- Death of a family member or friend
- School or work changes and problems
- Relationship worries [8].

### **Signs and symptoms of obsessive-compulsive disorder (OCD)**

#### **OCD signs and symptoms: Obsessive thoughts**

Common obsessive thoughts in obsessive-compulsive disorder (OCD) include:

- Fear of being contaminated by germs or dirt or contaminating others.
- Fear of causing harm to yourself or others.
- Intrusive sexually explicit or violent thoughts and images.
- Excessive focus on religious or moral ideas.
- Fear of losing or not having things you might need.
- Order and symmetry: the idea that everything must line up "just right."
- Superstitions; excessive attention to something considered lucky or unlucky [15].

#### **OCD signs and symptoms: Compulsive behaviors**

Common compulsive behaviors in obsessive-compulsive disorder (OCD) include:

- Excessive double-checking of things, such as locks, appliances, and switches.
- Repeatedly checking in on loved ones to make sure they're safe.
- Counting, tapping, repeating certain words, or doing other senseless things to reduce anxiety.
- Spending a lot of time washing or cleaning.
- Ordering or arranging things "just so."
- Praying excessively or engaging in rituals triggered by religious fear.
- Accumulating "junk" such as old newspapers or empty food containers [24].

### **Diagnostic criteria for obsessive-compulsive disorder**

The Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5) issues by the American Psychiatric Association (APA) states that the obsessive-compulsive disorder can be diagnosed based on a number of criteria.

A. Presence of obsessions, compulsions, or both:

Obsessions are defined by (1) and (2):

- Recurrent and persistent thoughts, urges, or impulses that are experienced, at some time during the disturbance, as intrusive and unwanted, and that in most individuals cause marked anxiety or distress.
- The individual attempts to ignore or suppress such thoughts, urges, or images, or to neutralize them with some other thought or action (i.e., by performing a compulsion).

Compulsions are defined by (1) and (2):

- Repetitive behaviors (e.g., hand washing, ordering, checking) or mental acts (e.g., praying, counting, repeating words silently) that the individual feels driven to perform in response to an obsession or according to rules that must be applied rigidly.
- The behaviors or mental acts are aimed at preventing or reducing anxiety or distress, or preventing some dreaded event or situation; however, these behaviors or mental acts are not connected in a realistic way with what they are designed to neutralize or prevent, or are clearly excessive(10).

**Note:** Young children may not be able to articulate the aims of these behaviors or mental acts.

B. The obsessions or compulsions are time-consuming (e.g., take more than 1 hour per day) or cause clinically significant distress or impairment in social, occupational, or other important areas of functioning.

C. The obsessive-compulsive symptoms are not attributable to the physiological effects of a substance (e.g., a drug of abuse, a medication) or another medical condition [22].

D. The disturbance is not better explained by the symptoms of another mental disorder (e.g., excessive worries, as in generalized anxiety disorder; preoccupation with appearance, as in body dysmorphic disorder; difficulty discarding or parting with possessions, as in hoarding disorder; hair pulling, as in trichotillomania [hair-pulling disorder]; skin picking, as in excoriation [skin-picking] disorder; stereotypies, as in stereotypic movement disorder; ritualized eating behavior, as in eating disorders; preoccupation with substances or gambling, as in substance-related and addictive disorders; preoccupation with having an illness, as in illness anxiety disorder; sexual urges or

fantasies, as in paraphilic disorders; impulses, as in disruptive, impulse-control, and conduct disorders; guilty ruminations, as in major depressive disorder; thought insertion or delusional preoccupations, as in schizophrenia spectrum and other psychotic disorders; or repetitive patterns of behavior, as in autism spectrum disorder [17].

#### **Treatment of obsessive-compulsive disorder**

**Medications:** Certain psychiatric medications can help control the obsessions and compulsions of OCD. Most commonly, antidepressants are tried first [12].

**Psychotherapy:** A type of therapy called exposure and response prevention (ERP) is the most effective treatment. This therapy involves gradually exposing the patient to a feared object or obsession, such as dirt, and having him learn healthy ways to cope with the anxiety [9].

**Cognitive therapy:** focuses on the catastrophic thoughts and exaggerated sense of responsibility the patient feels. A big part of cognitive therapy for OCD is teaching healthy and effective ways of responding to obsessive thoughts, without resorting to compulsive behavior [14].

#### **Prognosis of OCD**

The average age of onset for OCD varies among men and women. Men may experience childhood onset, between ages 6 and 15, while women typically experience adult onset, between ages 20 and 30. Two-thirds of all adults with OCD had symptoms before age 15, 80 percent of whom also had symptoms of depression. Given the likelihood of early onset, it is alarming that the average age that a person seeks treatment is 27 [10].

Although OCD usually develops gradually, psychosocial stressors like changes in living situations, relationship problems, or work problems can cause sudden onset. About 70% of people experience a chronic and lifelong course, with worsening and improving symptoms. About 5% have episodic symptoms with partial or complete remission between episodes. Regardless of a person's age at onset, the content of obsessions does not determine prognosis. The factors associated with a good prognosis include the following:

- Milder symptoms
- Brief duration of symptoms
- Good functioning before full onset [13].

#### **Approach of the study**

The researcher used the descriptive approach. This approach is suitable for the goals of this research and answers its questions and hypotheses. The descriptive approach is defined as the method that

precisely describes and scientifically interprets a certain phenomenon [20].

#### **Tools of the study**

The researcher used the following tools for data collection:

**Linguistic intelligence Test:** for measuring linguistic intelligence, the researcher used the Linguistic Intelligence Test which is considered one of the dimensions of the Multiple Intelligences Test, designed by Gardner 1945, which measures multiple intelligences, and which has been adapted to the Sudanese environment by Obaidullah Ahmed Al-Haj in 2008. The researcher has then rephrased the test to suit the Sudanese environment and the study sample. The researcher deleted some phrases and added others which he found suitable for the test. The test consists in its initial phase of (30) phrases.

**Apparent validity:** after designing the test in its first phase, the researcher submitted it to a number of arbitrators and specialists to define its apparent validity. The researcher benefited greatly from the views of the arbitrators, in drafting and modifying some of the phrases and in the general organizational of the test.

**Validity and reliability of the Linguistic Intelligence Test:** to find the validity and reliability of the test, the researcher applied it on a prospective sample of a size of (20) individuals selected randomly from the study population. The test validity coefficient was found to be 0.779 and Cronbach's alpha coefficient of reliability was 0.877.

**Obsessive-compulsive Disorder Test:** for measuring the OCD, the researcher used the OCD Test designed by Mohammed Abdul-Salam which consists of (55) phrases. The researcher modified the test to suit the Sudanese environment and the study sample. The researcher deleted some phrases and added others which he found suitable for the test. The test consists in its initial phase of (30) phrases.

**Apparent validity:** after designing the test in its first phase, the researcher submitted it to a number of arbitrators and specialists to define its apparent validity. The researcher benefited greatly from the views of the arbitrators, in drafting and modifying some of the phrases and in the general organizational form of the test.

**Validity and reliability of the Obsessive-compulsive Disorder Test:** to find the truthfulness and reliability of the test, the researcher applied it on a prospective sample of a size of (20) individuals selected randomly from the study population. The test truthfulness

coefficient was found to be 0.888 and Cronbach's alpha coefficient of reliability was 0.975.

**Population of the study:** the current study population consisted of two main study groups:

**First group:** which consisted of the clinically diagnosed OCD patients in the hospitals of Khartoum state. The hospitals were: Al-Tigani Al-Mahi Psychiatric Hospital in Omdurman, Khartoum hospital for psychological and neurological diseases, and Khartoum North hospital for psychological and neurological diseases.

**Second group:** included the comparison group whose members did not suffer an OCD.

**The neurotic group could be described through the following points:**

**In terms of psychiatric institutions:** the research was bounded by the hospitals of the Khartoum state,

**In terms of gender:** the research sample consisted of both genders (males and females).

**The characteristics of the comparison group could be described through the following points:**

**In terms of geographical location:** the sample was selected from the neighborhoods of Al Thawra and Umbadda in Omdurman city.

**In terms of gender:** the sample consisted of both genders (males and females).

**The characteristics of the study population can be described as follows:**

**Table-1: shows the geographical distribution of the study population**

Geographical location	Number	Percentage
Al-Tigani Al-Mahi Hospital	50	25%
Khartoum North Hospital	25	12.5%
Khartoum Hospital	25	12.5%
Al-Thawra and Umbadda in Omdurman city (comparison group)	100	50%
Total	200	100%

**The research Sample:** the sample consisted of 200 individuals, including (100) OCD patients and (100) normal people who did not suffer any kind of disorder. The two groups aged between (20-39 years) and were chosen using the intentional sampling method, which is defined by (20) as the method used by the researcher when he has enough

knowledge and awareness of the study population. The characteristics of the sample can be described by the following:

- Groups:** the research depends on the comparison between the two groups; diseased and normal, so we will review the distribution of the two groups.

**Table-2: shows the distribution of the two groups (diseased, comparison)**

Group	Number	Percentage
Diseased	100	50%
Comparison	100	50%
Total	200	100%

**Table-3: shows the distribution of the sample according to sex**

sex	Number	Percentage
Males	100	50%
Females	100	50%
Total	200	100%

**Table-4: shows the sample distribution according to age**

Age	Number	Percentage
20-29 years	120	60%
30-39 years	80	40%
Total	200	100%

**Hypotheses of the research**

**First hypothesis:** There is a correlation between the Linguistic Intelligence and OCD. To investigate this

hypothesis the researcher used the Point Biserial correlation coefficient to know the significance of correlation.

**Table-5: shows the Point Biserial correlation coefficient to indicate the correlation between Linguistic Intelligence and OCD**

Statement	Mean		Standard deviation of the two groups together	Point Biserial correlation coefficient ( $r_{pb}$ )	Probability Value	Conclusion
	Diseased group	Comparison group				
Linguistic intelligence	48.41	38.14	14.079	0.346	0.001	There's a correlation

As shown in the above table, the researcher found that there is a correlation between linguistic intelligence and the OCD as the correlation coefficient was found to be (0.346). The study was consistent in this finding with the study carried out by Ahmed Hassan 1995 which found that the linguistic intelligence of an individual affects his psychological adjustment and Health, as well as the study of Balkan Madgry 1995, which found that the OCD patients usually tell detailed but emotionally contradicting stories and that they are unable to recognize the interconnections and interdependences in the relationships and they are highly intelligent. The researcher explained these results as the language is considered a manifestation of intelligence and linguistic development, and the phenomenon of language acquisition is accompanied by psychological, mental and social factors that undoubtedly affect the language development process. Every society is necessarily keen on bringing up its children in a particular linguistic system. Thus, the linguistic system and method of language acquisition in turn determine the linguistic and social behavior of the individual in society as the importance of the role of language in the social life, behavior, intelligence and psychological health of individual increases with his sense of membership and belonging to the society. Furthermore, the active membership of individual in the society is directly dependent on his ability to communicate with the members of the society. The family education helps in the process of language acquisition and the communication and interaction between society members [32]. James Bill has pointed out that the mental processes are based on some kind of

linguistic interdependences and that the intelligence helps in acquiring and learning the language and thus helps individual to properly and correctly integrate in his society and family. Psychologists has also discovered the presence of emotional tendencies and orientations and special preparations which play a role in the thinking and intelligence of individual and in the linguistic behavior that enables the individual to communicate with others and to attain psychological and social adjustment. The human behavior is fully and precisely described by looking at the methods of language acquisition and communication within the community [13].has pointed out that the language of a neurotic person is incoherent and fragmented in terms of sequencing, pronunciation, meaning and linkage to reality, and that the OCD patient is wordy and hyperactive and cannot soundly use the language and it is often superficial and has no clear meaning and he may lose ability to speak, communicate or interact (11)with others which may lead him to frustration, helplessness, lack of self-confidence and sense of inferiority and deficiency which affects his psychological adjustment and health.[15]. Pointed out that the OCD is more prevalent among people who have weakness in their language and in their interaction with others.

**The second hypothesis:** There are statistically significant differences in linguistic intelligence due to difference in gender. To investigate this hypothesis the researcher used the Independent Two-Sample T-Test in order to find out the significance of the differences. The following table illustrates this.

**Table-5: shows the Independent Two-Sample T-Test so as to investigate the differences in linguistic intelligence due to gender difference.**

The Two groups	Sample size	Mean	Standard deviation	Degrees of freedom	(T)Value	Probability Value	Conclusion
Males	100	18.35	15.76	198	0.77	0.37	No differences
Females	100	18.31	15.64				
Total	200						

From the above table, the researcher noticed that the mean and standard deviation for males were 18.35 and 15.76 respectively where for females they were 18.31 and 15.31 respectively. The (T) value for the comparison between the two groups was 0.77,

which indicates that there are no differences in linguistic intelligence due to difference in gender. The researcher attributed this finding to the fact that the family, the society and the urban customs and habits help forming and developing the personality of the



children regardless of their gender by providing them with the opportunities to gain skills and knowledge and to equally benefit from experiences which allows them to develop their abilities and potentials and in return enhances their psychological adjustment and health[12]. The Sudanese culture and upbringing style ensure providing children with the values sought by the society and the linguistic and behavioral patterns that are in consistence with these values. This life style allows the children the freedom to practice the cultural, linguistic and social activities which develop the linguistic patterns suitable to their society and traditions and helps

form their personality and achieve their psychological health, as the children in this phase copy and adopt what they see in their families and society. All this has led to the absence of differences in the linguistic intelligence due to difference in gender.

**The third hypothesis:** There is a statistically significant interaction between gender and linguistic intelligence which has effect on having an OCD. To investigate this hypothesis the researcher used the Two-Way ANOVA test in order to know the significance of this interaction. The following table illustrates this.

**Table-6: shows the Two-Way ANOVA coefficient between gender and linguistic intelligence on OCD.**

Source of variation	Sum of squares	Degree of freedom	Average of squares	(T)Value	Probability value	Conclusion
Linguistic intelligence	94.81	1	94.81	0.344	0.57	<b>There is An interaction</b>
Gender	16450.29	1	8225.14	29.95	0.001	
Interaction	1493.51	2	746.76	2.72	0.8 67	
Error	135,681.6	194	174.66			
Total	922,698.7	200				

From the above table, the researcher noted the presence of a statistically significant interaction between gender and linguistic intelligence which has an effect on having an OCD, as the probability value of the interaction was found to be 0.867. The researcher attributed this result to the nature of the psychological configuration of both genders, as we find that females are more susceptible to their surrounding environmental conditions than males. The environment plays an important role in the building and development of the characters of individuals and their mental and psychological health, as Wael Abu-Henedy pointed out that females are more influenced by family and environmental conditions than the males [32]. In addition, Bloom found that females are more responsive to psychological pressures arising from families than males, which leads to difficulties in psychological, mental and social adjustment (Bloom, mentioned in[15]). All this explains the presence of the interaction.

## CONCLUSION

This research sought to find the correlation between the linguistic intelligence and having an OCD and to find out the differences in linguistic intelligence due to difference in gender as well as effect of the interaction between gender and linguistic intelligence on OCD. After using research methods and tools, the research came out with the following results:

- There was a correlation between linguistic intelligence and having an OCD.
- There were no statistically significant differences in linguistic intelligence due to difference in gender.
- The presence of statistically significant interaction between gender and linguistic

intelligence which has an effect on having an OCD.

## Recommendations

- Provide activities and tools that help develop the mental and linguistic capabilities and potentials of children (to the maximum level).
- Encourage children to practice sports, social and cultural activities that help in their mental, linguistic and social development.
- Protect children from psychological diseases by satisfying their physical and psychological needs.
- Prepare a mentoring program for children that serve as a guide to adjust with life and achieve psychological health.

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