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**| RESEARCH ARTICLE**

**A New Approach to the Study of Gender: A Case Study of Iraq**

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**| ABSTRACT**

The purpose of the study is to investigate sociolinguistics as one approach for studying how gender determines language use, verbal superiority, the ability to employ selective attention to inhibit the impact of interference on the use of language. The study employs a cognitive approach to the interrogation of this research subject. The study, although it is largely informed by empirical literature available on the subject, is also vastly informed by the experimental finding. An experimental design, specifically a Stroop task, was employed to elucidate how language use, verbal ability, and the capacity to inhibit the automaticity of language differs across the gender spectrum. The study found that there is a statistically significant correlation between genders in terms of language use, verbal ability, and the capacity to inhibit visual interference, as well as the automaticity of language in the identification of colors. The research concurs with the initial hypothetical assumption that sociolinguistic parameters are effective in studying gender but are by no means the only factors that determine the differences between males' and females' linguistic variation and change. From that perspective, the research recommends the use of both sociolinguistic and cognitive approaches when studying linguistics.

**| KEYWORDS**

Cognitive approach, gender studies, Iraqi Women, Stroop task.

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**1. Introduction**

Language is both a system of communication among people and a social phenomenon. The space of language and society – sociolinguistics – is intended to show how factors such as class, gender, race, and so forth represent the utilization of language. Anthropological linguistics is a subsection of this space, which is concerned with the structure and utilization of language in various cultures and how much language development has been affected by the cultural environment. On the other hand, the underlying foundations of sociolinguistics are evident in traditional dialectology, which has aspects that show the evolution of language, which is today studied in terms of linguistic variation and change. However, numerous parts of the traditional dialectological research are inadmissible to modern sociolinguists. The primary inadequacy of dialect research in the 19th century and mid-20th century was unrepresentative. For example, their sources comprised of a biased determination of speakers. More established, male, non-versatile speakers were chosen as witnesses.

Since historical linguists wrote a considerable number of sociolinguistic studies, they were now and again concerned with finding the most obsolete types of language still spoken at their time, regularly with the understanding that the more established structures were some way or another more 'certified.' According to Comeau (2016), these types of speakers just implied were viewed as the individuals who might speak the most moderate, subsequently most veritable type of a language at some random time. The perspective is not the same as that of present-day sociolinguistics. In the modern era, language use in society applies to all groups, male and female, young and old, rural and urban. This is in light of the fact that most western sociolinguists focus on urban settings. When such enormous scope efficient research into sociolinguistic variety started during the 1960s, its primary center was to enlighten the connection somewhere in the range of language and social structure all the more by and large, rather than the connection somewhere in the range of language and gender explicitly (Little, 2012). Notwithstanding, the classification of gender

was regularly included as a significant social variable. In that regard, the occurrences of gender were noted according to other sociolinguistic designs, especially social class, and expressive separation.

Variationist strategy became a force to be reckoned with in the last part of the 1960s not to resolve the issue of language and gender, but basically to fill apparent gaps in customary investigations of changeability which generally were concerned with provincial variety. Dialectologists in the nineteenth and mid-20th centuries focused their endeavors on documenting the rustic dialects they accepted would vanish before long. An essential concern was to plan the geographical delivery of structures between one locale and another (Mazraani, 2013; Longobardi, 2003). The outcomes regularly required numerous years to show up on paper and were frequently shown in linguistic chart books of guides showing the geological limits between clients of various structures.

A considerable number put together their reviews essentially concerning the discourse of men, with the understanding that men better safeguarded the "genuine" and "most perfect" types of the local dialects they were keen on the group. Dialect geographers typically picked one more established man as illustrative of a specific region, a man whose social qualities have been summarized in the abbreviation NORM, for example, non-versatile, more established, provincial, male (Mishra, 2013). The degree to which social factors could be or alternately were incorporated into planning was subsequently restricted. What's more, the vast majority of the linguistic things whose regional delivery was planned were associated with men's rather than women's ways of life and roles, for instance, terms for cultivating implements. Paradoxically, sociolinguists focused on the language of urban areas, where an expanding extent of the total populace resides in present-day times.

A portion of the equivalent linguistic highlights figures in examples of provincial and social dialect separation, with average assortments being more localized. They also show connections with other social factors. The convergence of social and complex continua is perhaps the main finding of quantitative sociolinguistics: in particular, assuming that a component happens all the more habitually in average discourse, then, at that point, it will happen all the more often in the casual discourse of all speakers (Mazraani, 2013).

### **1.1 Problem Statement**

Language has been used as a means of communication since time immemorial. Although an array of social-linguistic studies has been conducted in the context of both developed, limited studies have been conducted to elucidate how male and female gender differences impact speakers of English as a Foreign Language (EFL). According to a study by Doc et al. (2011), the theory of men and women speaking different languages, in the metaphorical sense, has been explored by empirical researchers throughout the 1900s, and this set the premise for further investigation of the subject. Another complementary study seeking to elucidate the correlation between gender and language use was undertaken by Mohammed (2020). Nonetheless, most of these studies focused on the frequency with which members of different genders speak, their observation of grammar rules, and turn-taking in a conversational context. There still remains in the sociolinguistic language use in English second language users in the Middle-East, to either confirm or disapprove existing data that suggest that language use is determined and influenced by gender.

### **1.2 Objective of the Study**

The theoretical juxtaposition that males and females use language differently has never been explored in the context of English as a Foreign Language for speakers in Iraq. Therefore, the objective of the current study is to elucidate the degree to which language use differs across gender among EFL users in Iraq to determine the gender with superior verbal ability measured as a factor of reaction time to a visual stimulus and accuracy. Lastly, the degree to which inhibitions affect language use between males and females.

### **1.3 Research Question**

The study strives to answer the following research question

1. Is there a statistically significant difference in language usage along gender lines among speakers of English as a Foreign Language in Iraq?
2. Between males and females, which gender has a superior verbal ability? Measured as a factor of reaction time and accuracy.
3. Is there a statistical significant difference in inhibition between males and females in the context of language use?

### **1.4 Hypothesis**

The current study seeks to accept or reject the following hypotheses:

**Ho1:** There is no statistically significant difference in language usage along gender lines among speakers of English as a Foreign Language in Iraq.

**Ha1:** There is a statistically significant difference in language usage along gender lines among speakers of English as a Foreign Language in Iraq.

**Ho2:** Females do not have a superior verbal ability than males.

**Ha2:** Females have a superior verbal ability than their male counterparts.

**Ho3:** There is no statistical significant difference in inhibition between males and females in the context of language use.

**Ha3:** There is a statistical significant difference in inhibition between males and females in the context of language use.

### ***1.5 Significance of the Study***

The current study will contribute to the existing body of research by elucidating how males and females, especially an English as a Foreign Language speaking populace of Iraq, respond to inhibitors and employee selective attention. The study will not only demystify the differences in the manner in which males and females respond to different visual stimuli but also differentiate males' and females' usage of language. The study will also provide further insight into the speed with which males and females respond to visual stimuli and how they can apply selective attention to ensure they remain objective and accurate amid an array of distractions. Therefore, this study is instrumental as it contributes vital insight and a sociolinguistic approach to studying gender in the Iraqi setting.

## **2. Literature Review**

This section covers a wide breadth of research findings pertaining to sociolinguistics and how language use can be used as an attribute to distinguish or study genders. This section includes but is not limited to sociolinguistics and language change, among other topics that explore how language use differs across gender strata.

### ***2.1 Linguistic Variation and Change***

When a dynamic system shows movement, there is variation and change. The phenomenon is evident in past and current linguistics literature. For example, Rendle-Short (2004) indicates that the verifiable linguistics literature in the nineteenth century shows that dialects and most forms of communication change into the twentieth century. In any case, the systems of language change have been documented for the most part of the last century. Yet, the vast space of linguistics is associated with social factors. In that regard, a cognitive approach to these changes is essential in current and future linguistics studies. The most important thing is that modern sociolinguists have incorporated learning behaviors and basic human psychology in explaining change and variation in language.

Sociolinguistics has given experiences into the course of language change, yet in addition into its inspiration. One firm intention is the longing of people to give their discourse more like that of a group they desire. Rendle-Short (2004) illustrated that this could include a higher social class, a metropolitan dialect opposite a rustic one, the language of a strong neighbor versus that of a more modest country. Changing one's language to make it more like that of another group is called convenience: speakers endeavor in close and personal cooperation, to rough their discourse to that of their accomplices in conversation, most presumably to expand their acknowledgment by the group whose language highlights are being taken on. Such convenience can be a present moment or long term (Daher, 1998). If the last option, and assuming it is community-wide, it can prompt language change. Dissociation is the converse side of the coin, where speakers endeavor to deliver their discourse more, not quite the same as that of a group they wish to separate themselves from.

The general strength relies upon the weight agreed by speakers to two clashing powers in the society: status and fortitude. Assuming speakers decide on status, they will probably have feeble ties, attempt to move upwards on a social scale, and endeavor to accomplish proficient status and economic achievement. Should speakers decide on fortitude, they remain in their environmental factors, keeping up with attaches with neighbors and participating in the community's existence (Salzmann, 2006). Fortitude is a part of social behavior which has a linguistic part: speakers who show fortitude display faithfulness to the vernacular standards of their area, as often as possible in contradistinction to those of the socially lofty type of language. The linguistic standards of a community are local though status highlights are diffuse and hold for a lot more extensive region, commonly for a whole country. The quantity of characterizing elements of low-status, high-fortitude assortments is typically very high. The linguistic standards of such communities can be troublesome, if certainly feasible, for non-locals to obtain (Haeri, 2000). The personality capacity of high-fortitude assortments suggests avoiding individuals who are not local to the community. Thick multiplex organization ties appear moreover to hold particularly for youthful males. Overall, women and middle-aged speakers will generally select more for status and restrain the linguistic indications of solid organization ties.

### ***2.2 Variation and Gender***

The word 'gender,' initially a linguistic term, has now become prominent when referring to an individual's social roles and behavior by their social classification as either male or female. However, the past two decades have been characterized by self-professed identities associated with sexual orientation. The current research does not consider sexual orientation in order to be specific on gender. In the past three decades, profound research has been conducted to determine the relationship between language and

gender. The studies have been somewhat motivated by increased attention to the historical treatment of women in societies. Most of these studies indeed show the influence of gender and age on language (Albirini, 2016).

In linguistics, the underlying motivation was crafted by the American linguist Robin Lakoff who in the mid-1970s concentrated on specific topics with the language and gender complex over those which she appropriately felt needed redressing. Her work animated different researchers to engage in this review, and soon language and gender were a blossoming research region in colleges across the western world. It is in the idea of language and gender concentrates on that they are concerned with identifying how men and women use language. Different sentiments arose on this relationship. For instance, there is the distinctive approach that sets up that male and female language. In that regard, there is the impression that males and females conform to societal standards of communication in relation to their gender. On the other hand, there is a consensus that language use demonstrated control of males over females in the past. With the development of research on language and gender, the fundamental 'distinction – predominance' was progressively viewed as unacceptable and inadequately nuanced (Sinnemäki, 2020).

Before starting a conversation of Arabic sociolinguistics and gender, it is vital to stretch that statements made in this setting are taken to apply to groups of individuals, for this situation, men and women. They are speculations whose defense, if this holds, gets from their pertinence to more significant parts with groups. As in any field of request, statements made about groups are not taken to apply to every part – that is, use clichés. The individual's character can generally lead them not to adjust to an example asserted for their group (Säily, 2016). For instance, to keep up with that men have an extreme style of social behavior in western nations is speculation that virtually everybody would settle on. Notwithstanding, they are men who would be not severe in this regard. Since they structure a somewhat small minority, the speculation holds.

### **2.3 Arabic Sociolinguistics**

In Arabic linguistics, one observes that the literature concerning Arabic began at the beginning of Islam. In that regard, ancient Arab grammarians and philologists gave a lot of consideration to the distinctions that existed among the dialects around then. Assumed significant parts on their languages such as Quraysh used to browse the discourse and verse of the rookies their best words and most flawless discourse. This course of acquiring from other dialects is considered best among the writers. Being exceptionally expressive, the early Arab writers made a sort of Koine shown in their verse by securing unfamiliar words and utilizing them with specific alterations that fit their elocution. Henry (2016) demonstrated that this shows a profoundly stylistic and expository degree of Arabic that arose among societies and spread to other social areas. It appears that it was pretty easy for the informed Arabs to engage in this sort of language refining to arrive at a level of koineization (Abdel-Jawad & Radwan, 2013). When the two speakers of different languages meet, each pays attention to the language of the other and afterward. Thereafter, they add to their language from the other language. This way, a third language is created and gradually perfected. Ibn Jinni's unique perspective communicates entirely the embodiment of what is later referred to in Western research as dialect evening out or koineization, which is the development of another blended assortment that expands on dialect contact or mixing.

Notwithstanding, that sort of work was dispatched basically to save the language of Islam and afterward the Holy Qur'an from defilement and change. Thusly, the Holy Quran was fundamental to the development of Arabic linguistics and gave the premise to the development of Arabic sentence structure, jargon, and grammar. This nearby association of the language with religion has provided Arabic with an undeniable degree of regard and holiness (Karmani, 2006). The significant purposes behind keeping up with the language of the Holy Qur'an were the death of the prophet Mohammed (peace be upon him) and a group of people who knew the Holy Qur'an at the time. Most importantly, it heralds the entry of new non-Arab people into Islam. The codification of the Holy Qur'an was an important moment in the development of a composed standard for the Arabic language.

Educated, Spoken Arabic expands on how schooling has spread hugely in the Arab world. Hence, a 'blended' Arabic, for example, a combination of composed and vernacular spreads through the Arab world, particularly with 'the monstrous utilization of radio and TV and with the emotional expansion between Arab laborer movement just as reciprocal and multi-horizontal groups.' Notwithstanding, assuming one focuses on the wellspring of this assortment apparently, ESA is limited to one group or one class of the society; the informed speaker (Abdel-Jawad & Radwan, 2013). In such a manner, this assortment doesn't address all the community speakers. This methodology focuses on 'one group of speakers, in particular, taught speakers, guaranteeing that they are the transporters of linguistic variety in the discourse community (Lee & Federmeier, 2010). Sociolinguistic concentrates up to this point have shown that variety exists in the discourse community along with the entire range. Moreover, ESA has not demonstrated down to earth.

### **2.4 The Language of Women**

Although many reasons have been advanced to clarify these outcomes, they have never been agreeably represented. All things considered, it is in sure regards confusing that women ought to will quite often utilize the more renowned variations when most societies accord higher status and capacity to men. Additionally, as has frequently been the situation with different examples of gender separation, women's behavior has been problematized and seen to be degenerate and along these lines needing

clarification (Säily, 2016). It is straightforward to make the case that men and women vary in linguistic behavior. Accepted gender roles are contrastive, with men regularly considered the dominant speakers, while women are set in a subordinate role during a conversation. Notwithstanding, there is a general consensus that a conversation is more engaging and successful when there is turn-taking between the two parties (Owens, 2001). There is also the perception that good listening is associated with better language use. Additionally, distortion through sentimental language makes conversations ineffective and is likely to cause verbal conflict.

Sociological studies demonstrate that women are more likely to utilize linguistic structures thought to be 'preferable' or more 'right' over those utilized by men. In that regard, women in western society are, for the most part, more status-cognizant than men, and along these lines, more delicate to linguistic standards, a thought known as hyper-amendment. Furthermore, there are common perceptions that more dominant languages are associated with manliness. From that point of view, men are thought to have dominance in informal communications where there are no predefined protocols. Sociolinguist W. Labov has characterized this lower-class, nonstandard linguistic assortment as personal value (Säily, 2016). In relation to social class, the differences in how men and women gain or acquire status through contradicting discourse designs are perceptible.

In western culture, there are profound convictions regarding how men and women behave. A significant piece of this depends on how they speak and has formed into the field of 'folk linguistics.' These convictions are shown by the significant number of decorum books that were well known around the turn of the 20th century. This conviction that women are here and there strange and sub-par in their behavior is more stereotypical because they have not been effectively proven. On the other hand, there is increased bias in relation to the perceptions that men are more likely to use gross words when conversing. These perspectives show how women are considered to be more linguistically insufficient.

Gender, as a 'dimension of contrast' between individuals, should be critically considered and explored through correlational analysis with other dimensions of distinction such as age, class, and ethnic group. There is the need, however, to focus on other factors that differentiate gender. For example, it is hard to approve summed up cases of strength, respectfulness, or subordinate, but these factors are worth considering when researching the impact of gender on language. And still, after all that, 'the conventional development of expressions is no reliable manual for which work they may be acting in a particular setting. Reevaluations of gender-separated language can be categorized as one of two methodologies, which reflect differentiating perspectives on women in society (Albirini, 2016). The predominance approach considers language contrasts an impression of conventional social roles, that of men's strength and women's subjection.

Conversely, the distinction approach centers around sex discourse contrast due to two unique subcultures. Women, it is guaranteed, come from a social world as far as fortitude and closeness, while men are more hierarchal and autonomous learning. Differentiating communicative styles are conceived out of these two subcultures.

### ***2.5 Women in the Arab World***

The significance of this conversation comes from the way that a few scholars have as of late asserted that the female speakers ordinarily start language variety in Jordan. Notwithstanding, these pioneers are encircled by extraordinary cultural, social, and religious standards that put them in a comparing circumstance. This juxtaposition emerges assuming embrace the social network condition that expands on the conviction that an affectionate organization structure is associated with language support and a free weave network structure is associated with language change. In the Arab world, it is found that the religious limitations in social isolation and innate consciousness of the esteemed assortment persuade women to focus on their discourse and depend on the lofty assortment yet without harming the standards of their community.

In many Arab countries, women are *hareem*. With respect to *hareem*, the word is gotten from the root or hrm (illegal or precluded). Women are therefore required to show dignity in their choice of words and sounds. Such religious and cultural aspects of the language spoken by women in the Arab world are associated with the 'good way' and 'nobility' in the Holy Qur'an. This additionally expands the current status of religious and cultural stance on the manner in which women should communicate.

As a reaction to the social protection that depicts women in the casings of 'forbiddance' and 'imperfectness' and as an attention to the affectability and the role of their voice, women realize that proper behavior is required of them. The explanation for that could be that women are innately more delicate to social distinction and social class division than men. On the other hand, it can be said that women might be more uncertain socially, and in this way, will often stress and show signs of high status, both material and linguistic. Therefore, they resort to the renowned assortment that embraces the linguistic highlights that suit their personality and nature in their societies. Assuming we relate these realities to what variationist concentrates on finding regarding language variety in Iraq, one notes the locally esteemed metropolitan dialect. Generally, it is associated with delicateness and, all the more definitively 'women's discourse.

In light of what is introduced over, the religious and social standards consider the discourse of women as being exceptionally significant. Subsequently, women should keep their pride and speak in a good way. In such a manner, adding the possibility of weakness, a lady may feel another socio-mental level that makes women cautious in their discourse. This caution goes following their inborn attention to the honorable mixture and afterward more proper to them. Notwithstanding, does this inborn mindfulness abrogate the social standards in the Arab world by expanding on free weave network structure with the conviction that linguistic pioneers are probably going to be people who are in a situation to contract numerous feeble ties, and that one result of effective development is the debilitating of stable, localized community standards. To respond to this inquiry, one must reveal insight into society's standards to see the chance of debilitating them.

Because of the predominance of men, in the Arab world communities, men are the focal point of activities outside the house while women are the focal point of activities inside the house. Notwithstanding the new changes identified with the degree of instruction of women or their work in the modern areas of the economy, the reality remains that it is anything but a simple assignment for them to free themselves from the profoundly implanted idea. It is an obvious truth that men and women, with their various desires, goals, and qualities, structure two sub-frameworks in one bigger society. Incredibly, this is polished by various groups in the community paying little mind to their economic or instructive levels; however, this phenomenon increments among the less taught lower-class individuals.

## **2.6 Women in Iraq**

Women in Iraq have persevered through numerous long stretches of suppression because of a solid culture, economic endorses, and outfitted struggles. Iraqi women today experience the ill effects of inadequate educational opportunities, medical services, and restricted admittance to the work market, just as undeniable degrees of viciousness and imbalance (Mir-Hosseini, 2006). The nation is presently in a period of progress. Plans are in progress for post-ISIS recuperation and remaking. May 2018 saw parliamentary races, and the public authority is fostering its Iraq Vision 2030.

There is a general feeling of cynicism that invades public mentalities in Iraq. This stems from long periods of living in struggle, war, poverty, and radicalization of citizens. This feeling of terribleness characterizes a significant part of the discussions and conversations about Iraq and any future possibilities for gender correspondence and change. There is a solid understanding among partners that the media climate is exceptionally politicized and that this is a deterrent to giving substance that may uphold equity and everyday freedoms.

Frequently, orders determine the roles and elements of the components. For instance, the gender mainstreaming role is allotted to the public hardware and the central places and interdepartmental designs. Public components are at times explicitly ordered to make the instruments and devices essential to place by and by the gender mainstreaming methodology, through the plan of different apparatuses for sectoral gender investigation, gender-sensitive planning, gender sway appraisals, or gender reviews. As a rule, their capacities are remembered for the commands of the public systems (Levon & Buchstaller, 2015).

In colonial Iraq, the plan and setting of the "lady question" were set apart by minimization from power and the tribalization of most Iraqi society, administered by ancestral law in provincial regions. Iraq was driven by governmental issues of lopsided separation and legal privileges that divided citizenship and nationhood. From its beginnings, the "new country" was challenged by most of the populace. This contestation, grounded in class, ethnic, partisan, and local divisions, gave the "woman question" an impossible to miss shape (Al-Tawil, 2012). The most extreme backing for women's freedoms came from joint and liberal political powers, as strict specialists were hesitant to give up their powers.

## **2.7 Cognition and Language**

A vast body of research has elucidated that there is a connection between cognition and an individual's language ability. According to a study by Perlovsky and Sakai (2014) posit that despite the availability of a large body of research on the subject, the interaction between language and cognition still remains unresolved. Studies on this area have strived to debunk why a child would develop better language by the age of six but take a lot longer to develop cognitive abilities (Perlovsky & Sakai, 2014). Although an array of studies has been conducted on the relationship between cognition and language abilities between males and females among English first language speakers, there are plenty of studies that still need to be pursued to elucidate this relationship among EFL speakers, given that bilinguals tend to perform better on tasks as opposed to their monolingual counterparts (Bialystok & Poarch, 2014).

The central question that most empirical researchers have asked in regards to sociolinguistic studies has always been how language interacts with cognition to shape how people across the sociological strata differ (Perlovsky, 2011). The obscurity of this aspect is research that has also been discussed by Harris, who affirms that cognitive scientists have for a long time strived to determine whether language and cognition are different faculties or the same. A study by Ünal and Papafragou (2018) suggests that the way people talk is constrained by their conceptualization of space, time, and events; therefore, cognition and the use of language are

significantly interrelated. In a bid to study the relationship between cognition and language, an array of cognitive experiments was proposed and used by psychologists and sociolinguistic scholars to measure how cognition impacts language abilities. Another study by Campbell-Kibler (2010) found that cognitive tests are largely centered on the automaticity of language. One study that explores the automaticity of reading and conscious processing of information is the Stroop task. The relationship between cognition and how cognitive abilities between different social groups affect their language use has been done by Chevrot et al. (2018); and the study posited that linguistic variation between social groups could be traced back to the difference in cognitive abilities between social strata, such as male and females.

According to Hollman (2017), cognitive sociolinguistics is an academic field that is concerned with studying language from the lenses of cognitive linguistics and sociolinguistics. Cognitive linguistics is based on the premise that language is a manifestation of cognitive abilities, and cognitive sociolinguistics is an easement of how social factors impact people from different sociological groupings' ability to use language (Hollmann, 2017). Given that gender roles are increasingly becoming blurry, the use of language as it differs along gender lines is becoming more theoretical than factual. Therefore, a huge spectrum of cognitive experiments, one of which is the Stroop task, have been proposed to evaluate how language ability and the automaticity of reading differs across gender divides.

### **2.8 Conceptual Framework**

The current study of sociolinguistics is based on the Stroop task experiments that have been used for decades to measure cognition. According to Scarpina and Tagini (2017), the Stroop color and word test is a neurological test that has been extensively used over the years to evaluate the ability to inhibit cognitive interference that occurs in the course of processing a specific stimulus. Also, there is a developing consensus in the scientific community that suggests that the Stroop test is perceived as a phenomenon of conflict and control intended to elucidate the degree to which an individual is likely to maintain control in the face of chaos, interference, and conflict (Algom & Chajut, 2019). Therefore, the ability to remain objective and the ability to limit the impact of interference of a linguistic stimulus allows for the study of the linguistic ability of different people and genders.

Kalanthroff et al. (2017) state that the Stroop task is a widely used experimental paradigm that assesses participants' capacity to selectively focus on task-relevant information while inhibiting automatic task-irrelevant reactions. Variability has been discovered in both experimental manipulations and individual differences, according to research. Cognitive control is a crucial human ability that allows one to respond to their surroundings in a goal-relevant manner, liberating them from the limits of automaticity or sensory binding. For instance, an individual that is able to count the words "three" written twice and give two as the answer rather than three is demonstrating a greater cognitive ability. In a sample study reported by Kalanthroff et al. (2017), people are asked to recognize and identify the font color of a color word (e.g., "blue" for the word RED displayed in blue font) and disregard the automatic and task-irrelevant answer. Therefore, given the automaticity of language, some participants would read the word rather than report the color of the font. The experiment is integral because people's adaptive and flexible behavior, as well as the ability to selectively focus on the goal-relevant characteristics of inputs in the environment, is critical. This methodology is the basis of the cognitive experiment adopted for the current study.

## **3. Methodology**

This section details the adopted research method, design, philosophy, data collection approach, and how the analysis is undertaken. Other models adopted in the study include random sampling of students and professors in the higher education setting in Iraq, University of Thi Qar. The methodology is clearly and carefully outlined because the validity and the credibility of the findings are hinged on the research approach and design decisions made throughout this experiment.

### **3.1 Research Method**

The current sociolinguistic study adopted a quantitative research method. According to Apuke (2017), quantitative research approaches stress or rather emphasize objective measurements and the statistical, mathematical, or numerical analysis of data obtained through polls, questionnaires, and surveys or by modifying pre-existing statistical data using computing tools. Quantitative research focuses on accumulating numerical data and generalizing it across groups of individuals or explaining a particular occurrence. The quantitative methods were chosen in this context to elucidate the degree to which gender affects an individual's ability to deal with interference and deploy a high linguistic ability in the communication process (Ahmad et al., 2019). Given that the data collected from the study is purely numerical and entails right answers, wrong answers, and reaction time, a qualitative study would not have been ideal.

### **3.2 Research Design**

The current study adopts an experimental research design. According to Sung et al. (2019), experimental research is a study that follows a scientific research strategy to the letter. It consists of a hypothesis, a researcher-controllable variable, and variables that may be measured, calculated, and compared. Above all, experimental research is conducted in a controlled setting. The data is gathered by the researcher, and the outcomes will either support or refute the hypotheses. Hypothesis testing, often known as

deductive research, is a way of conducting research. The experimental model was adopted because it allows for the exploration of the differences in the language and cognitive abilities between male and female individuals. To be precise, the Stroop task experiment was deployed, and the interference was used in the use of color words.

### **3.3 Research Philosophy**

The current study is anchored on the deductive research philosophy. The deductive research approach is the research paradigm that most people associate with scientific research. The researcher looks at what others have done, reads existing theories about whatever phenomenon he or she is researching, and then puts those theories to the test through well-developed research hypotheses (Soiferman, 2010). Based on this philosophy, the performance of male and female participants can be generalized and used to explain how linguistic and verbal abilities differ between males and females.

### **3.4 Sampling and Data Collection**

For the purpose of the current study, purposive sampling, also known as judgmental, selective, or subjective sampling, was employed. The purposeful method is a type of non-probability sampling in which researchers choose people from the public to participate in their surveys based on their own judgment. The inclusion and exclusion criteria were based on availability and the ability of the prospective participant to speak English because color words were to be used in the experiment as an interference stimulus.

The data was collected through observation and recording the time taken by each participant to identify the colors that the color words are printed in for both lists. The participants were given clear instructions pertaining to when to start the color identification exercise and whether they correctly identified a color was marked on a data sheet. The data was then entered into SPSS through manual data entry, and pertinent analyses were performed to warrant holistic exploration of the research questions aforementioned in chapter one.

The Stroop color identification experiment was designed. The experiment entailed two lists. The first list encompassed congruence in the sense that the typed words and the font color were the same; there was no interference in list one as the font color, and the word was the same; for instance, the word red was typed in red font. Therefore, the first list was deemed the control. The second list included an interference as there was no congruence; the word and the color of the font were not the same. For instance, the word Red was typed in green font. The experiment, therefore, set out to measure how males and females inhibit this interference in their language use and employ objective or selective attention. The automaticity of the English language further adds to the interference as participants may tend to immediately identify a word rather than the color of the font. The data were carefully recorded in a datasheet and transferred to SPSS for analysis. Given that the study took less than 5 minutes and was interesting, the recruitment of participants was not difficult.

### **3.5 Study Procedure**

The experiment was conducted in a series of steps. The first step was participants were selected and given clear directions on how to do the experiment. Then the stopwatch was started when the slide with list one was opened, the time taken to complete list one, and the questions they got right or wrong were marketed on the datasheet. The procedure was repeated for list two, and all participants followed these steps in doing the study.

### **3.6 Ethical Considerations**

Given that the current study does not expose any participant to bodily harm or any other form of distress, the research was based on a few ethical considerations. The first consideration was that participation was voluntary, and an individual could discontinue their participation from the experiment at any time. Secondly, participants were asked to sign a consent form as a declaration that they had understood what the study was about and were willingly taking part. The last ethical consideration is confidentiality; participants were assured that their performance and data would be treated with the utmost confidentiality and stored under a lock-and-key.

## **4. Results**

This section presents the findings of the statistical analysis and treatment of the primary data collected through the experiment. The data is presented graphically, pictorially, and tabulated to avail a visual representation of how the data answers the research question.

### **4.1 Demographic Findings**

The demographical findings of the 128 participants recruited for this study from the University of Thi Qar are as shown in Tables 1, 2, and 3. Table 1 shows that 59.4% of the participants are female, and 40.6% are male. Table 2 also showed that 46.1% of the participants are pursuing a bachelor's degree, and 43.8% are college students. It is also noteworthy that a majority of the participants, 54.7% are between the ages of 18 and 24 years. Ultimately, the demographical findings demonstrated that there is significant diversity in the target population. Also, given that the least educated members of the sample population are diploma



students' it can be inferred that all participants are literate and, as such, can be affected by the automaticity of the English language, an aspect that the Stroop task seeks to elucidate.

**Table 1: Demographic Findings for Gender**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	52	38.0	40.6	40.6
	Female	76	55.5	59.4	100.0
	Total	128	93.4	100.0	
Missing	System	9	6.6		
Total		137	100.0		

**Table 2: Demographic Findings for Education**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	52	38.0	40.6	40.6
	Female	76	55.5	59.4	100.0
	Total	128	93.4	100.0	
Missing	System	9	6.6		
Total		137	100.0		

**Table 3: Demographic Findings for Age**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	18	2	1.5	1.6	1.6
	20	18	13.1	14.1	15.6
	21	16	11.7	12.5	28.1
	22	8	5.8	6.3	34.4
	23	16	11.7	12.5	46.9
	24	10	7.3	7.8	54.7
	25	8	5.8	6.3	60.9
	26	6	4.4	4.7	65.6
	27	4	2.9	3.1	68.8
	28	20	14.6	15.6	84.4
	29	14	10.2	10.9	95.3
	30	6	4.4	4.7	100.0
Total		128	93.4	100.0	
Missing	System	9	6.6		
Total		137	100.0		

**4.2 Language Use across Gender Groups**

The automaticity of language is interference that sets in an incongruent scenario, where the responded is expected to provide an answer or respond to s stimuli in a manner that does not align with what they are reading. Language ability was measured in the context of this paper based on the accuracy of the provided answers. In list one, where the stimuli, color of the font, and the word spelled out were the same, both male and female participants got all answers correctly. In the case of the list, where the font color and the word spelled out were incongruent, an independent sample test revealed that there is a statistically significant difference between male and female language competency. Table 4, which is the group means, shows that the mean correct answers for both groups, female and male, was 9, and the standard deviation was 0 for the first list where congruent stimuli were tasted. Conversely, when it comes to list two female participants had a higher mean (M = 8.68, SD = 0.574) than male participants (M = 5.35, SD =

2.813). The results denote that when interference was introduced, women provided more accurate answers than their male counterparts. To test whether the difference was statistically significant, t-test results were interpreted.

**Table 4: Group Means**

Group Statistics					
List	Gender	N	Mean	Std. Deviation	Std. Error Mean
1	Right	Male	0 <sup>a</sup>	.	.
		Female	0 <sup>a</sup>	.	.
1	Right	Male	9.00	.000 <sup>b</sup>	.000
		Female	9.00	.000 <sup>b</sup>	.000
2	Right	Male	5.35	2.813	.552
		Female	8.68	.574	.093

a. t cannot be computed because at least one of the groups is empty.

b. t cannot be computed because the standard deviations of both groups are 0.

The t-test results for list one were not computed because both male and female participants got a perfect score. In the case of list two, the analysis showed that with equal variance assumed between the two genders,  $t(62) = -7.125, p = 0.0$  (see Table 5). Given that the p-value is less than 0.05, it can be inferred that there is a statistically significant difference in language use and the ability to recognize colors amid the interference of the automaticity of language. As shown in table 4, female participants were more capable of recognizing colors in incongruent scenarios than their male counterparts. Based on the t-test results, the first null hypothesis is accepted and the alternative rejected, which affirms that there is a statistically significant difference in language use between male and female participants, and this can be used to plot the new strategic direction for empirical gender studies.

**Table 5: T-test results  
Independent Samples Test<sup>a</sup>**

List		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
2	Right	30.470	.000	-	62	.000	-3.338	.469	-4.275	-2.402
	Equal variances not assumed			7.125						

a. No statistics are computed for one or more split files

**4.3 Verbal Ability (Cognitive Linguistics)**

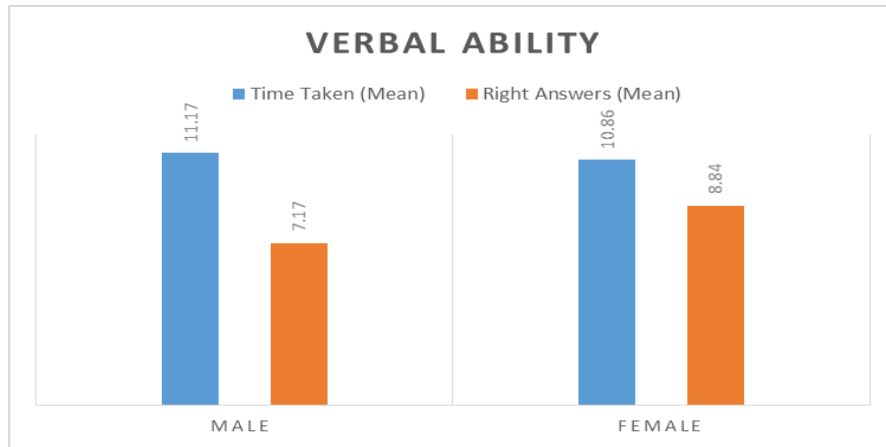
Verbal ability in the present study was measured in terms of the time taken to complete the list as well as the accuracy of the answers. To be precise, a small mean completion time coupled with high correctness mean was perceived as a demonstration of high verbal ability, while a high mean completion time coupled with low correctness mean perceived as an inferior to low verbal ability. The verbal ability was classified based on educational level and gender.

Based on a participant's level of education, the one-sample test revealed that Diploma students had the highest verbal ability because they had a 100% color identification correctness, and they took the second least time to complete the stroop task (M = 10.5, SD = 4.95). Masters students were significantly affected by the automaticity of the English language as despite having a fairly low completion time (M = 10, SD = 2.944), the correctness of their answers was significantly low (M = 7.57, SD = 3.359). The p values for all three academic variables for the two variables, time taken and correctness, were less than 0.05, which denotes that the findings are statistically significant.

In regards to gender, verbal ability is shown in figure 1. The figure shows that while male participants took longer to provide their answers, the mean correctness of their answers was lower than that posted by women. These findings were revealed using a one-sample t-test. Therefore, along gender lines, the one-sample t-test results for males is  $t(51) = 28.230, p = 0.0$  for time taken and  $t(51) = 19.167, p = 0.0$  for answer correctness, and for female is  $t(75) = 28.230, p = 0.0$  for time taken and  $t(75) = 28.596, p = 0.0$  for correctness of answers, thus all the p values are less than 0.05 denoting that all means are different from 9. Based on the result,

null hypothesis two is rejected, and the related alternative hypothesis accepted, that indeed, females have a superior verbal ability than their male counterparts.

**Figure 1: Verbal Ability based on Gender**



**4.4 Inhibition**

Inhibition in a Stroop test is the ability to employ selective attention and limit the impact of the interference stimuli. In the current study, congruence between the words and the font color used as the interference and the low mean of wrong answers demonstrated higher inhibition, while a high mean of wrong answers denoted low inhibition to the automaticity of reading (interference stimuli). The inhibition will be evaluated using the independent sample t-test statistical method. Females demonstrated higher inhibition (M = 0.14, SD = 0.423) than their male counterparts (M = 1.85, SD = 2.711) as shown in table 6. The difference between the two groups is statistically significant as  $t(126) = 5.386, p = 0.0$ . Given that  $p$  is less than 0.05, the null hypothesis is accepted, and the alternative rejected. See Table (6) below.

**Table 6: Group Mean**

Group Statistics					
	Gender	N	Mean	Std. Deviation	Std. Error Mean
Wrong	Male	52	1.85	2.711	.376
	Female	76	.14	.423	.049

**4.5 Summary of Findings**

The results revealed that there is a statistically significant difference in language use and inhibition. Also, the analysis demonstrated that females have a stronger verbal ability than their male counterparts.

**5. Analysis of Results**

Cognitive linguistic studies have strived to link cognitive ability with linguistic abilities, and this is the central premise underpinning the current study. According to a study by Perlovsky and Sakai (2014), cognition can be used as the basis for explaining the variation in language use. In this accord, the aim of the current study was to use a cognitive experiment to elucidate how language use and abilities vary across gender lines. Therefore, in this section, the difference in language use is explained from the lens of available empirical studies.

**Ho1: There is no statistically significant difference in language usage along gender lines among speakers of English as a Foreign Language in Iraq.**

The study found that the mean language use, measured as a factor of the answers that the participants got correctly despite the presence of interfering stimuli, was high in female participants than male participants. The independent t-test showed that there is a statistically significant difference in language use between males and females. The current study, using an independent sample t-test, established that there is a statistically significant difference in language use between males and females in Iraq,  $t(62) = -7.125, p = 0.0$ . Given that  $p$  is less than 0.05, the null hypothesis is rejected and the alternative accepted. The analysis has revealed that there is a statistically significant difference in language use between male and female EFL speakers in Iraq. The difference in language use along gender lines is a research area that has been explored by a broad body of research. According to Newman et

al. (2008), there is a significant difference in the manner in which women and men use language. To be precise, while women tend to be warmer, they are no less authoritative than their male counterparts. Women's inclination to use emotional language or words that express feeling makes them more attentive to cues, and this might explain why they were more accurate in identifying colors despite the presence of interfering stimuli of the automaticity of the English language (Akhter, 2014).

A study by Xia (2013) also determined a significant difference in men's and women's use of language. The study determines that women are good at using color words more than their male counterparts. For instance, women use color words such as lavender, azure, and magenta more than their male counterparts, and this may have contributed to their better score in word identification. The study by Xia (2013) also determined that women pay more attention to correctness than their male counterparts, and this explains their good performance in the Stroop experiment.

## **Ho2: Females do not have a superior verbal ability than males.**

When it comes to verbal ability, the current study found that diploma students demonstrated superior verbal ability than masters and Ph.D. students. Thus finding can be attributed to the automaticity of language. According to Franken et al. (2016), language can modulate visual perceptions. In the context of the current experiment, the word red written in a blue font can be confusing because due to the automaticity of language, the participant feels a higher inclination to say red when in reality, the color of the word is blue (Franken et al., 2016). Therefore, the better one's grasp of the English language, which increases with the level of education, the greater the impact of automaticity of language in color identification.

Regarding gender verbal ability, as shown in figure 1, it is explained that while male participants took longer to provide their answers, the mean correctness of their answers was lower than that posted by women. These findings were revealed using a one-sample t-test. Therefore, along gender lines, the one-sample t-test results for males is  $t(51) = 28.230$ ,  $p = 0.0$ , which implies that the findings are credible. Conversely, women's mean response time was lower, but answer correctness was high, thus denoting a higher verbal ability. As a result, the null hypothesis is rejected and the alternative accepted, which is women have a superior verbal ability than men. According to Xia (2013), this disparity in verbal ability can be traced to women's commitment to grammar rules and grammar correctness more than their male counterparts. Also, women like using color names in their conversation, as they use words like lavender, flowery, and so forth, more than their male counterparts. Wahyuningsih (2018) also affirmed that women pay more attention than men, and this explains their high correctness mean and faster completion of both lists provided for the Stroop experiment.

## **Ho3: There is no statistical significant difference in inhibition between males and females in the context of language use?**

The analysis of this research revealed that females demonstrated higher inhibition ( $M = 0.14$ ,  $SD = 0.423$ ) than their male counterparts ( $M = 1.85$ ,  $SD = 2.711$ ) as shown in table 6. The difference between the two groups is statistically significant as  $t(126) = 5.386$ ,  $p = 0.0$ . Given that  $p$  is less than 0.05, the null hypothesis is accepted, and the alternative rejected. The ability to employee selective attention and limit the impact of the visual stimuli is higher in women because they are generally more attentive, demonstrate a higher inclination to following grammar rules and being correct (Wahyuningsih 2018; Xia 2013).

## **6. Conclusion and Future Studies**

### **6.1 Conclusion**

The current study has elucidated that language use, the ability to limit distracting or interfering stimuli, and verbal abilities are different in male and female EFL speakers in Iraq. The results demonstrated that females' better results in the Stroop task could be attributed to their attention to detail, commitment to grammar correctness, and their way of language use. The test affirmed that cognition could be linked to language, and females were less prone to interference from external stimuli such as language automaticity. The research revealed that they were better at following the experiment instructions than their male counterparts. In non-Western cultures, the connection between gender, advancement, and versatility might be to such an extent that women's takeoffs from conventional community standards are degraded and criticized. Likewise, the connection between female discourse and social dialects needs fundamental reevaluation from another non-class-based outlook because men's and women's relations to the class structure are inconsistent.

### **6.2 Recommendations and Future Studies**

Future studies should adopt a holistic view and approach to studying sociolinguistics by factoring in how economic class, religion, and upbringing all impact language use in Iraq.

### **6.3 Limitations**

Despite the effectiveness of the study in the interrogation of sociolinguistics and cognitive linguistics, the current research is limited by the fact that other factors that may affect language use other than gender and level of education have not been factored in.

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