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Pragmatic Deficits in Iraqi Patients with Schizophrenia: A Descriptive Study

Jinan Jassim Abbass Department of English College of Languages University of Baghdad, Baghdad, Iraq

Sabah S. Mustafa Department of English College of Languages University of Baghdad, Baghdad, Iraq

Abstract

Patients with schizophrenia often experience impairments in several cognitive domains. One domain of particular interest is pragmatics, i.e., the ability to match language to context. This study aims at (a) investigating the pragmatic abilities of Iraqi patients with schizophrenia on both the production and comprehension level; (b) identifying which Grice's (1975) maxims do those patients most frequently violate; and (c) determining which of the demographic variables (gender, education, and age) has an influence on both the production and comprehension performance and violations. To this end, thirty patients were required to orally perform six pragmatic tasks using the Assessment of Pragmatic Abilities and Cognitive Substrates (APACS) (Arcara & Bambini, 2016). Results revealed that first, patients' performance in comprehension is worse than that in production. Secondly, the most frequently violated maxim is that of quality. Thirdly, there were statistically substantial differences among patients on the comprehension level for education and age only, whereas results of violations of Grice's maxims recorded significant differences for all the three variables. The study concluded that people with schizophrenia might suffer from pragmatic deficits, particularly on the comprehension level, and that the degree of the difficulty of the task assigned along with the three variables could play a vital role in the degree of their performance. The findings of this study may be applied to the development of effective treatment strategies in schizophrenia.

Keywords: APACS, Grice's maxims, Iraqi patients, pragmatic deficits, schizophrenia

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Review of Literature

Schizophrenia and pragmatic deficits

Schizophrenia listed by World Health Organization (WHO, 1990) into the top ten medical disorders causing disability is a uniquely human mental disease characterized by bizarre organization and miscommunication of complex thought and language (DeLisi, 2001). According to Cardella (2018), schizophrenia is "a disease of language" (pp. 80-81), i.e., delusions are fed and grown by language. Despite the various studies over time, it remains bewildering since it is a multifactorial disorder, i.e., not all patients equally suffer from the same symptoms, nor do they collectively correspond to the remedy, nor is the disorder itself always caused by genetic reasons. However, the result of these various clinical studies is one, i.e., dementia (Shorter, 2005). On the other hand, schizophrenia falls into three types of symptoms: positive symptoms (e.g., delusions, hallucinations, and disordered thoughts), negative symptoms (e.g., poverty of speech and action, abnormal behavior, social withdrawal, etc.), and cognitive symptoms (e.g., problems with attention, memory, understanding information, and focusing) (Mitchell et al., 2015).

It is well-known that people with schizophrenia suffer from significant deficits in the pragmatic use of language, i.e., the ability to integrate language to context to figure out the speaker's meaning (Sperber & Wilson, 1995). Through studying language in general and pragmatics in particular, one can detect any dissonance or deficits in the human thinking, mainly if one focuses on the pragmatic phenomena that are inseparably related to the cognitive thinking (Cummings, 2017). From this conviction, researchers have studied pragmatic deficits through a relatively new discipline that occurs on the surface of pragmatics and clinical linguistics, i.e., clinical pragmatics' interests lie in the observation, assessment, and treatment of pragmatic impairment found in patients with mental disorders, including people with schizophrenia. It concentrates on the patients' cognition, production, and comprehension of the conversational settings (Cummings: 2008).

Grice's Conversational maxims

According to Grice (1975), our conversational process would not be rational if it were disconnected and uncooperative; that is, there is a cooperative tendency between interlocutors during a conversation. Based on this idea of common purpose, he derives Cooperative Principle (CP) which runs as follows: "Make your conversational contribution such as is required, at the stage at which it occurs, by the accepted purpose or direction of the talk exchange in which you are engaged" (Grice, 1975, p. 45). He further lists his four conversational maxims to achieve successful communication, namely the maxims of quantity, quality, relation, and manner which run as follows:

(1) The maxim of quantity requires interlocutors to provide a suitable amount of information, and it has two submaxims:

(a) "Make your contribution as informative as is required."

(b) "Do not make your contribution more informative than is required."

(2) The maxim of quality requires interlocutors to make a true contribution, and it has two submaxims:

(a) "Do not say what you believe to be false."

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(b) "Do not say that for which you lack adequate evidence."

- (3) The maxim of relation requires interlocutors to "be relevant."
- (4) The maxim of manner requires interlocutors to be perspicuous, and it has four submaxims:
 - (a) "Avoid obscurity of expression."
 - (b) "Avoid ambiguity."
 - (c) "Be brief (avoid unnecessary prolixity)."
 - (d) "Be orderly" (Grice, 1975, pp. 45-46).

All in all, the maxims simply enjoin interlocutors to cooperate by telling the truth obviously, briefly, relevantly, and precisely; otherwise, violations might occur. Thomas (1995, p. 64) cites the following example, which clarifies the observance of the four maxims:

Husband: Where are the car keys?

Wife: They are on the table in the hall.

The wife has answered in a clear, direct, and truthful manner, besides she has given a suitable amount of the information required, thus observing all of the conversational maxims.

However, interlocutors cannot follow the maxims all the time; therefore, they are violated every now and then (Levinson, 1983). One of the reasons for violating maxims is to express figurative language; for instance, violation of the maxim of quality occurs whenever interlocutors use metaphorical, idiomatic, or ironic expressions (Chapman, 2005). Violations may also occur by abnormal interlocutors. To be specific, patients with schizophrenia provide good examples of the impaired decoding of the maxim violations because they face difficulties in recognizing the communicative intentions behind violating them. These difficulties might in turn lead to incoherent discourse and abnormal use of language (Dua, 1990). Bloom et al. (1999) confirm that Gricean pragmatics has offered a useful framework for exploring the discourse of people with communication impairments. Moreover, through his journey of analyzing the language of patients with schizophrenia, Frow (2001) concludes that he has not found a more useful model than Grice's maxims because they suppose that language is a transparent, economical, truthful, and precise system.

Previous research

So far, several studies have examined many aspects of language impairments experienced by people with schizophrenia. The most impaired communicative domain is pragmatics (Tényi et al., 2002; Mazza et al., 2008; & Colle et al., 2013). Hence, pragmatic deficits, which are the focus of our study, have been extensively researched and well documented in the literature of schizophrenia (Andreasen, 1986; Covington et al., 2005; & Kayi et al., 2018). Some of the studies focused on specific aspects of pragmatic performance, whereas other studies only included broader assessments. For instance, researchers pointed out that the performance of people with schizophrenia significantly differed from that of controls in the comprehension of indirect speech acts (Corcoran, 2003) and other figures of speech such as idioms, proverbs, and metaphors (Schettino et al., 2010 & Moro et al., 2015).

On the other hand, Tényi et al. (2002) examined the schizophrenics' awareness of the Gricean implicatures, their violations, and their intended meanings. The sample consisted of 26

paranoid schizophrenic subjects and 26 healthy controls. The task was composed of four questions and four answers that violate the relation maxim. The intended meaning had to be identified by the subjects in each case. This experiment concluded that patients with schizophrenia had more errors and less ability to identify the communicative intentions behind the violations of the conversational maxims than the controls.

Another study done by Varga et al., (2014) on ten schizophrenic patients matched with 19 control subjects investigated the effect of the Intelligence Quotient (IQ) on the subjects' performance in the comprehension of nonliteral language, including metaphors (conventional and unconventional) and irony, the Gricean maxims, implicatures, and semantics. Patients with schizophrenia were of two types: a lower-IQ group and a higher-IQ group. The results affirmed that both groups experienced impairments in comprehending implicatures. However, patients with higher-IQ were able to perceive irony and conventional and unconventional metaphors, unlike patients with lower-IQ who were unable to comprehend unconventional metaphors and irony.

In the same vein, Bosia et al. (2015) applied the APACS test on 39 Italian patients with schizophrenia in comparison with matched 32 control subjects. Their study explored the pragmatic abilities of schizophrenic patients and the effect of their symptoms on performance. The results reported that the patients' performance was significantly worse than the control subjects on both the production level (in the Interview task) and the comprehension level (in the Narratives, Figurative Language 2, and Humor).

In a more recent study based on the Assessment Battery for Communication Test, Bosco et al., (2019) observed the cognitive processing of 32 schizophrenic patients with much focus on their Theory of Mind and Executive Functioning abilities. The test fell into four categories: linguistic comprehension, linguistic production, extralinguistic comprehension, and extralinguistic production. The sample had to watch a given video that contained different communicative acts expressed with true, false, and ironic intentions, and then to select one of them. The results pointed out that the patients had impairments in all tasks except for the acts expressed with sincere intentions because they were the easiest ones to recognize.

Although researchers have widely discussed this topic in the literature across different types of populations, the evidence is still sparse and unclear in the Iraqi context. Hence, the novelty of the current study lies in exploring the ability of a sample of clinically stabilized Iraqi patients with schizophrenia in comprehending and producing different types of pragmatic tasks and determining the frequency occurrence of the nonobservance of maxims detected in their speech. Such a study will hopefully fill the gap in the literature.

Research questions

This study attempts to answer the following questions:

1. Are there significant differences among Iraqi patients with schizophrenia in the production and recognition of the tasks investigated?

2. Which Gricean maxim violation occurs most often in their utterances?

3. Do the demographic variables (gender, education, and age) have a significant influence on the patients' APACS performance and violations?

Methodology

Participants

Thirty Iraqi patients who were diagnosed by qualified psychiatrists in Ibn-Rushd Hospital for Psychiatric Training in Baghdad Province using the criteria of the Tenth Version of International Classification of Diseases (ICD-10) (WHO, 1993) participated in this study. Even though ICD-11 was released, the hospital followed the tenth version. The patients were all submitted to antipsychotic medication for at least six months. The clinical population whose native language was Arabic consisted of 15 males and 15 females, ranging in age from 25 to 55 years (mean= 41, SD= 7.72) and fell into two categories: patients whose ages ranged from 25 to 40 years, and those whose ages ranged from 41 to 55 years, and who underwent 6-12 years of formal education categorized into primary (completed six grade school) and secondary educational level (completed high school).

Data collection

This study is a quantitative descriptive study based on collecting data. The collection process conducted by the authors was officially approved by the Ministry of Health and Environment of Iraq and supervised by the staff psychiatrists at the said hospital. We adopted the APACS test in data retrieval. After taking the patients' oral consent, we orally administrated the test to each patient in a single session of approximately 30-40 minutes. After the interview, scoring data was accurately done, and patients' responses were transcribed into Arabic (see Appendix A.) and then translated into English by the authors. Then, we analyzed the transcribed data in the light of Gricean maxims with an intense highlight on investigating patients' nonobservances of the maxims during the performance of the six tasks investigated. All statistical analyses were conducted through the Statistical Package for the Social Science (SPSS), version 23. Ten experts, including five linguists, four psychologists, and one psychiatrist, approved the content validity of the test after making some suggestions and modifications. The reliability of the test was evaluated using Cronbach's (1951) alpha, which showed a high-reliability value in all tasks (see Table 1).

Tasks	Number of items	Cronbach's alpha
Interview	22	0.699
Description	10	0.903
Narratives	30	0.927
Figurative language 1	15	0.938
Humor	7	0.884
Figurative language 2	15	0.865

Table	1.	Reliabilit	y statistics.
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APACS Instrument

APACS is "a new tool to evaluate pragmatic abilities in clinical populations with acquired communicative deficits, ranging from schizophrenia to neurodegenerative diseases" (Arcara & Bambini, 2016, p. 1). It can be described as a comprehensive multifunctional battery designed to detect impairments in verbal abilities that could be utilized for research and clinical purposes as well (Arcara & Bambini, 2016). The APACS test sheds light on two essential pragmatic domains: discourse and non-literal language. It consists of a total of six tasks (see Figure 1); two dedicated to production (Interview and Description in the blue section) and four to comprehension (Narratives, Figurative Language 1, Humor, and Figurative Language 2 in the orange section). The time limit for each session to test each patient ranges from 30-40 minutes, depending on the patient's characteristics. The test is applied in a clinical setting; therefore, the tasks are conducted in a fixed order starting with the Interview task and ending with the Figurative Language 2 task (see Appendix B.).



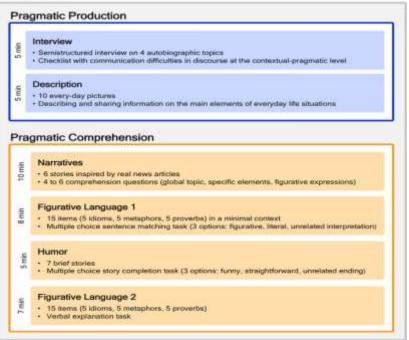


Figure 1. Structure of the APACS test and derived scores (Arcaca & Bambini, 2016, p. 4). *APACS Tasks*'

Task 1: Interview (time limit: approximately five minutes)

This task aims at assessing the patients' ability in discourse organization and conversation engagement through a semi-structured interview based on four autobiographic topics, namely family, home, work, and organization of the day. To assess these topics, we use a checklist that consists mainly of three dimensions of discourse: (1) linguistic communicative difficulties evaluated at the contextual-pragmatic level include: (a) speech (e.g., coprolalia, repetition, incomplete utterances, and echolalia); (b) informativeness (e.g., difficulty in answering yes/no questions, over/under- informativeness, and loss of verbal initiative); and (c) information flow (e.g., misuse of cohesive ties, missing referents, wrong order of elements, and abrupt topic shift).

(2) Paralinguistic communicative difficulties which include altered speech speed, impaired intonation, loss of eye-contact, fixed facial expression, and abuse of gesture. (3) Other communicative difficulties contain errors in grammar, errors in vocabulary, semantic paraphasia, phonemic paraphasia, and circumlocution. The frequency of each type of communicative difficulty is annotated (always/sometimes/never) and then transformed into scores of (0/1/2) depending on the frequency of each communicative difficulty, i.e., a score 0 when there is no occurrence of the communicative difficulty, a score one when it occurs once or twice, and a score two when it occurs three or more times. (Maximal score: 44).

Task 2: Description (time limit: approximately five minutes)

This task aims at assessing the patients' ability to produce and shar information on everyday life situations through a traditional picture description task considered in pragmatic perception. Ten pictures (retrieved from Matti, 2018) of daily life (e.g., a man riding a bicycle in the street) are presented one by one to each patient to describe and to recognize the main items that feature the scene, notably: agent(s), location, and the activity of agent(s). Each item in each picture receives either 0 or one. A score 0 is assigned when the item is missed, misidentified, or described by using gestures only. A score one is assigned when the patient identifies the element correctly. A further score one is assigned for each picture when the patient mentions the items without productive mistakes similar to those considered in the Interview task, but if there are production errors and when the responses are unintelligible, or when the patient uses gestures only, the patient receives 0. (Maximal score: 40).

Task 3: Narratives (time limit: approximately 10 minutes)

This task aims at assessing the patients' ability to apprehend the significant discoursal elements of a narrative text. Six stories composed of 4-8 sentences each and taken from real Arabic newspapers (Al-Sabah Newspaper, 2018) are read at a regular rate to each patient. Then s/he is required to (a) give the global topic of the story, i.e., what the story is talking about which scored 0, one, or two depending on the patients' accurate responses. A score 0 is assigned when the patient misidentifies the topic of the story, when s/he gives only one element of the story, or when s/he is unable to summarize the text. A score one is assigned when the patient provides the topic with slight errors, when s/he is partially able to summarize the content of the story, or when s/he gives the topic with lexical errors that provide a partial understanding instead of an accurate understanding. A score two is assigned when the patient identifies the topic correctly, even when there are slight errors. (b) Answer two yes/no specific questions on some aspects of the story, whether main, detailed, stated, or implied (Ferstl et al., 2005). A score one is assigned when the answer is correct and 0 when it is incorrect, when the patient does not remember, or when the question is left unanswered. (c) Explain two given non-literal expressions in the story. A score 0 is assigned when the patient provides literal explanations or paraphrases, or when s/he does not know how to explain them. In the case of an incomplete answer, the patient receives one, whereas, in the case of explaining the figurative expression correctly, s/he receives two. (Maximal score: 48.)

Task 4: Figurative Language 1 (time limit: approximately eight minutes)

This task aims at assessing the patients' ability to infer nonliteral meaning through multiple-choice questions. We provide each patient with 15 items (five highly familiar idioms, five novel metaphors, and five common proverbs) used in contextualized sentences taken from available

databases (Attia, 2004). For each sentence, we provide three possible (correct figurative, incorrect literal, and unrelated) interpretations. Each item is scored either 0 or one according to the accuracy of interpretation. Thus, responses are rated one when the patient selects the correct figurative explanation, and 0 when choosing the incorrect or unrelated interpretation, or when not responding at all. (Maximal score: 15).

Task 5: Humor (time limit: approximately five minutes)

This task aims at assessing the patients' ability to comprehend verbal jokes through multiple-choice questions. We provide each patient with seven brief humorous stories taken from Fearman (2014). Then, we provide three choices (correct funny, incorrect unfunny straightforward, and incorrect unrelated ending) to complete the end of each joke, and the patient should select the correct funny one. Each item receives either one when the patient chooses the correct funny punchline or 0 when s/he selects the unrelated or unfunny response or when s/he does not respond at all. (Maximal score: 7).

Task 6: Figurative Language 2 (time limit: approximately seven minutes)

This task aims at assessing the patients' ability to infer the nonliteral meanings of some figurative expressions by explaining them verbally. We provide each patient with fifteen items (five highly familiar idioms, five novel metaphors, and five common proverbs) retrieved from available databases (Attia, 2004). Then, we ask him/her to explain the meaning of each. Responses receive two when the patient provides a good explanation of the figurative expression, one in the case of providing an incomplete answer, and 0 when the patient only paraphrases the figurative expression, provides a literal or unrelated explanation, or does not respond at all. (Maximal score: 30).

Data analysis

The patients' general performance and the differences between those who got high scores and those who got low scores in both the production and comprehension of APACS pragmatic tasks irrespective of the three variables were calculated using (mean \pm SD). To show differences among patients' performance concerning the three variables, we used the t-test method (Munro, 2005). To investigate differences among patients' violations of Grice's conversational maxims during the performance of each APACS task concerning the three variables, their frequencies, percents, and their totals were statistically calculated.

Results

The patients' general performance in APACS tasks regardless of the three variables was calculated using (mean \pm SD). This method showed that patients' performance in comprehension (mean= 57.60) was worse than that in production (72.73). Significant differences were also recorded only at the comprehension level by patients who got low scores (percent= 20), as reported in Table 2.

The results of patients' performance in APACS concerning the three variables were calculated by the t-test method (t= 2.05, 28 df [degree of freedom], p= 0.05). This method showed statistically significant differences in all the variables (gender: males/females, education: primary school/ high school education, and age: (25-40/41-55) (see Table 3). The gender variable recorded insignificant differences; all of the values of the six tasks were less than the t-value (2.05) (see

Figure 2). The variable of education (high school education) recorded the highest significant differences in the tasks of Fig. L. 2 [Figurative Language 2] (t= -3.08, p= 0.01) which represented the highest significant difference, Narratives (t= -2.70, p= 0.01), and Figurative Language 1 (t= -2.41, p= 0.02) (see Figure 3). The age variable (41-55) recorded a significant difference in the Figurative Language 1 task (t= -2.18, p= 0.04) (see Figure 4).

Concerning patients' violations of Grice's maxims during the performance of each APACS task, frequencies, percents, and their totals were calculated statistically (see Table 4). The most violated maxims were those of quality (38.9), and relation (30.3), followed by the maxim of quantity (24.7), while the less violated maxim was that of manner (6.1). Note that the Humor task recorded zero violations of the maxim of manner. The tasks that recorded violations were ranked as follows: Narratives (quality, quantity, and relation), Figurative Language 1 (quality, and relation), Humor (quality), Interview (quantity), and Figurative Language 2 (quality, quantity, and relation). The category that recorded the highest violations was those patients who had primary school education (55.9), followed by the category of males (53.2), and then the category of age 25-40 (50.6), as reported in Table 5.

Table 2. Descriptive statistics of the patients' performance in production, comprehension, and APACS total.

APACS level	percents	No.	Scores ranges	level	Mean	SD
Production	6.67	2	82	High	72.73	9.78
	6.67	2	29-55	Low	-	
Comprehension	16.67	5	79-91	High	57.60	19.29
	20	6	18-34	Low		
APACS total	16.67	5	159-172	High	130.33	25.08
	16.67	5	47-107	Low		

Table 3. Descriptive statistics of means, SD (Standard deviation), and t-tests comparing patients' performance in APACS tasks according to gender, education, and age.

tasks	Mean	SD	t-	р-
			value	value
Interview	37.2/35.87	3.86/4.63	0.86	0.40
Description	36.8/35.6	3.69/9.55	0.45	0.65
Narratives	28.13/29.87	9.21/9.86	-0.50	0.62
Fig. L. 1	7.67/9.73	3.72/2.69	-1.75	0.09
Humor	2.73/2.8	1.16/1.26	-0.15	0.88
Fig. L. 2	15.53/18.73	7.11/8.15	-1.15	0.26

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tasks	Mean	SD	t-	р-
			value	value
Interview 36.27/36.8		3.69/4.84	-0.34	0.74
Description	35/37.4	9.5/3.48	-0.92	0.37
Narratives	24.8/33.2	7.71/9.29	-2.70	0.01
Fig 1	7.33/10.07	2.94/3.26	-2.41	0.02
Humor	2.47/3.07	1.3/1.03	-1.40	0.17
Fig. L. 2	13.33/20.93	7.27/6.23	-3.08	0.01
	Age			
tasks	Mean	SD	t-	р-
			value	value
Interview	35.14/37.75	3.98/4.2	-1.74	0.09
Description	37.57/35	3.34/9.24	0.98	0.33
Narratives	27.5/30.31	7.82/10.69	-0.81	0.42
Fig. L. 1	7.36/9.88	3.67/2.63	-2.18	0.04
Humor	2.86/2.69	1.17/1.25	0.38	0.70
Fig. L. 2	17/17.25	6.41/8.87	-0.09	0.93

• Each slash in the columns of each table separates the two categories of the three variables: gender (male/female), education (primary/secondary), and age (25-40/41-55), respectively.

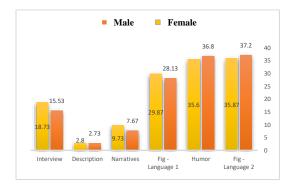


Figure 2. Effect of gender on APACS tasks.

Calculating the means of the patients' responses revealed no significant differences between males and females.

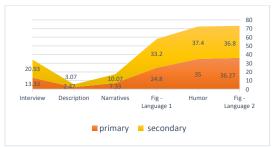


Figure 3. Effect of education on APACS tasks.

Calculating the means of the patients' responses showed significant differences between primary and secondary education.

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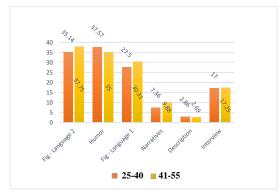


Figure 4. Effect of age on APACS tasks.

Calculating the means of the patients' responses revealed significant differences between patients whose ages range from (25-40 years) and those whose ages range from (41-55 years).

Table 4. *Descriptive statistics of the frequencies, percents, and totals of the four maxims in each APACS task concerning the variables gender, education, and age.*

The maxim of quantity								
Tasks	Gend	ler	Educa	Education		Age		Total
	frequencies	percents	frequencies	percents	frequencies	percents	frequencies	percents
Interview	46/35	56.8/43.2	37/44	45.7/54.3	37/44	45.7/54.3	81	27.9
Description	10/9	52.6/47.4	8/11	42.1/57.9	9/10	47.4/52.6	19	6.6
Narratives	56/55	50.5/49.5	67/44	60.4/39.6	38/73	34.2/65.8	111	38.3
Fig. L. 1	8/6	57.1/42.9	3/11	21.4/78.6	6/8	42.9/57.1	14	4.8
Humor	1/2	33.3/66.7	1/2	33.3/66.7	1/2	33.3/66.7	3	1
Fig. L. 2	34/28	54.8/45.2	33/29	53.2/46.8	27/35	43.5/56.5	62	21.4
r ig. L. 2	J 4 /20	J4.0/4J.2	55/27	33.2/40.8	21133	43.3/30.3	02	21.4
Total	155/135	53.4/46.6	149/141	51.4/48.6	118/172	40.7/59.3	290	24.7
0		53.4/46.6	149/141	51.4/48.6 axim of qua	118/172 lity			
Total	155/135	53.4/46.6	149/141 The m	51.4/48.6 axim of qua	118/172		290	24.7
Total	155/135 Gend	53.4/46.6 ler	149/141 The m Educa	51.4/48.6 axim of qua tion	118/172 lity Age	40.7/59.3	290 Total	24.7 Total
Total Tasks	155/135 Gene frequencies	53.4/46.6 ler percents	149/141 The m Educa frequencies	51.4/48.6 axim of qua tion percents	118/172 lity Age frequencies	40.7/59.3 percents	290 Total frequencies	24.7 Total percents
Total Tasks Interview	155/135 Gend frequencies 17/13	53.4/46.6 ler percents 56.7/43.3	149/141 The m Educa frequencies 11/19	51.4/48.6 axim of qua tion percents 36.7/63.3	118/172 lity Age frequencies 19/11	40.7/59.3 percents 63.3/36.7	290 Total frequencies 30	24.7 Total percents 6.6
Total Tasks Interview Description	I55/135 Gend frequencies 17/13 6/13	53.4/46.6 er percents 56.7/43.3 31.6/68.4	149/141 The m Educa frequencies 11/19 13/6	51.4/48.6 axim of qua tion percents 36.7/63.3 68.4/31.6	118/172 lity Age frequencies 19/11 7/12	40.7/59.3 percents 63.3/36.7 36.8/63.2	290 Total frequencies 30 19	24.7 Total percents 6.6 4.2
Total Tasks Interview Description Narratives	Gend frequencies 17/13 6/13 70/76	53.4/46.6 ler percents 56.7/43.3 31.6/68.4 47.9/52.1	I49/141 The m Educa frequencies 11/19 13/6 83/63	51.4/48.6 axim of qua tion percents 36.7/63.3 68.4/31.6 56.8/43.2	118/172 lity Age frequencies 19/11 7/12 85/61	40.7/59.3 percents 63.3/36.7 36.8/63.2 58.2/41.8	290 Total frequencies 30 19 146	24.7 Total percents 6.6 4.2 31.9
Total Tasks Interview Description Narratives Fig. L. 1	Gend frequencies 17/13 6/13 70/76 50/45	53.4/46.6 percents 56.7/43.3 31.6/68.4 47.9/52.1 52.6/47.4	I49/141 The m Educa frequencies 11/19 13/6 83/63 54/41	51.4/48.6 axim of qua tion percents 36.7/63.3 68.4/31.6 56.8/43.2 56.8/43.2	118/172 Age frequencies 19/11 7/12 85/61 50/45	40.7/59.3 percents 63.3/36.7 36.8/63.2 58.2/41.8 52.6/47.4	290 Total frequencies 30 19 146 95	24.7 Total percents 6.6 4.2 31.9 20.8

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The maxim of relation								
Tasks	Gend	ler	Education		Age		Total	Total
	frequencies	percents	frequencies	percents	frequencies	percents	frequencies	percents
Interview	16/21	43.2/56.8	18/19	48.6/51.4	16/21	43.2/56.8	37	10.4
Description	6/4	60/40	2/8	20/80	5/5	50/50	10	2.8
Narratives	57/46	55.3/44.7	60/43	58.3/41.7	62/41	60.2/39.8	103	28.9
Fig. L. 1	57/37	60.6/39.4	61/33	64.9/35.1	56/38	59.6/40.4	94	26.4
Humor	25/26	49/51	27/24	52.9/47.1	26/25	51/49	51	14.3
Fig. L. 2	36/25	59/41	39/22	63.9/36.1	31/30	50.8/49.2	61	17.1
Total	197/159	55.3/44.7	207/149	58.1/41.9	196/160	55.1/44.9	356	30.3
			The ma	axim of mar	nner			

Tasks	Gend	ler	Educa	tion	Ag	e	Total frequencies	Total percents
	frequencies	percents	frequencies	percents	frequencies	percents	1	1
Interview	12/16	42.9/57.1	10/18	35.7/64.3	15/13	53.6/46.4	28	38.9
Description	4/1	80/20	2/3	40/60	3/2	60/40	5	6.9
Narratives	8/12	40/60	15/5	75/25	9/11	45/55	20	27.8
Fig. L. 1	1/1	50/50	1/1	50/50	2/0	100/0	2	2.8
Humor	0	0	0	0	0	0	0	0
Fig. L. 2	10/7	58.8/41.2	7/10	41.2/58.8	9/8	52.9/47.1	17	23.6
Total	35/37	48.6/51.4	35/37	48.6/51.4	38/34	52.8/47.2	72	6.1

Table 5. The total violations for each demographic variable.

Variables	Frequencies	percents
Gender	625/550	53.2/46.8
Education	657/518	55.9/44.1
Age	595/580	50.6/49.4

Discussion

Research Question 1: Are there significant differences among Iraqi patients with schizophrenia in the production and recognition of the tasks investigated?

Investigating the production and comprehension of patients' performance in the APACS test regardless of demographic variables indicated that while there were significant differences in patients' comprehension of the pragmatic tasks investigated, the study found no significant differences in their production. That is to say, patients' performance in comprehension was significantly worse than that in production, and patients who got high scores outperformed those who got low scores. These results go in line with the study of Marini et al., (2008), which pointed

out that patients' macro-linguistic processing is more impaired than their micro-linguistic processing.

Research Question 2: Which Gricean maxim violation occurs most often in their utterances?

A pragmatic analysis of patients' responses that violate Grice's maxims pertaining to the three variables considered revealed that the violations were ranked as follows: (a) the quality violation, the highest violated maxim, occurred by making literal, false, and miscomprehended interpretations; (b) the relation violation occurred by providing unrelated and incoherent utterances; (c) the quantity violation occurred by either being over or under informative; and (d) the manner violation, the less violated maxim, occurred by being unclear and verbose. However, these results contrast with Jati et al.,'s (2017) in the range of violation in which they found that the most violated maxim is that of relation and not quality.

The tasks that recorded most violations were Narratives since they included Arabic examples with different connotations, a case which required focus thinking, concentration, and a good memory on the part of the patient, followed by Figurative Language 2, and Figurative Language 1, and both of which required abstract thinking and general knowledge that patients lacked. The category that profoundly violated maxims was patients who had primary school education, which indicates the importance of education in following and understanding the maxims that reflect fluent communication. The results support those of Corcoran and Frith (1996), which pointed out that patients with schizophrenia violated all of the maxims due to different types of impairments.

Furthermore, data analysis based on Grice's four maxims demonstrated that the maxims were not only violated by selecting the wrong choice, but also by keeping silent, or by providing false or unrelated types of information. Such kinds of violations indicated that patients failed to recognize the required question. Here are some extracts taken from the interviews between the interviewer and patients to identify the patients' nonobservances of the maxims in each task:

Task 1: Interview

المحاورة: كيف تنظم يومك؟

مريض 16: أعشق كاظم الساهر... الآن لا يوجد عمل في بغداد... والدي أستاذ في الكلية... أنا أستمع الى كاظم الساهر أو أستمع الى مشاري العفاسي المُقرىء الكويتي... و لدي طموح أن أصل إليه و إن شاءَ الله... و أنا أحفظ أناشيده... أنا مستعد أن أكسب صداقة 100 شخص... و أنا لدي أصدقاء... و أنا أدعو للشعب البغدادي يا رب إحفظ الشعب البغدادي... و عندي دعاء لبر الوالدين أيضاً أرفق بي و بوالدي و أدعي للأمة الإسلامية و أدعي للوطن العربي يارب أصلح الشباب أصلح الفنانين...

Interviewer: How do you organize your day?

Patient 16: I adore Kadhim Al-Sahir... now there is no work in Baghdad... my father is a professor at the college... I listen to Kadim Al-Sahir, or I listen to Mishary Alafasy, the Kuwaiti reciter of the Quran... and I have the ambition to reach Mishari Alafasy and Insha'Allah... and I memorize his chantings... I am ready to have 100 persons' friendships... I have friends... and I even pray for the Baghdadi people... Oh God, save the Baghdadi people... and I have a prayer for parents' obedience... have mercy on me and my parents... and I pray for the Islamic nation, and I pray for the Arab World Oh God straighten the Young straighten the artists...

Patient 16 violated the maxim of quantity by being over informative, which in turn resulted in violating the maxim of relation since he made irrelevant statements and gave unrelated information.

Task 2: Description المحاورة: صِف لي هذه الصورة. مريض 15: إنّه مثلهم ينظر إلى أحدهم و يراقبه.

Interviewer: Describe this picture for me.

Patient 15: Just like them, he looks at somebody and watches him.

In describing picture 3 (a photographer holding his camera and shooting a photo), patient 15 violated the maxim of manner by being completely ambiguous, suggesting that the photographer was not taking a typical shot and that he was like (them) watching others. He spoke as though the hearer had known who he was talking about, and instead of saying that this guy was shooting a regular photo, he accused him of watching people

Task 3: Narratives المحاورة: سأقرأ لك القصة التالية و اسألك عنها بعض الأسئلة كأن تقترح عنواناً لها، و تشرح بعض الكلمات و هكذا، فعليك أن تركز و تستمع بإصغاء لما سأقرأ: عُرفت بغداد بساعاتها الكبيرة ذات الأبراج العالية على غرار المنائر أيام الحكم العثماني و كانت القشلة من بين تلك الساعات الأثرية و التي إرتبط تاريخها بالثكنة العسكرية و مبنى سراي الحكومي و التي ما زالت قائمة و ماثلة أمام أنظارنا إلى يومِنا هذا.

Interviewer: I will read the following story and ask you some questions, for example, suggest a title for the story, explain some of the words and so one, so you need to focus on and listen carefully to what I will read:

Baghdad is known for its big clocks with high towers that are parallel to the lighthouses in the Ottoman reign. Al-Qishla is one of the archaeological clocks whose history is associated with the military barrack and the Sarai Government Building. It is still standing and present before our eyes up to now.

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المحاورة: إقترح عنواناً للقصبة.
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مريض 9: ساعات.
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Interviewer: Suggest a title for the story.

Patient 9: Clocks

Patient 9 violated the maxim of quantity because the title he provided was less informative than was required, yet, adding some information like "Baghdad's Clocks" would make it a more suitable title.

```
المحاورة: هل ساعة القشلة حديثة أم قديمة؟
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مريضة 18: حديثة.

Interviewer: Is Al-Qishla a new or an old clock?

Patient 18: new

Patient 18 violated the maxim of quality by providing inaccurate information, i.e., saying that Al-Qishla was a new clock. At the same time, it was clear in the story that it was an old clock.

المحاورة: ما معنى "إرتبط تاريخ الساعة بالثكنة العسكرية"؟

مريض 9: صار سويةً.

Interviewer: What does 'the history of the clock is associated with the military barrack' mean? Patient 9: It became together.

Instead of explaining the expression figuratively, patient 9 violated the maxim of manner by making an obscure utterance. He was about to understand the intended meaning, or he partially understood it. Yet, he could not explain it in a correct grammatical way, i.e., using "they" instead of "it." The focus here is indeed on comprehension more than on grammar. Still, such a grammatical mistake reflected the patient's misunderstanding and consequently caused a misunderstanding on the part of the listener.

المحاورة: ما معنى "الساعة ما زالت قائمة أمام أنظارنا"؟

مريضة 18: ستكون الساعة 12.

Interviewer: What does 'the clock is still standing before our eyes' mean?

Patient 18: It will be at 12 O'clock.

Patient 18 violated the maxim of relation by making an irrelevant response. The question was not about time; instead, it was about explaining its figurative meaning.

```
Task 4: Figurative Language 1
المحاورة: إختر الشرح المجازي المناسب للتعبير الإصطلاحي الآتي:
محمد أخبَرَني القصة من الألف إلى الياء
ا. أخبَرَني القصة من بدايتها إلى نهايتها.
ب. الحروف الأبجدية.
ج. القراءة ممتعة.
```

مريض 8: محمد... حرف ميم.

Interviewer: Select the appropriate figurative explanation for the following idiomatic expression: Mohammed told me the story from A to Z.

a. He told me the story from its beginning to its end.

b. The alphabet letters.

c. Reading is joyful.

Patient 8: Mohammed... letter M.

Instead of selecting the right figurative expression (choice no. a), patient 8 violated the maxim of relation by providing an unrelated response to the expression suggesting that it referred to letters and neglecting the choices read for him.

```
Task 5: Humor
المحاورة: أكمل النكتة الآتية من الإختيارات التي سأقر أها عليك:
المعلمة: "ألم تعدني بِأن تحسن التصرف؟"
الطالب: "نعم، سيدتي."
المعلمة: "و ألم أعدكَ أني سأعاقبك إن لم تحسن التصرف؟
الطالب:
```

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ا. "نعم سيدتي، و لكن بما إني لم أف بوعدي، لا أتوقعك أن تفي بوعدك."
 ب. "سامحيني، من الأن فصاعداً سأحسن التصرف."
 ج. "أنا عمري ثمان سنوات."

مريض 4: إنها خبيثة...تجعلة يشرب حبوب الدواء و تهيجة، و تغضبة، و يلعن، و سحر و شعوذة... و ما كفر سليمان و لكن الشياطين كفروا... لقد وفي بوعده و لكنها خبيثة لم تف بوعدها.

Interviewer: Complete the following joke by selecting one of the choices that I will read:

Teacher: 'Didn't you promise to behave well?'

Student: 'Yes, ma'am.'

Teacher: 'And didn't I promise to punish you if you didn't?'

Student:

a. 'Yes ma'am. But since I didn't keep my promise, I don't expect you to keep yours.'

b. 'Forgive me, from now on; I will behave well.'

c. 'I'm eight years old.'

Patient 4: She is malicious...she makes him drink pills and irritates him and makes him angry, and curses, and witchery and conjuration... [It was not Solomon who disbelieved, but the devils disbelieved]... he fulfilled his promise, but she is malicious and did not fulfill her promise.

Instead of completing the joke's punchline (choice no. a), patient 4 violated the maxim of relation not by selecting the unrelated option at all, but by talking seriously and angrily about an irrelevant and incoherent topic which talked about a teacher who practiced witchery and forced others to take medication. It was much far away from the joke and the choices he was required to make.

Task 6: Figurative Language 2 المحاورة: إشرح التعبير التالي مجازياً و ليسَ حرفياً:

حصة الأسد.

مريض 11: غزال.

Interviewer: Explain the following idiom figuratively, not literally:

The lion's share.

Patient 11: A gazelle

Patient 11 and some other patients responded in the same way by saying that the lion's share was a gazelle, which denoted its literal meaning, thereby violating the maxim of quality that reflected their inability to recognize the figurative sense of this utterance.

Research Question 3: Do the demographic variables (gender, education, and age) have a significant influence on the patients' APACS performance and violations?

Examining patients' performance in APACS regarding the demographic variables indicated that while there were no significant gender-related differences among patients, the study found statistically significant differences concerning education and age. However, such significant differences in the tasks performed can be ranked as follows: Figurative Language 2, Narratives, and Figurative Language 1. That included patients who had a secondary education level and those whose ages ranged from 41 to 55 years, which demonstrated that, unlike gender, education and age play vital roles in patients' mental understanding. These results are consistent with the study of Bosia et al. (2015), which revealed that patients' performance is much more affected by education and age rather than by gender.

All in all, the findings indicate that there is a correlation between the results of the APACS test and the violations of the maxims. The same categories made significant differences in APACS performance and violations. The only difference is that males most likely fail to observe Grice's maxims in comparison with females, while in APACS, gender recorded insignificant performance. The findings also reveal that patients suffer from a prominent impaired comprehension in comparison with their production, specifically in comprehending figurative language, the hidden or implied meaning, which even the Narratives task required. Besides, the hardest the task is, the highest the maxims might occur; i.e., patients seem to be unable to follow the maxims or even recognize that they are violated in humor or figurative language. Thus, they do not have the skill nor the mental consciousness that helps them to make a fluent comprehensible speech. Moreover, most patients in most tasks respond according to their understanding and to what they have in their mind, not according to the presented question or the context in which they occur.

Conclusion

Investigating the pragmatic performance of a sample of Iraqi Patients diagnosed with schizophrenia based on the APACS pragmatic tasks revealed their impaired performance in all tasks along with violations of Gricean maxims, albeit to varying degrees. As far as the production and comprehension performance is concerned, the results concluded that the patients' performance in comprehension tasks was significantly worse than that in production and that variables of education and age in contrast to gender positively affected their degree of performance. That is to say, the higher a patient's education level is and being older, the better his/her comprehension performance would be, and the fewer violations might occur, and vice versa.

Finally, despite its limits, the findings of this study have several implications in that they might help linguists, clinicians, and psychologists to work together to improve their understanding of the types of pragmatic abilities and their breakdowns. They can also contribute to the development of rehabilitation strategies and programs in schizophrenia that might enhance patients' communicative performance. Hence, conducting further research on this topic from other perspectives can be recommended.

About the authors:

Dr. Sabah S. Mustafa is a professor of Linguistics and Translation in the Department of English, University of Baghdad, College of Languages in which he has been teaching English since 1987. He has published several articles in the area of Linguistics and Translation. His research interests are contrastive linguistics, syntax, semantics, pragmatics, and discourse analysis. He is currently Editor-in-chief of the Journal of Languages. ORCid: https://orcid.org/0000-0001-6504-3560.

Jinan Jassim Abbass is an M. A. candidate in the Department of English, University of Baghdad, College of Languages. Her areas of interest are semantics, pragmatics, and stylistics. ORCid: https://orcid.org/0000-0002-2567-6184.

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Arabic symbols	English equivalence
1	a
ب	b
ت	t
ٹ	th
٢	i
ζ	h
<u></u> خ	kh
د	d
ć	th
ر	r
j	Z
	S
س ش ص ض	sh
ص	S
ض	dh
	t
ظ	dh
۶	a or o
<u>ــــــــــــــــــــــــــــــــــــ</u>	gh
<u>ع</u> غ ف ق	f
ق	q
ك	k
J	1
م	m
ڹ	n
۵	h
و	W
ي	y

Appendix A. List of Arabic symbols and their equivalences in English.

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Appendix B. APACS test materials

Linguistic communicative difficulties						
Speech coprolalia		Repetition	Incomplete utterances			
Informativeness	Difficulty in answering yes/no questions	Over-informativeness	Under-informativeness			
Information	Information Misuse of cohesive		Wrong order of elements			
flow	ties					

Paralinguistic communicative difficulties	score
Impaired intonation	
Altered speech speed	
Loss of eye-contact	
Fixed facial expression	
Abuse of gesture	

Other communicative difficulties	score
Errors in grammar	
Errors in vocabulary	
Semantic paraphasia	
Phonemic paraphasia	
circumlocutions	

Task 2: Description





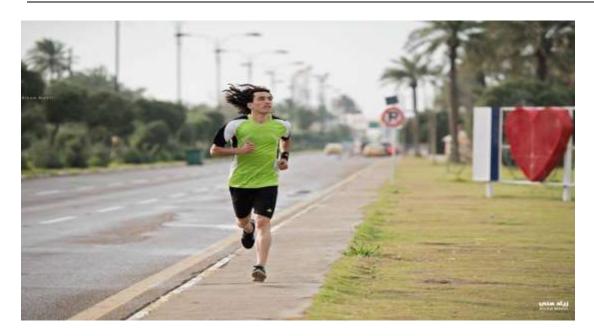
(2)



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(4)



(5)

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(6)



(7)

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(8)



(9)

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(10))
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Picture No.	1	2	3	4	5	6	7	8	9	10
Score										

Task 3: Narratives

1. The Parliamentary Legal Committee confirmed that it is about to pass a law under which each family can get a residential plot of land. It stated that this step differs from the residency initiative lately suggested by Prime Minister Adil Abdul-Mahdi. The Committee also drew attention that this law would see the light before the end of the current legislative term. One of the members of the Legal Committee ... mentioned that "this suggestion would solve many residential and social problems, and it would be valid before the end of this term."

Score

- a. Suggest a title for the story.
- b. Is the law of granting land plots ratified?
- c. Is this law similar to the suggestion of the residency initiative announced by the Prime Minister?
- d. What does the sentence 'the Committee drew attention' mean?
- e. What does the sentence 'the law would see the light' mean?

2. Although the General Directorate of Traffic and the offices concerned made specific procedures such as opening closed streets, and forwarding and delaying the working hours in some offices,

universities, and colleges, it could not reduce traffic jams' intensity caused by random importation of vehicles from the neighboring countries that made Iraq an area of out-of-date vehicles. **Score**

a. Suggest a title for the story.

b. Is the number of vehicles increasing?

c. Did the directorate make procedures to reduce traffic jams' intensity?

d. What does 'reduce traffic jams' intensity' mean?

e. What does 'made Iraq an area of out-of-date vehicles' mean?

3. The curtains were brought down at the successful end of "Al-Nahj" fifth cinematographic festival activities. The activities were rounded off in the hall of Visitors City in Holy Karbala province. Zahra Ridha Zada, an Azerbaijani director, ravished the best narrative film reward for her film 'The Winged Miracle'. . . And Suroor Abdullah, an Iraqi Kurdish director, reaped the first documentary film reward for his work 'Facing the Barbed Wires.'

Score

a. Suggest a title for the story.

b. Was the festival made in Baghdad?

c. Were there non-Iraqi participants?

d. What does 'the curtains were brought down at the end of the festival activities' mean?

e. What does 'the director ravished the best narrative film reward' mean?

4. Hanaa Mohammed, an artist, is preparing for the second part of the "Vacation Days" series. This work gathers her with Mohammed Hussein Abdul-Raheem, an artist, and is hopefully shown on Al-Iraqia channel on next Ramadan along with a short-term role in "The Hotel" series that she will participate in with Sami Qaftan, an artist . . . Hanaa Mohammed has recently been a guest in Babylon province, where Ishtar Women Cultural Club invited her.

Score

a. Suggest a title for the story.

b. Is Hanaa Mohammed an actress?

c. Will the series be shown after Ramadan?

d. What does 'short-term role' mean?

e. What does 'she has been a guest in Babylon province' mean?

5. Baghdad is known for its big clocks with high towers that are parallel to the lighthouses in the Ottoman reign. Al-Qishla is one of the archaeological clocks whose history has to do with the military barrack and the Sarai Government Building. It is still standing and present before our eyes us up to now.

Score

a. Suggest a title for the story.

b. Is Al-Qishla clock located in Baghdad?

c. Is Al-Qishla a new or an old clock?

d. What does 'the history of the clock has to do with the military barrack' mean?

e. What does 'the clock is still standing before our eyes' mean?

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6. The Ministry of Youth and Sports carries out some of the ambitious projects to promote athletic programs in Iraq. One of the most vital projects is establishing athletic schools specialized in different games. Their task is to discover, develop, train, and qualify the talents according to the advanced scientific methods that aim at supplying our clubs and stadiums with stars. The project started with thirteen schools supervised by an elite of the best professors and international sports stars.

Score

- a. Suggest a title for the story.
- b. Is the Ministry of Defense the executer?
- c. Did the project start with thirteen schools?
- d. What does ' to promote the athletic programs' mean?
- e. What does 'an elite of the best professors' mean?

Task 4: Figurative Language 1

Idiomatic expressions

- 1. He told me the story from A to Z.
 - a. From the beginning of the story to its end.
 - b. The alphabet letters.
 - c. Reading is joyful.

2. Son of Adam.

- a. A good and respectable person.
- b. Son of Prophet Adam (PBUH).
 - c. Son of another city.

3. A war of nerves.

- a. There are anxiety and nervousness.
- b. War of nerves is one of the types of wars.
- c. Nerves are of different kinds.

4. His hand is long.

- a. He is a thief.
- b. His hand is very long.
- c. He has hands and feet.

5. He plays with fire.

- a. He risks with something.
- b. He considers fire as a game.
- c. Winter is cold.

Metaphors

1. Faith may budge a mountain.

- a. Faith removes worries and troubles.
- b. Faith can move mountains from their places.
- c. Faith is human innateness.

2. Fortune's wheel never stops.

- a. Fortune's wheel refers to life positivity that shows up from time to time.
- b. Fortune's wheel goes nonstop.
- c. Fortune's wheel is massive.

3. A good tongue is a good weapon.

- a. Man can defend himself by his excellent speech.
- b. Man can kill people with his tongue.
- c. Man likes using weapons.

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4. Hatred is blind, as well as love.
a. We see only negatives when we hate, and positives when we love.
b. Hatred and love are blind.
c. Hatred and love are not alike.
5. Heaven helps those who help themselves.
 a. God helps the hard worker, not the lazy.
b. Heaven is just like humans; it can help others.
c. Heaven is blue.
Proverbs
1. An accidental meeting may be better than a fixed date.
a. A pleasant, unexpected, and unplanned surprise.
b. Meeting by coincidence may be better than an intended meeting.
c. Let us meet after a thousand dates.
2. All roads lead to Rome.
 a. All the means, whether easy or difficult, lead to one result.
b. Any open road will lead you to Rome.
c. Let's go to Rome.
3. All work and no play makes Jack a dull boy.
a. Do not work all the time, have a rest for a while so that you don't get bored.
b. Set the time, an hour for work, and another for play.
c. You should always wear a watch.
 4. A bird in the hand is worth two in the bush.
a. Seize the available chance, and do not wait for an opportunity that may not come.
b. The bird that you are holding now is better than the birds that are not in your
hands.
c. The bird in your hand is white.
5. Haste brings regret; patience brings safety.
a. Be patient, and do not haste in anything so that you don't regret it.
b. Don't drive fast.
c. This machine works slowly.
Task 5: Humor
1. A doctor made a terrible mistake and left a sponge inside the patient after
surgery. There were no side effects, except the patient was always:
a. Thirsty.
b. Queasy.
c. Sleepy.
2. Teacher: 'If you had 17 dollars and you asked your father for two more, how
many dollars would you have?'
Student: 'Seventeen.'
Teacher: 'You don't know arithmetic very well.'
Student:
a. 'You don't know my father!'
b. 'On the contrary, I'm good at Mathematics.'
c. 'I'm tired.'
 3. A mother takes her seven-year-old son to the doctor. The boy says, 'It hurts when I press here (pressing his lide) and here (pressing his left) and here (pres
side), and here (his other side), and here (pressing his leg), and here, here and here (pressing his other leg and
arms)'. The doctor examined him and finally discovered that he had a broken:
a. Finger.
b. Body.
c. Hair.
 4. Timmy: 'Teacher, would you punish me for something I didn't do?'
Teacher: 'Of course not.'
Timmy: 'Good, because:

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- a. I didn't do my homework.'
- b. I am lazy.'
- c. I forgot to have my breakfast.'
- 5. Teacher: 'Didn't you promise to behave well?'
- Student: 'Yes, ma'am.'

Teacher: 'And didn't I promise to punish you if you didn't?'

Student:

- a. 'Yes ma'am. But since I didn't keep my promise, I don't expect you to keep yours.'
- b. 'Forgive me, from now on; I will behave well.'
- c. 'I'm eight years old.'
- 6. Two women are talking. 'Do you ever wake up grouchy?'
 - a. 'No, I usually let him sleep.'
 - b. 'No, I always wake up happy.'
 - c. 'No, I will travel tomorrow.'

7. Did you hear that NASA has established a new restaurant on the moon?

- It has excellent food and low prices, but no:
- a. Atmosphere.
- b. Gravity.
- c. Mirror.

Task 6: Figurative Language 2

No.	Idiomatic expressions	Score
1	Take into account	
2	For each period is a book revealed	
3	His hand is clean	
4	Crocodile tears	
5	The Lion's share	

No.	Metaphors	Score
1	A good book is a great friend	
2	Fear gives wings	
3	Angels have pens	
4	A guest is the captive of the host	
5	Hide not your light under a bushel	

No.	Proverbs	Score
1	As you sow, so shall you reap	
2	Do not judge a book by its cover	
3	Patience is a key to relief	
4	Like father, like son	
5	Defer not till tomorrow what may be done	
	today	