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Visual Attention among Students of the Iraqi Police College, Course 68

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ABSTRACT

The study aimed to identify the level of visual attention of the students of the Iraqi Police College for the course (68), whose number is (376), and the researcher followed the descriptive approach (scouting). The researcher withdrew from the total community (100) students by the random stratified method, the researcher adopted the (Al-Mayahi 2016) test. In (2016) To measure visual attention and after verifying the validity and reliability of the tool, the researcher applied the tool to the sample drawn from the community, and the researcher used the necessary statistical methods to analyze the data, such as the T-test for one sample, and the results of the research reached a decrease in the level of visual attention among students of the Iraqi Police College, session (68), as The results of the test indicated that there was a real difference between the sample mean and the hypothetical average of the community, and the difference was in favor of the hypothetical average of the community, and the researcher made some recommendations and suggestions that help to increase the level of visual attention of students.

Research Problem

Workers in the security field face various challenges throughout their security work period and challenges escalate according to the reality of the event and its danger to the security of society, which requires dealing very seriously with a lot of visual data with the utmost accuracy and attention and analyzing them with the utmost speed in order to conduct an appropriate response that avoids the community from the consequences of that criminal or terrorist event. And the main study problem emerges through the need that arises among the security field workers for visual attention as a

complementary necessity of the training necessities in the Police College as the ultimate need has become to prepare a generation that possesses all the mental processes to face what they are exposed to from pressures to keep up with the current scientific, technological and civilized developments, as the researcher sees the need to find other controls and standards that have a direct link to student achievement, including training in order to develop selective visual attention and know how to increase the ability of visual attention of students in the intermediate stage in the Police College and the role of organized training in that. A follower of the security situation in recent years notes that the country has been exposed to many terrorist operations that target its people in public and private areas, despite the spread of the internal security forces in the targeted areas to a large extent, where a magazine was published by "Statista" on its official website, the number of terrorist operations that Iraq has been subjected to since (2006 to 2019), as a total of 39,267 thousand terrorist operations (www.statista.com), and based on the above, the researcher identifies his problem with the following question: What is the level of visual attention of students of the Police College Iraqi? Does the training contribute to the development of their visual attention skills?

Research Importance

The longer the attention, the better the training because attention is one of the most important concepts in the psychological heritage, and the writings of William James (1890) have gained great interest in the topic of attention, and with the growing interest in cognitive psychology, its fields and its processes, the topic of attention has become of great importance in the cognitive handling of cognitive mental activity and all its processes, and with the emergence of models of information processing and rapid development Succession for computers, The importance of attention, its types, stages, models, factors that affect it, and its role in processing and processing information have been confirmed (Al-Zayat, 1995: 221). Attention is considered one of the main and important mental processes in an individual's connection with his surroundings, It also represents one of the most important mental processes that the individual performs by directing his mental focus towards the behavioral situation as a whole, or directing the individual's feeling towards some parts of the situation, the perceptual field, in what is distinguished by that position from his grandfather and modernity or previously dealt with him with a specific experience (Al-Sharqawi, 1992: 109).

Attention is the focus of the state of consciousness towards a specific stimulus, which is a positive selection process for one or more stimuli from among the internal and external stimuli, which crowd over the entrances of a person's perception. The person transmits a feeling to his body as a third stimulus, and his clothes are a fourth stimulus, and the people around him are other stimuli. More than exciting at one time, such as a driver driving a car and talking to a person sitting next to it, is aware of its update at the same moment, in which the car is driven in an automatic manner, and a person cannot pay attention to two stimuli who need a high degree. Focusing at one time, as if trying to focus on solving two mathematical puzzles at the same time (Abdul Hadi, 2010: 96).

It has been noticed lately that there has been an increase in interest in the attention process for specialists in the security side, especially the cadres working in police colleges and security facilities, by strengthening training in the aspect of developing visual attention for students or workers in the security side and the need to strengthen

them with the latest sciences related to concentration and visual perception and developing visual attention capabilities through lessons and training. The visual and continuous courses in this field of training, where the application of these exercises is a catalyst and an important factor in sparing society from the scourge of crime or terrorism, in many tasks, and when the individual becomes accustomed to a stimulus, he gradually notices it, He pays less attention to him and completes habituation, which indicates that a change in a familiar stimulus sometimes even very slight urges the individual to start noticing the stimulus again, and both processes occur automatically without any emotional effort and both processes govern the relative stability of the stimulus and the relative familiarity with it, (charity, 2012: 55).

Research aims

The current research aims to identify the level of visual attention among students of the Iraqi Police College, Course No. (68).

Limits of the study:

1. Human boundaries: The current research is determined by the 68th session of the Police College.

2. Spatial boundaries: Iraqi Police College.

3. Temporal boundaries: Students of the Police College for the academic year 2020-2021.

Theoretical framework and previous studies

a. Concept of visual attention:

Visual attention refers to a group of cognitive processes that mediate the selection of relevant information and filter out irrelevant information from a crowded visual scene. (Posner, 1980: 160). Based on this, many concepts of visual attention have been mentioned, some are similar and some are different, but they flow in one direction, which is perception, with or without mediation, I list them in the following:

1. (Kanwisher, 1987) : A set of mechanisms that limit each other and come to treat a subset of the incoming stimuli. As for the attention mechanisms, they shape what we see and allow the simultaneous selection of some information (preferably related) and prevent other information. This choice allows to reduce informational complexity, so the choice can be determined. Through the degree of importance "from bottom to top" of the information and from "top to bottom" for the status and objectives of the recipient, and intentional effects can take the form of modifying or improving the specific information.(Kanwisher, 1987: 117)

2. (Farah, 1994): A process that addresses the problem of impaired focus by directing a small portion of the information that reaches the primary visual cortex to high-level centers involved in visual working memory and pattern recognition. It is generally believed that the purpose of this global mechanism is to prevent sensory overload and enhance effective performance in the face of an enormous amount of Stimulus (Farah, 1994; 123).

3. (Treue, Katzner, 2009): Cognitive processes that allow us to deal efficiently with this ability problem by selecting relevant information and filtering irrelevant information. Attention is a very flexible mechanism that can operate in regions of space, certain features of an object, or on entire objects. Attention can also be directed either overtly or surreptitiously, for example, if a barking dog approaches you, you will not only

direct your attention to it, but you will also look at it directly, spreading open attention.(Treue, Katzner, 2009: 243).

a. Visual attention components:

1. Research: It is the process of visually identifying the stimulus and it is of two types, external in origin and in an involuntary form, such as attention to a sudden noise, sudden sound or sudden light, and the second type is endogenous, and it is a voluntary scheme for a stimulus with specific characteristics and has two types (serial, parallel).
2. Filtering: It is the process of choosing the stimulus or stimulus from among other stimuli and working to ignore them, thus highlighting the individual's ability to continue paying attention, i.e. selective attention..
3. Readiness to respond (preparation): is the process of anticipating the emergence of the stimulus and diverting attention to it. It is a process of preparing to respond to the stimulus according to previous information about its location (Abdel Azim, Hamed, 2016: 25).

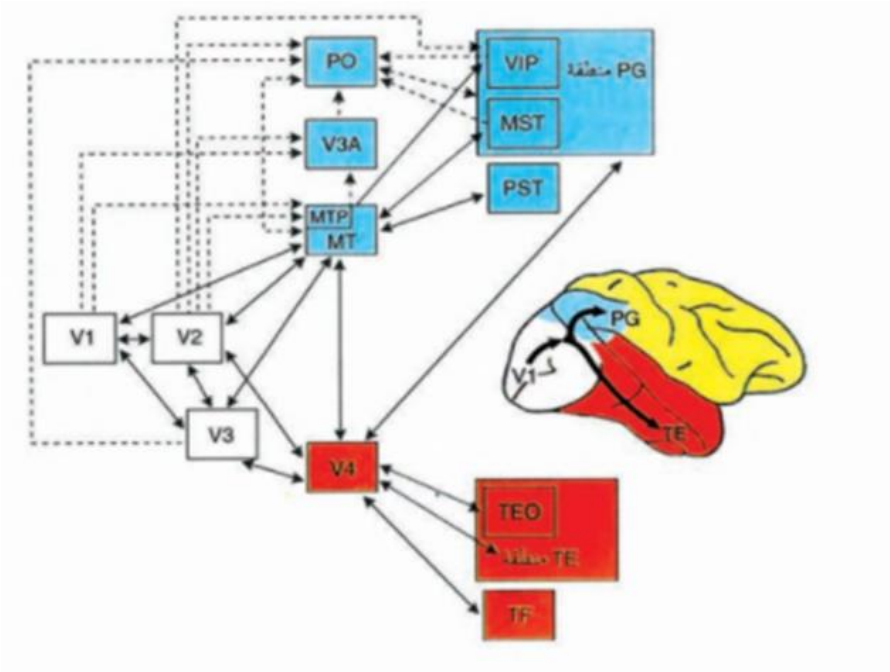
a. Neurological foundations for visual attention

Visual attention is the mechanism that the nervous system uses to highlight specific sites, objects, or features within the visual field. This can be achieved by increasing the processing of visual information in neurons that represent more peripheral areas than the visual field. In general, we consider focusing our attention on Objects or features in terms of making rapid eye movement to draw our attention to the center of the excitement, however, our visual system can also process information from selected peripheral areas of the retina. When this is done consciously, it is often described as "looking from the angle of your eye", since The eyes do not move, this is indicated by hidden attention (Posner, 1980: 134).

Perhaps the best summarization of attention is a preference for certain representations at the expense of others, and this priority takes many forms throughout the nervous system, from internal control signals within the brain to active sensing by directing groups of focused receptors, such as fingertips and fovea, towards stimuli of greater intensity. Relevancy, in terms of visual attention, a distinction is often made between voluntary attention, as the visual system reacts quickly to the beginnings of a stimulus in order to be presented before the stimulus presentation changes or the action moves. Where advanced theories of such attentional effects describe how attention can be distinguished in a series of processes including a generalized stimulus function, target location, attraction with stimulus, and disengagement, and finally later theories developed these mechanisms by suggesting that attention includes a mixture By optimizing the target and suppressing distractions. (Desimone, 1995: 193).

An additional complexity arises when we consider that the attention system cannot implement a clear and unequivocal distinction between targets and distractions. No matter how strongly a person is involved in a task, there should always be the potential for unrelated information to the task to generate attention so that the system remains responsive to unexpected dangers.. (Brown, Denney, 2007: 69)

To clarify the areas and nerve pathways responsible for cognitive processes, including attention, Figure (1).



the shape (1) Optical neural pathways

Source: Larry. R. Squire, Eric. R. Kandel, memory from the mind to the particles Memory: From Molecules Mind to, Arabization: Samer Arar, Edition 1, Obeikan Library, Kingdom of Saudi Arabia, 2002, p.174.

V1: The path for processing visual shapes.

V4: Path of processing the type of visual shapes

MT: path for analyzing the optical shape areas.

PG: The parietal cortex region is concerned with the locations of objects that have fallen into view, is concerned with the location of objects in space, the decomposition of color and the direction of movement.

TE: the temporal cortex region is concerned with the analysis of the visual morphology and its type. (Squire, Candle, 2002: 174-177)

a. Visual attention models:

There are a number of models of visual attention that have been suggested, as follows:

1. Code theory for visual attention (space-body dependent integration of attention):

There is now much empirical evidence supporting the idea that visual attention can be propagated in at least two ways: one depends on space and the other depends on the object. Early researchers initially assumed that space considerations were the driving force behind visual attention. Their eyes need to include the "thing" that the attention chooses, this object-based focus has been expanded from a question Principal Kahneman & Henik: "If attention chooses a stimulus, what stimulus does it choose?" And their perception that attention may also be driven by things. (Henik, 1981: 181)

2. Feature integration theory:

It is a theory of Attention that was developed in 1980 by Anne Treisman and Garry Gelade who suggest that when a stimulus is perceived, "features are recorded early, automatically, and in parallel, while objects are identified separately" and at a later stage of processing. The theory was one of the psychological models most influencing human visual attention, for example when recognizing letters during reading, not only are their shapes captured, but other features such as their colors and surrounding

elements are also chosen. Individual characters are processed sequentially when spatially tied to another letter, the locations of each characteristic of the character are not known in advance, even when the letter is in front of the reader. Because the location of the character's features or the character's location is unknown, trait intersections can occur if the focus is not given attention. This is known as a side mask, which in this case indicates how difficult it is to separate the letter from the background. (Treisman, Gelade, 1980: 97-101)

And according to Treisman, the first stage of feature integration theory during which different parts of the brain automatically collect information about the basic features (colors, shape, and movement) present in the visual field, and the second stage is the focused attention stage, in which the subject combines the individual features of the object to perceive the whole object, requires Combine the individual features of an object being drawn. (Treisman, 1980: 107)

3. Directed Research Theory:

As a reaction to the feature integration theory, Wolff (1994) proposed the directed search paradigm 2.0. According to this model, attention is directed to an object or site through a prior process. Pre-attention, Wolff explains, directs attention in an upward and top-down fashion. The information obtained through processing is classified from bottom to top and top to bottom according to priority, Priority order guides visual searches and makes searching more efficient (Wolff, 1994: 202).

The second main function of deductive processes is to direct focus attention to the most "promising" information in the visual field. There are two types of visual guidance:

a.External orientation is the involuntary and automatic movement that occurs to direct one's visual attention towards a sudden disturbance in the peripheral field of vision, and thus the attention is directed externally by a stimulus, resulting in a reflexive goal(Jefferson, other, 2015: 22).

b.Internal orientation is the voluntary movement that occurs in order to focus visual attention on a goal-driven stimulus, and thus, focus perceptive attention can be manipulated by task requirements (Berger, other, 2005, 134).

a .Determinants of visual attention:

1. Signs and unit focus: It has been found that the type of signals - external (peripheral) or internal (central) - affect the role of attention differently, so the more intense the internal or external stimuli, the more adequate attention, and vice versa (Chen, 2012: 74).
2. The quality of the representation (stimulus): that the perception and the representation of the object must be sufficiently specific and there are some factors that may affect the quality of such representation are: The duration of the stimulus, as the longer periods are generally more reliable; The more "complete" the better. For example, consistency in coloring and lighting throughout the stimulus evokes attention (Vecera, 1997: 14).
3. Perceptual awareness, as it has a modifying effect on object-dependent attention, because as perceptual awareness decreases, attention is on all the apparent stimuli (Atchley, 2009: 35).

And from previous studies that dealt with visual attention :

1. a study Arthur et .al (1995) titled “Visual Attention: Individual Differences in Training and Expectation of Performance in Complex Tasks” Identifying individual differences in visual attention as a result of different exercises that start from simple to complex, as well as noting those differences between individuals according to the task

that is given to the trainee if it is simple or complicated. The study sample consisted of 120 female students, 12 of whom were female students from the university who volunteered to participate in return for a certain wage, with an average age of 21 years. The exercises affected visual attention in a statistically significant manner. Also, the exercises did not show a difference in performance on simple or complex tasks when the sample was studied.

2. Hiti study (1999) Entitled "Training to expand the range of visual attention of security workers". The study aimed to (provide an idea about training workers in the security field (especially protecting facilities and people) to expand their visual attention) and the research sample consisted of more than 100 trainees. Conducting memory tests and excluding some individuals who indicate their unwillingness. Preparation for the course included presenting lectures. As for the practical side, it included exercises to stimulate perception and attention and display slides (slices) on the textoscope for a period of one minute, and the study concluded that any security task should be preceded by preparation and training based on scientific foundations And if there are many areas that should be trained on, then visual attention and expansion of its range are in the foreground if the decisive variable is not and despite the participation of many human senses and the influence of a great deal of external and internal variables in the process of attention. The most important and possible Control the range of visual attention by training.

3. a study Fockert et .al (2001) Titled “Role memory the worker at attention the eclectic Al-Basri (a study Experimental)” I aimed to say That memory Working is Necessary to reduce distraction about way preservation on priority the information which is as the same as the link at experiments of photography of nervous and mental experiments with humans. Go run the participants selective attention task which requires those who they discard dispersed faces to attention during retention at memory working with a chain from numbers which she was at The same Arrangement (Pregnancy low memory) or in different order (Pregnancy high memory) at All Experiment. Led Pregnancy Higher For memory , Associated By increasing Activity frontal lobe. To me, Effects overlap Larger On the performance Behavioral From dispersed faces. In addition, a plus Activity Associated Face at Dandruff Visual , And reached a sample studying (10) Individuals , Emphasizes consequences studying that over there Role Major For memory Working at control at selective visual attention And the behavioral studies And nervous health Supports that premise Which Put it down, this is the study.

Research methodology and procedures

1. Research Methodology

The researcher relied on the descriptive approach (scouting) to achieve the research objectives This approach is a broad and flexible umbrella, as the descriptive approach is based on identifying the apparent characteristics and describing their nature and the quality of the relationship between their variables, their causes and trends, and so on from aspects revolving around exploring the mysteries of a particular problem or phenomenon and identifying its reality on the ground. .This approach describes phenomena in an objective description through the data obtained by using scientific research tools and techniques (Al-Dulaimi and Saleh, 2014: 148).

2. Research Community

The current research community included the students of the Iraqi Police College, session (68), intermediate level, and their number (376) distributed into three brigades

(122 - 129 - 125) students, respectively, and the company included (4) factions, the number of each faction ranged from (30) students. To (34) students, and as shown in Table (1):

Table (1) The research community is distributed according to secrecy and faction

The multitudes	Faction				The Saraya
	the fourth	the third	The second	the first	
122	31	31	30	30	First
129	34	32	30	33	the second
125	32	31	31	31	The third
376	97	94	91	94	Total

3. The Research Sample

The current research sample consisted of (100) students who were withdrawn by the equal stratified method from the research community by (25) students from each faction, as the first company (35), the second company (32) and the third (33) were withdrawn, as shown. With Table (2)

Table (2) The Research Sample

The multitudes	Faction				The Saraya
	the fourth	the third	The second	the first	
35	10	8	10	7	First
32	7	10	7	8	the second
33	8	7	8	10	The third
100	25	25	25	25	Total

4. Study tool (visual attention test)

❖ Description of the test

The test consisted of 14 items that measure visual attention prepared by (Al-Mayahi, 2016), which is represented by a group of videos that are presented to the subject, and the subject is asked to answer questions about the extent of his focus on the stimuli that were presented, and the researcher is given a score of (1) if the subject's answer is correct and given (Zero) If the subject's answer is incorrect, then the highest score attained by the subject is (14) and the lowest score may be obtained by the subject is (0) with a theoretical average (7) (Al-Mayahi, 2016: 54). The researcher extracted the psychometric properties of the test as follows:

Psychometric properties of the visual attention test

❖ Apparent validity of the test:

I mean, the apparent validity of the test is the extent of the suitability of the paragraph in measuring what it was set to measure through the opinion of specialists in the paragraphs (Al-Zobaie and others, 1988: 35), and the researcher presented the test to a group of experts for arbitrators and specialists in the field of Training,

Administration And psychology, their number reached (20) To verify the validity of the test to measure visual attention, and the researcher approved the Ca2 test for good conformity to identify the validity of the paragraph or not, and the test results showed the significance of all the test items, as the critical value of the test reached (3.84) at a level of significance (0.05) and a degree of freedom (1) It is smaller than the calculated values of the validity of the paragraphs, which kept the researcher on all test items, and as shown in the table (3): Table (3)

The results of the Ca+2 test are indicative of the judges 'opinions about the visual attention test items

Significance level at (0.05)	Ca value 2		The percentage of agreement	Arbitrators		Training unit
	Tabular	Calculated		the number	The opinion	
Function	3.84	16.2	0.95	19	Valid	2−3−4−5−6−7−8−10−11−12−14
				1	Invalid	
Function		12.8	0.90	18	Valid	9−13
				2	Invalid	

❖ Validate internal consistency of the test

Checking the internal consistency of the test leads to obtaining an estimate of the formative validity of the test and its results respond to the extent of consistency of all test items on a quantitative empirical measurement of what was put for it, it is a quantitative analysis of the results of applying the test to a representative sample of the community to give quantitative estimates on the extent of its consistency in measuring the studied characteristic (Faraj, 1997: 270). And to verify the validity of the test using an internal consistency method, the researcher applied the test to the original community, which was (376) (see table -1-) And the researcher used to verify the validity of the internal consistency of the visual attention test, the method of correlation between the paragraph and the total score of the test, using the Point-biserial correlation coefficient, and the correlations showed the existence of a true direct relationship between the paragraph and the total score of the test, as the critical value of the correlation coefficient reached (0.138) At a level of significance (0.05) and a degree of freedom (374), which kept the researcher on all test items, and as shown in the table (4):

Table (4) Values of the correlation coefficient of the Point-biserial dot scale to indicate the correlation of test items with the true degree

Correlation coefficient	Paragraph	Correlation coefficient	Paragraph
0.53	8	0.47	1
0.55	9	0.33	2
0.38	10	0.51	3
0.57	11	0.49	4
0.42	12	0.58	5
0.64	13	0.41	6
0.50	14	0.60	7

❖ Stability test

The concept of reliability refers to the percentage of true variance in scores extracted from a test (Gulford, 1954: 451) and stability, then, is the ratio of the variance of the score on the test that indicates the actual performance of the subject (Farag, 1997: 283).

The researcher extracted the test reliability by two methods of testing - retesting and the method of analysis of variance with the Keoder - Richardson equation 21. The researcher reapplied the test to them after (3) weeks from the first application, and extracted the value of the correlation between their scores in the first and second application, and it reached (0.74). The researcher also used the Kuoder-Richardson equation 21, and stability in this equation reached (0.78), which are two acceptable values of stability as shown in the table (5).

Table (5) The reliability of the two test methods - retest and the Koder - Richardson equation 21

Persistence		the test
Koder − Richardson 21	Test − retest	
0.78	0.74	Visual attention

The ultimate application of the final visual attention test

Counting researcher initial application for testing on the research was collected as a pre-test, after each student had been coded with a specific number, so that they could be drawn in the sample while preserving their score in the pre-test, and then the test was reapplied to the sample shared in the program after completing the program.

5. Statistical means

The researcher used the statistical package program SPSS in all digital applications for the current search and use them:

1. Percentages: to identify the arbitrators' agreement on the validity of the training modules, as well as the test items for the arbitrators.
2. Biserial-point correlation coefficient: To identify the internal consistency of a visual

attention test.
3. Pearson Correlation Coefficient: To identify the stability of the visual attention test by (test - retest).
4. The Koder-Richardson equation 21: To check the stability of the visual attention test.
5. T-test for one sample one sample t.test: to check the level of visual attention of the research sample.

Research results

To achieve the aim of the current research, the researcher used the T-test for one sample one sample t.test as the arithmetic mean (4.61) with a standard deviation of (2.21) with a hypothetical mean of the community (7). The calculated T value was (12.62), which is greater than the tabular T value of (2.00) at the level of significance (0.05) and the degree of freedom (99), which means that there is a significant and real decrease in the ability of the students of the Police College Course (68) to visual attention, and as shown in the table. (6)

Table (6) T-test results for a single sample

Significance level at (0.05)	Values t		Theoretical average	standard deviation	SMA	the number	variable
	Tabular	Calculated					
Function	1.96	7.664	7	4.21	5.34	376	Visual attention

This drop in the level of attention is due to what Mateer (1987, 1989) mentioned that the sub-processes associated with attention are what give the impulse to focus in individuals, and without them attention is a marginal thing in mental processes (Abdel-Azim, Hamed 2016: 22). Also, visual attention is a matter that requires alertness and a degree of mental activity that individuals may not provide. When practicing an activity in which attention is believed to be self-evident, as Al-Khairy (2012) affirms that one of the determinants of visual attention is a failure that is not more evident in the speed with which information can be processed in a temporary sequence, and here comes the role of attention blink, meaning the period or The short period during which the information coming through the eye is not recorded, and the flashing phenomenon of letters or images that are exposed to the subject does not occur quickly, since this period of blinking, in addition to losing part of the image, has occurred, interrupting the attention-contact process of the stimuli shown When the stimulus is presented to the subject at a certain speed, attention to the first stimulus prevents in one way or another the attention to the second stimulus, showing a failure in attentive preservation of the presented stimuli, and thus the degree of attention is affected by that flash (Al-Khayri, 2012: 66). Those who are subjected to a specific stimulus without awareness of the other, which is at the same time a requirement for my attention as well (Zhaoping, 2019: 58).

The researcher notes the decrease in focus in general, and the neurological intensity required in the attention process is not properly trained, allowing the individual to use it properly in the attention process, as well as the absence of training activities for students of the Police College from exercises that target the process of

visual attention, and the lack of emphasis in the curriculum on The role of attention in the security process, and therefore it is naturally noticed that this ability is Significantly low and true.

Recommendations

1. urge Those in charge of the curricula at the Police College with scientific interest on the subject of visual attention and its inclusion as a field of knowledge that is necessary for its development.
2. Training of security personnel in the field of attention through the training program prepared by the researcher.
3. Allocating specialized workshops and courses in the field of mental capabilities for workers in the security field, clarifying the role of those operations for the security man and how to employ them in the security work.
4. Recruitment of specialists in the field of mental training in colleges and institutes concerned with the security or military aspect, who practice training related to the development of mental capabilities.
5. urge Security colleges and institutes for more research and development in the topics of mental operations in general and attention in particular.

The proposals

Through the scientific and research experience that has grown with the researcher in the academic field in general and the current research in particular, the researcher submits several proposals for future research and studies concerned with attention and his cognitive relations with other processes, including the following:

1. Conducting a study that includes the relationship of visual attention to other mental processes such as (remembering - perceptual speed - executive processes)
2. Conducting a similar study that includes training for types of attention such as auditory or spatial attention.
3. Conducting a study that deals with research into the causes that lead to failure or weakness of attention.
4. Conducting a study dealing with the relationship of visual attention and personality factors for the Iraqi security man.
5. Conducting a study on the impact of security concerns on the visual attention of the Iraqi security forces.

References

1. Al-Khairy, Aruh Muhammad (2012) Cognitive Psychology, 1st Edition, Afkar House for Studies - Damascus.
2. Al-Dulaimi ,Essam Hassan Saleh Abdul Raheem Ali (2014) search Scientific Found it And its approaches,I1,Dar: house Radwan To publish And distribution ,Oman .
3. Al-Zobaie and others (1988) Psychological Tests and Measures, University of Mosul.
4. Al-Zayat, Fathi Mustafa (1995), the cognitive foundations of mental formation and information processing, i-1, Dar Al-Wafa.
5. Al-Sakarneh, Bilal Khalaf (2011) Designing Training Programs, Dar Al-Masarah for Publishing and Distribution - Jordan.
6. El-Sherbiny, Zakaria Ahmed (2007), Statistics and Experimental Design in Psychological, Educational and Social Research, Anglo-Egyptian Library.
7. Al-Sharqawi, Anwar Muhammad (1992) Contemporary Cognitive Psychology,

1st Edition, The Anglo Library.
8. Abdel Hafeez, Ikhlas Muhammad and Bahi (2000), Methods of Scientific Research and Statistical Analysis in the Educational, Psychological and Mathematical Fields, Al-Kitab Center for Publishing, Cairo.
9. Abdul Hadi, Fakhri (2010) Cognitive Psychology 1st Edition, Osama House for Publishing and Distribution - Amman.
10. Abdul Wahid, and Raqqa Abdul Jalil (2005) Selective Attention and Its Relationship to Working Memory in Children, Unpublished PhD Thesis, College of Arts, Al-Mustansiriya University
11. Fadel, Bakr Hussain (2020) Experimental Psychology Experiments in the Behavioral Sciences Between Theory and Practice, Amjad Publishing and Distribution House, Jordan.
12. Farag, Safwat (1997) Psychometrics, The Anglo-Egyptian Library - Cairo.
13. Al-Kubaisi, Waheeb Majeed (2010), Applied Statistics in the Social Sciences, Misr Mortada Foundation - Lebanon.
14. Larry. R. Squire, Eric. R. Kandel, memory from the mind to the particlesMemory: From Molecules Mind to, Arabization: Samer Arar, Edition 1, Obeikan Library, Kingdom of Saudi Arabia, 2002, p.174.
15. Muhammad, Hind Muhammad (2012) The effect of training on working memory tasks in reducing attention deficit disorder among primary school students, published research, Journal of the College of Education in Suez, Volume (5), Issue 2.
16. Mahmoud Abdel-Halim Mansi, Afaf Mohamed Abdel-Moneim (2007) Psychology and Mental Abilities, House of Knowledge University - Egypt.
17. Monia, Honorable (2010) The Impact of Perceptual Burden on Selective Visual Attention, Master Thesis, Faculty of Human Sciences, University of Brothers Mentouri - Algeria.
18. Al-Najjar, Fayez Jumaa, Nabil Jumaa Al-Zoubi, Majed Radi (2009), Research Methods in Educational and Psychological Sciences, 1st Edition, Dar Al-Hamid, Amman.
19. Hiti , behind Nassar , Training On expansion Bezel Attention Visual For employees at the field Security ,the magazine Arabic For studies the wish And training ,University Nayef For science the wish ,the number 21 May , 1999
20. Guilford, JP (1954) Personality, New York, Mcgraw - hill.
21. Abatte.fk, Teaching for better learning, A guide for Teachers of Primary, 2nd ed, world health organization.
22. Algom, D; Eidels, A; Hawkins, RXD; Jefferson, B; Townsend, JT, “Features of response times: Identification of cognitive mechanisms through mathematical modeling.” In Busemeyer, 2015.
23. Anne Treisman and Janet Souther, "Illusory words: The roles of attention and of top – down constraints in conjoining letters to form words." Journal of Experimental Psychology: Human Perception and Performance, Vol 12 (1), 1986.
24. Brown, J. M; Denney, HI, “Shifting attention into and out of objects: Evaluating the processes underlying the object advantage”, 2007. (PDF).
25. Chen, Z. "Object-based attention: A tutorial review", 2012.
26. Colombo, J "The development of visual attention in infancy." Annual Review of Psychology, 2001.

27. Deutsch, JA; Deutsch, D, "Attention: Some theoretical considerations." Psychological Review. 70,1963.
28. Fan, Jan; et al. , "Testing the Efficiency and Interdependence of Attenional Networks." Journal of Cognitive Neuroscience. 14 (3), 2002.
29. Globerson, T, "Mental capacity, mental effort, and cognitive style." Developmental Review. (3), 1983.
30. Hecht, LN; Vecera, S. P "Attentional selection of complex objects: Joint effects of surface uniformity and part structure" 1997.
31. Kanwisher NG: Repetition blindness: type recognition without token individuation. Cognition.; 27 (2), 1987.
32. Norman, DA, "Towards a theory of memory and attention." Psychological Review. 75 (6). 1968.
33. Posner, MI, & Petersen, S., EThe attention system of the human brain. Annual Review of Neuroscience, 13. (1990).
34. Yantis, S .; Johnston, JC, "On the locus of visual selection: evidence from focused attention tasks." Journal of Experimental Psychology: Human Perception and Performance, 1990.
35. Thomas M. Van Vleet, 2013 & Joseph M. De Gutis Cross-training in hemispatial neglect: Auditory sustained attention training ameliorates visual attention deficits.
36. FOCKERT, JW, REES, G., FRITH, CD, & LAVIE, N. The role of working memory in visual selective attention. Science, 2001.
37. Posner MI, Snyder CR, Davidson BJ: Attention and the detection of signals. Journal of experimental psychology.; (2), 1980
38. Farah. R, T, contrôle de gestion: manuel et application, Paris Ed. Dunod, 1994.
39. S. Treue, S. Katzner, in Encyclopedia of Neuroscience, 2009
40. Arthur, W., Strong, MH, Jordan, JA, Williamson, JE, Shebilske, WL, & Regian, JW Visual Attention: Individual differences in training and predicting complex task performance. Acta Psychologica, 1995.