T.R.N.C
NEAR EAST UNIVERSITY
INSTITUTE OF HEALTH SCIENCES

THE SENSORY KINETIC PERCEPTION AND ITS RELATION WITH THE ACCURACY OF SOME OFFENSIVE AND DEFENSIVE SKILLS IN PLAYERS BETWEEN (12-16) YEARS OLD TABLE-TENNIS DUHOK SPORT CLUB

MATEEN ALI HUSEEIN

PHYSICAL EDUCATION AND SPORTS
MASTER THESIS

NICOSIA
2017

T.R.N.C
NEAR EAST UNIVERSITY
INSTITUTE OF HEALTH SCIENCES

THE SENSORY KINETIC PERCEPTION AND ITS RELATION WITH THE ACCURACY OF SOME OFFENSIVE AND DEFENSIVE SKILLS IN PLAYERS BETWEEN (12-16) YEARS OLD TABLE-TENNIS DUHOK SPORT CLUB

MATEEN ALI HUSEEIN

PHYSICAL EDUCATION AND SPORTS
MASTER THESIS

SUPERVISOR
ASSIST.DR. TOGAY ULUOZ

NICOSIA
2017

The Directorate of the institute of health sciences

This study has been accepted by the jury of Physical Education and Sports teaching program as Master Thesis.

Thesis committee:

(Signature)

Chair of committee: PROF. DR. CANER AÇIKADA

Near East University

(Signature)

Member: ASSOC. PROF. DR. CEVDET TINAZCI

Near East University

(Signature)

Supervisor: ASSIST. D.R. TOGAY UIUOZ

Near East University

Approval:

According to the relevant articles of the Near East University postgraduate study - education and Examination Regulations, this thesis has been approved and accepted by the above mentioned members of the jury and the decision of Institute Board of Directors.

(Signature)

PROF. DR. HÜSNÜ CAN BAŞER

Director of the Institute of Health Sciences

GIFTING

DEDICATED TO MY FAMILY

ACKNOWLEDGEMENTS

I would first like to express my deepest and great appreciations to Almighty, Most Gracious Allah for giving me the ability and patience to complete this work.

My sincere appreciation goes to my thesis advisor Assist. Dr. Togay uiuoz and Prof. Dr. Caner Acikada and Prof. Dr. Cevdet Tinazci for his professional advice, support and words of encouragement, without his support, this thesis would have never been completed.

Many thanks are offered to my family; especially my parents who believed in me and gave me enough love and support that brought me to this point. I also would like to thank my mother; her encouragements and sacrifices through this long process stimulated me to finish this work. Special thank goes to my brothers and sisters and Dr. Khalid Shaban, Mr. Qahtan Adnan Mr. Ziad Naef and Mr.Burhanuldeen issa who supported me to finish this work.

ABSTRACT

MATEEN ALI HUSEEIN "The sensory kinetic perception and its relation with the accuracy of some offensive and defensive skills in players between (12 -16) years old table-tennis Duhok sport club", Near East University, Institute of Health Sciences, School of physical education and Sports, Master Thesis, Nicosia, 2017.

The research aims to identify the relationship of the kinetic sensory perception and some tests of the basic skills of offensive and defensive in the table tennis.

The experiment test has been done on 10 players of Duhok table tennis club located in Duhok/Iraq. The means and standard deviation of age X=14.40, ±1.34, weight X=50.10, ± 9.87 and height X=160.20, ± 9.11. A descriptive research method was used and employed for the collection of data, the research used three kind of skill test each of them part on three skills test, all these test resource from researcher (Ibrahim, 2007).

The data was collected, computed and analyzed by the use of SPSS program. The findings of the study showed that there is a significant correlation between the perceptual-motor by place and offensive skills of backhand ($r=0.57$, $p<0.05$), visual and offensive skills of forehand ($r=0.56$, $p<0.05$), place and defensive skills of block blow the backhand face ($r=0.60$, $p<0.05$), visual and defensive skills of Block blow the forehand face ($r=0.814$, $p<0.05$), there is a no significant correlation between the perceptual-motor by place and offensive skills of serve ($r=0.06$, $p>0.05$), place and offensive skills of forehand ($r=0.21$, $p>0.05$), timed and offensive skills of serve ($r=0.09$, $p>0.05$), timed and offensive skills of forehand ($r=0.12$, $p>0.05$), timed and offensive skills of serve ($r=0.04$, $p>0.05$), there is a no significant correlation between perceptual-motor by visual and offensive skills of serve ($r=0.37$, $p>0.05$), visual and offensive skills of backhand ($r=0.08$, $p>0.05$), place and defensive skills of block blow the forehand face ($r=0.07$, $p>0.05$), place and defensive skills of muting backhand blow ($r=0.04$, $p>0.05$), timed and defensive skills of block blow the forehand face ($r=0.18$, $p>0.05$), timed and defensive skills of block blow the backhand face ($r=0.14$, $p>0.05$), timed and defensive skills of muting backhand blow ($r=0.44$, $p>0.05$), visual and defensive skills of block blow the backhand face ($r=0.15$,

p>0.05), visual and defensive skills of muting backhand blow (r=0.15, p>0.05). Most of the results show that there is no significant relation between the sensory kinetic perceptions offensive and defensive table-tennis skills

Key words: Sensory Kinetic Perception, Table Tennis.

TABLE OF CONTENTS

List of Tables

LIST OF FIGURE

CHAPER 1

INTRODUCTION

Scientific research is considered one of the most important factors in developing societies so as to achieve the most advanced levels in all fields in general and especially in sport field. In the past sport teams coaches did not recognize the importance of vision abilities for sport performance level although they unintentionally practiced vision skills as sport performance requires caring of the vision and kinetic aspects as ineffective vision abilities will affect kinetic aspects (Halim, 2013).

Achieving a Sensory Kinetic Perception goal often requires simultaneous as well as sequential performance of subtasks, such as picking up multi-modal information, maintaining postural stability, and generating muscle forces in interaction with the environment. Bingham in 1988 and Bernstein in 1996 explicitly recognized that efficient, goal-directed perceptual-motor behavior requires specialized subsystems to become assembled into a task-specific dynamical organization. This implies that, during learning, specialized resources become recruited and harnessed so as to achieve an overarching action goal. Bernstein further proposed that movements are constructed and controlled hierarchically at four functional levels, and argued that each control level has a certain degree of autonomy relative to the other levels and overall task performance. In a similar vein, Bingham emphasized that, due to the "inherent dynamics" of the subsystems, which are often nonlinear, the macroscopic behavior cannot be understood by means of simple summation of the behaviors of the subsystems, as appears to be assumed implicitly by (Newell et al, 2001). Recently, these insights were confirmed for the evolution of postural sway, as novices learned to juggle the 3-ball cascade Huys, et al in 2003 in that the stability of juggling performance and the dynamics of postural sway evolved in disparate fashion: Whereas the former improved gradually, the latter showed both gradual and abrupt changes in frequency locking. Is this the only evidence for the co-existence of distinct, relatively autonomous dynamical processes in learning? By no means a perceptual-motor goal often requires simultaneous as well as sequential performance of subtasks, such as picking up multi-modal information, maintaining postural stability, and generating muscle forces in interaction with the environment. This implies that, during

learning, specialized resources become recruited and harnessed so as to achieve an overarching action goal, and that movements are constructed and controlled hierarchically at four functional levels, and argued that each control level has a certain degree of autonomy relative to the other levels and overall task performance. Recently, these insights were confirmed for the evolution of postural sway, as novices learned to juggle the table tennis that the stability of juggling performance and the dynamics of postural sway evolved in disparate fashion: Whereas the former improved gradually, the latter showed both gradual and abrupt changes in frequency locking. Is this the only evidence for the co-existence of distinct, relatively autonomous dynamical processes in learning, and mental functions that contribute to the absorption of the individual and the acquisition of habits and motor abilities in many of the activities that need precise spatial and temporal and kinetic relations, since the perception receptors are responsible for changing the body position, composition, adaptation, direction, and the relationship of its parts to each other (Huys et al, 2003).

Table-tennis is a very popular game that is practiced by lots of people. In fact, young people like to watch more than adults, due to its many skills and speed required to practice it. The table-tennis game has evolved in the recent era due to the development of coaching plans and tactical skills gained by the player, and that helped to increase the scientific researches that discuss table-tennis in order to get to know its secrets and develop it, there are variable skills and delicate actions in a match, the players have to respond quickly, and the long duration and the noisy playing condition are likely to cause the players. Therefore, some issues have to be addressed such as, the issues regarding the skills of right decisions about what to do tactics and how to do it techniques, the relevance of forms of decision for effective performance is widely acknowledged in sport-tactical and technical skills methods are common in all sports. However, the influences of merging skills types cannot be understood easily. The following experiment shows disparities of combining decision and offensive skills with defensive skills only. Performance is evaluated by investigation of kinematic parameters and the accuracy of performance that related to what transitions between forehand and backhand in table tennis and the relationship between decisions the movement and a norm in movement sequences (Al-Hakeem, 2015).

Amongst different manners of quality analysis of the table tennis player's game, the basic idea of research was to detect those indicators data for collection of which only the final result in particular competitions in larger number of events, in one table tennis match, certain sets in one table tennis match could be sufficient. Due to these facts, this work seeks to establish written support for future studies on this sport based on the research carried out by the authors, the references cited, and information collected from racket sports in general. Besides in technical field, table tennis is also demanding in terms of tactical knowledge, technical skills, motor abilities, perceptual-motor abilities, and morphological characteristics, offensive abilities, defensive abilities as well as appropriate cognitive characteristics necessary for a successful competition achievement. In any sporting Research on robot table tennis started already in 1983 with the announcement of a robot ping pong competition (Billingsley, 1983).

This game has Offensive skills and Defensive skills both of skills are important to win in the match, considered offensive skills is a never use defensive stroke, keep smash but when watched a match, sometimes it's best to keep attacking them so that can win point easily as attacking stroke will make down for someone and make them in rush and also can skill them rather than wait them to make a mistake by defending. But, defend is important such if in rush and don't have time to keep attack an try to that risk, then think for the next ball to attack that is defensive strokes useless. so if chop the ball with backspin and they don't how to return it, then can win point easily or if the opponent can't read the backspin, just chop it with less backspin and when they return with normal push and the ball is up high, then time to attacking especially for a smash. Rather than take a risk to attack the stroke no so just keep defending in that time and think for the next ball to attack and also some people are weak to returning the defensive strokes, so if they attacking and it fast and don't give them time even a little rush when the ball is bounce you have to block it, So what mean is defensive stroke is important to give us a little bit control as a slower stroke if in rush and don't have time to attack (Halim, 2013).

Table tennis game includes many defense and attack skills. For improving such skills many factors are involved. Senses of movement are very important factors and each one of them has a different impact. Saad in 2014 has shown in his research that the sense of movement has a significant impact on table tennis skills and it differs from a place to

another one (Saad, 2014). Also Al-Zyadi in 2010 showed in his research that the forehand and backhand shoots have a relationship with the location and time orientation. After some researches and highlighting the difference between both skills, he emphasized that both defense and attack skills has a sufficient relationship with the location and time orientation in many of (Al-Zyadi, 2010). The researches demonstrated that the time has an impact on the defense and attack skills. In contrast, in some other discussion he showed that the time has no relation with defense and attack skills because of the speed of the game and the player need to be perfect in the sense of movement ability, the studies and previous research that the researcher saw during the research in table tennis sport revealed that these studies were based on offensive and defensive skills including the study of Muhammad in 2003 the proposal the development of kinetic mobility of some offensive and defensive skills to table tennis (Mohammed, 2003)

The defensive skills strokes are to return the ball correctly to the rival table in a way that makes it challenge for the rival to start a new attack. In many times, the player would prefer to step back a bit or further of the table in order to be in a position that allows him to respond to strong offensive strokes made in order to achieve the block, it is required to move for the readiness position, there should be no swinging, only put the racket in the place that touches the coming ball, and in order to block successfully you need to simulate your rival's rotation and speed in reversing the ball and the main reason of doing the defensive drives is to send the ball back to the rival side and in a way that prevents that rival from starting a new attack (Al-Sayid, 1996). Often, the player executes the defensive drives being in a defensive position relatively far from the table based on the rival's style of attacks. that some defensive strikes can we use as an offensive strikes, for example bodice against the upper rotation, the player uses at angles beyond the reach of the racket player makes him lose his balance and forces him to run down the side to catch the ball, as well as strike the projected force-term player to run forward and get closer to the table (Simpson, 1980). Although table tennis depends largely on principle of offensive strikes, but we cannot do basic defensive strikes such as skills for the player uses us significantly in a match, it may be the separation between victories and defeat (Hodges, 1993).

Various researches have been done to clarify the techniques of improving the ways of playing table tennis and build more skillful players. Some of them can be powerful and

improve this game while some others degrade and limit the skills of players. As a researcher, after reading and analyzing many researches I come up with a new idea to do a research that might improve this game. The core of the research is about highlighting the influence of the sensitive kinetic skills on the attacking and defending skills of the table tennis game. During my search and after looking for new techniques of improving this game I couldn't find similar Ideas or anything relevant to my Idea. There might be some researches close to mine but still they are very few**.** The researcher believes that Sensory Kinetic Perception is a way to recognize emotions and to express them appropriately and expressed effectively by athletes in light of this and because of sports competitions form the position of the opposition on the athletes, and this type of stress As discussed by Saeed in 2014 is his research, an analytical study for some of the attacking skilled performances for world ranked players in Table Tennis, during the 2012 London Olympics, Alexandria University, Egypt, has shown in his research that the sense of movement has a significant impact on table tennis skills and it differs from a place to another one (Saeed, 2014).

1.1 Statement of Research Problem

Throughout the research field experience as a player and a coach to different age categories has noticed lack of failure in some skills by practiced players in Duhok sport club. However, most of the players have experience about the game and they have participated in different championships thus, the researcher has argued that the reason behind that is kinematic sensory perceptive of a player: therefore, the researcher wanted to study the relationship between kinematic sensory perception and accurately some of onslaught and defensive essential skills in the table tennis game.

1.2 Research Goals

The research aims to identify the relationship of the sensory kinetic perception with the accuracy of some essential offensive and defensive table-tennis skills.

1.3 Research Hypotheses

There is a significant relation between the sensory kinetic perception and the accuracy of some essential offensive and defensive table-tennis skills.

1.4 Areas of Research

The research also will include the following:

- The human domain: Duhok Sport Club players.
- The time domain: 1/4/2016 to 23/2/2017.
- The location domain: the internal specialist hall of table-tennis in Duhok Sport Club.

CHAPTER 2

GENERAL INFORMATION

2.1 Offensive skills table tennis

Ping-Pong is a wonderful game when played professionally, its take short time to learn but years to master. Choosing you're playing style from the beginning of your journey is the key to your success. Ping Pong involves three main styles of playing; 1 offensive, 2 Defensive, 3 Neutral. In offensive style you want to mainly strike loops, top-spins, and smashes. The key to success is this style is to have the perfect form and drive, good concentration and of course great reflexes (Richard, 2009). The player uses the offensive strikes to try to win the match points, those strikes usually be quick with a turnover the ball, the offensive strikes evolution a lot, that is due has been credited with the development of table tennis so that the players responding to the offensive strikes by offensive strikes and the receiver leads using offensive strike.

Mohammad Hassan Alawi in 1997 refers, the essence of modern strikes is to control the rotation of the ball, and the top rotation is the basis of the most offensive strikes (Alawi, 1997)**.** And Peter Simpson in 1980 require from the players to develop the ability to diversify their offensive strikes so that it be difficult for the rival to identify the type of rotation, speed and the direction of the ball, the player ability to diversify the offensive strikes will help play plans, which causes delays competitor in decision-making and therefore will commit mistakes against the offensive strikes. But in the competitions the player can always attack in the match, if cannot attack the first ball should be trying to attack the followed the balls directly, attack is the best form of defense **(**Simpson, 1980)**.** Seemiller and Holowchak in 1997 calls on the necessity of the attack, there are calling the attack even during a reception of the ball so that the reception by an offensive strikes (Seemiller & Holowchak, 1997)**.**

2.2 Defensive skills table tennis

The push is usually used for keeping the point alive and creating offensive opportunities. A push resembles a tennis slice: the racket cuts underneath the ball, imparting backspin and causing the ball to float slowly to the other side of the table. While not obvious, a push can be difficult to attack because the backspin on the ball causes it to drop toward the table upon striking the opponent's racket. In order to attack a push, a player must usually loop the ball back over the net, Often, the best option for beginners is to simply push the ball back again, resulting in pushing rallies. Against good players, it may be the worst option because the opponent will counter with a loop, putting the first player in a defensive position; another response to pushing is flipping the ball when it is close to the net. Pushing can have advantages in some circumstances, such as when the opponent makes easy mistakes (Zedenko, 2001). Although table tennis depends largely on principle of offensive strikes, but we cannot do basic defensive strikes such as skills for the player uses us significantly in a match, it may be the separation between victory and defeat. And Peter Simpson in 1980 indicates that some defensive strikes can we use as an offensive strikes, for example bodice against the upper rotation, the player uses at angles beyond the reach of the racket player makes him lose his balance and forces him to run down the side to catch the ball, as well as strike the projected force-term player to run forward and get closer to the table (Simpson, 1980).

2.3 Table Tennis/Ping-Pong

Sport in general and branches which involve rapid ball movement in particular require the athlete to make fast decisions regarding how to hit the ball and which movement to choose in order to react to the ball toward him or her. This means the game consists of two main components: technique and tactics (Abel et al, 2004; Raab et. al., 2005; Zhang et. al., 2012).

Vickers in 2003 proposed a training program which includes repetitive practice of the skill and dividing the skills into stages of movement, where learning occurs from the easiest aspect to the hardest ones, based on the assumption that movement is learnt from the declarative aspect to the procedural one, also designed a Table Tennis program which integrates the cognitive aspect of decision-making and the technical aspect of learning the

skill, assuming that movement or training must be as realistic as possible, and since Table Tennis is a game which combines rapid decision-making, as well as matching the type of strike and its quality to the characteristic of the returning, this type of integrated training is the best in his opinion (Vickers, 2003).

Table tennis is one of the fast ball games branches, and hence, a coach experiences all the elements and nuances of effective training (Sindik, 2013). From the perspective of sport, effective training or an effective game is expressed in the result. Success depends on the analysis of data about the given object. A Table Tennis player who succeeds in seeing the ball at the right time and the right place is likely to successfully strike back. Timing then is of the utmost significance for the player to transfer motor commands based on information received visually. Additional information obtained visually may also help assess the type of serve and its characteristics. Sergio et Al conducted research which showed how the eye-hand coordination is of great significance in Table Tennis. The research findings revealed that competent players followed the ball with their eyes and reached higher achievements than the less competent ones (Sergio et. al., 2002). Hand-eye coordination is one of the components representing this sport branch directly. Most hand eye coordination studies have been conducted in laboratory conditions and cannot genuinely testify to what happens in a real Table Tennis game (Williams & Davids, 1998). One of the first field research studies examined the players' performance when the coach gave them instructions to keep their eyes on the ball along its trajectory (Pippol & Felurance, 1998). The results showed that players reacted better both in terms of the quality of their strikes and the speed of reaction to balls which reached the middle line of the body rather than to those which went towards the sides.

Table tennis is considered as one of the attractive sports. The crucial decision is needed for taking a movement in a short time because the speed of carrying out any movement is one of the biggest factor of winning any point. Reacting within a short time is important to make corrections to stroke parameters in table tennis decisions. The minimum response window that participants need is 399 ms prior to execution. Decisions, however, require 556 ms, based on movement durations of about 370 ms from start of swing to bat ball contact. Performing selection and execution of sequential table tennis movement to

some degree, in parallel is indicated by the mentioned windows (Raabet. al., 2005). Movement effectiveness can be impacted by some factors such as movement efficiency, the complexity of task, hesitation, and speed. Numerous gaining techniques have been devised for improving the efficiency of movement. Liao and Masters argued that these features, coupled with the verbally inaccessible nature of the movement production, are indicative of the involvement of implicit processes that are unlikely to place a large load on working memory resources. To liberate the focus for performance of other task parameters response selection, working memory demands during movement execution should be reduced (Liao & Masters, 2001). affect response selection and execution can also be effected by The temporal and spatial characteristics of ball flight, that ball location serves as a parameter for the selection of the stroke, either forehand or backhand, in circumstances with known forehand/backhand and unknown alternation random sequence. The percentage of forehand and backhand strokes was systematically correlated to the spatial position of the ball relative to the edge of the table that use of dynamic information about ball approach resulted in a greater number of target hits relative to conditions when this information was not available because the ball was delivered from a constant point (Sørensenet. al., 2001). Ultimately, the construction of the learning environment impacts future task performance and transfer, For example, that random training of movement parameters and movement programs outperforms non-random training in subsequent movement accuracy, that Post-test performance accuracy was superior for groups that learnt to change between different targets and different movements compared to a uniform group (both same target, same movement), supporting the idea that decision training leads to superior performance (Szymanski, 1997).

2.4 Strike's success factors table tennis

Peter Simpson in 1980 Refers to that there are many factors that successful control of any strike, whether defensive blow or offensive, and the player successful is the one who can perform various strikes in the positions of the various toys that offset in the exercise or competition, good performance is the only one way the ability to the development of integration between the various strikes and movements and access to and access level we will start to phase mechanism and achieve compatibility muscular nervous (Simpson, 1980).

Factors that controlling the success of strikes are:

Racket face: strikes could lead by the front face of the racket or back face the length of the racket: It means the fall of the ball on the table for the ultimate limit of the table; it could be a short ball, medium or long. Pause player: the base of the player before it starts to hit the ball, and take the appropriate situation means a good balance for the performance of full batting the ball movement which is by the square stand or side or the side of square. Ball speed: It can be slow, medium or fast. Ball rotation: one of the fundamentals of modern table tennis, and have a lower turnover or the top or sides of the ball or passing without a turnover. Points of hitting ball during the route: the timing of hitting the ball is linked with the Tangency point of the ball and have early time during the rising of the ball or the ball at the top of the path late during the ball drop. Racket place: identifies the place of the racket in which the player stands during the performance of strikes, and could soon be off the table, Medium, or away from the table, some blows lead racket on the table, and some of the leading tennis outside table and other leading tennis away from the table (1980, Simpson).

2.5 Importance of accuracy in the sport of table tennis

Accuracy in the sport of table tennis modern sense does not mean the place of the fall of the ball on the table only, but includes the direction of the ball and the height and rotation angle wearing after touching the surface of the table, and the relationship of these variables with the competitor place. The standing contender in the pause to prepare, to receive the spiral blows by rear face of the racket on the right side of the table, it would be easy for him to reply with high efficiency on the status of its response to the spiral strike by the front side of the racket in the same place, because the ball bounces angle in the case of a strike screw generally back racket be straight or sideways into the future hand in either the strike coil case generally tennis front side shall be in the same place where the ball bounce sideways angle (slash outside) and therefore shall be far from the future, making it more difficult refunded, could be the work of training for the development of precision in table tennis sport. Division rival table to specific parts, then the player to perform a specific skill directed the ball to the specific parts on the table, shrink targets gradually on the table, diversify strikes and performance in a row, as in the game with a

guide the ball to a specific place, review Technique performance of offensive and defensive skill during implementation, building Technique offensive or defensive group of offensive and defensive skills under the guidance of successive and linked to specific places the ball on the table (Ibraheim, 2007).

2.6 Sensation

Both Ahmed Amin in 1980 and Saad Jalal and Mohammed Allawi in 1982 sense is defined as the most basic psychological process of reflection of the individual characteristics of external things, as well as self-internal situations of the individual and which arise due to the direct impact of normal influential to the members of the senses (Fawze, 1980) and (Jalal, 1982) Robergs in 1997 The sense of articular muscle tension teach us about the type of movement and the various conditions of the body, and is a sort of a sense of self-reflecting internal sense of the body's muscles (Robergs, 1997).

Kinds of Sensation;

Both Ahmad Akash, 1980 and Ahmad Rajia, 1985 see that the sense is divided generally into three sections as follows, visual sensations, and audio, skin touch, pressure, pain, cold, heat and olfactory and gustatory, visceral sensations: and it is originating from the stomach, intestine, lung, and heart, kidneys and other sensations, and these are the sensations in the sense of hunger and thirst, and Gath at self or contraction, and filled bladder and a feeling of fatigue, or satisfaction, sensations muscle mobility: and she arose from the influence of members of the muscles, tendons, joints, which provide us with information on the transfer of things, and compressed and on the status of our limbs and movement "speed - a trend - the extent driven" and the body position and balance, and for the extent to which our efforts and heartfelt feelings of resistance and we move our things (Akash, 1980; Rajia, 1985).

Both Saadi Jalal and Mohammed Allawi have pointed out 1982 that the sensations in sports activity are:

Sense of the movement: sensations kinetic also called sensations of muscle tell us about the members of motor skills in different conditions, and these sensations, including the sense of time constitute a set of cognitive self-sensations that reflect the stimuli resulting in us, and the sense of muscular traction enter into a sense of resistance system cramps case for the movement, as well as a sense of fast motion. Sensations of the balance: some types of sports activities are characterized by abundant rotations and the sudden speed movement of the whole body or members of it, the sudden change in directions and expectations at different speeds of the individual and full sense of its balance. Sensations tactile: these sensations in addition to the kinetic sense help to realize the spatial relationships of things like the adjustment of the arm movements, legs, and torso also enables sensations touch to capture things and easily obtainable hands and snap the ball or hit her, and shooting one-handed, and the sensations motor enables man Everybody knows the shape of objects and their size and weight and roughness (Allawi, 1986)**.**

2.7 Comprehension

The sensation does not make any meaning without comprehension, if our position from the outside world was limited to the sense and feeling, our share would be only a vague set of visual sensations and audio, leather and other sensations, and this is the comprehension is the most important mentality operations. And Khairallah shows in 1981 that comprehension, it includes the impact on the living members of certain influences, and the individual give interpretation and determination of the effects of this in the form of symbols or gloss in order to facilitate the interaction with the environment (Khairallah, 1981)**.**

Sayed Abdel-Maksoud suggests in 1986 that comprehension, it boils down to the psychological process to receive sensory impressions with visual and auditory receptors, the receptors muscular sense, as dependent quality comprehension, depending on the level of the ability of each member of the sensory organs (Maksoud, 1986). Ahmed Amin in 1992, the comprehension is a mental process or psychological activity for a way we can learn about the outside world topics and then we can learn (Fawze, 1992).

2.8 The relation between sensation and comprehension

Modern experimental studies don't differentiate between sensation and comprehension it is because that both the behavioral manifestation of sensory experience is responsible for defining the relationship between the individual and the external environment.

All of Ahmed Amin (1980), Abdulrahman Essawy (1983), Ahmed Rajeh (1985), Ahmed Hussein (1986) that they agree that the concept and meaning of perception and sensation appears in the only relationship between them and cannot be ignored because the lack of senses lead a lack of topics associated omitted, perception is preparing its effectiveness and effervescence of those sensations are integrated and linked to be transported to the brain via the supplied nerves, and this cannot be comprehension without sensation, and can also be found, that sense without realizing because the comprehension is that explains the existence of sensation (Amin, 1980; Essawy, 1983; Ahmed, 1985; Hussein, 1986).

2.9 Literature Review

Studies on the subject of table tennis and Sensory kinetic

There are some studies pertaining to the sensory kinetic perception and its relation with the accuracy of some offensive and defensive skills in player’s table-tennis and these includes a study conducted by clarovic and teblka in 1985, the aims to know out and test capabilities sense Kinetics in table tennis, using the descriptive method on a sample composed of 126 players divided into 85, table tennis player 41, tennis player was a test of both kinetic ability and time and the space age was the most important results the lack of a direct effect of age on the common capacity the kinetics of the players as there are

individual differences among the players in terms of launch capacity point of common sense the kinetics of each player, as well as the kinetics of the various players are advised to apply the programs to develop capacity sense taking into account the individual differences for each player (clarovic & teblka, 1985).

Also, in a study by Al-zoghbi, 2002, the study aims to design a program for the development of reaction speed and accuracy and to identify the impact on the level of some of the offensive and defensive skills of juniors table tennis under 17 years old, and the researcher used the experimental method and that the sample was selected purposively was strong 20 juniors divided into two experimental; one and the other officer strength of each of them 10 juniors, after the application of the proposed training program and conduct studies in question, the results indicated that the development of reaction speed and accuracy positively affect the level of some of the offensive and defensive skills for juniors under discussion (Al-zoghbi, 2002).

The study by Hussein, 2014, The objective of this research to develop exercises to develop a sense of perception - kinesthetic and speed of response in the accuracy of some of the basic skills of volleyball players, the researcher used the experimental design (Almtkavitan groups with pretest and posttest) and its relevance to the nature of the problem and achieve the objectives of the research, the sample represented the entire research community who are club players exert denominator totaling 18 player and ages 13-15 years, there are significant differences to the effect of exercise proposed to develop a sense of perception - kinesthetic and speed of response in the accuracy of some of the basic skills of volleyball players and in favor of the experimental group (Huseein, 2014).

CHAPTER 3

METHODOLOGY

The following chapter presents the research design followed in this study and describes the research design, participants, parameters, validity and reliability of tests, main Experiment and Data analysis.

In table 1 show what has been done in the study in chronological in the methodology.

Table 1. The study in the chronology of the methodology

in chronological	Search procedure
1-6-2016	Methodology
12-6-2016	research Design
15-6-2016	Participants
20-6-3016	validity and reliability of tests
14/15-7-2016	Main Experiment
1-8-2016	Data analysis

3.1 Research Design

Researcher uses descriptive survey by style approach for its suitability, and research nature. This research demonstrates the impact of sensitive kinetic skills on the enhancing the table tennis game. It contains three experiments on the attacking skills, which are "Perceptual – motor test by place orientation, Perceptual – motor test by visual orientation, Perceptual – motor test by time orientation" three experiments on the defense skills, which are Forehand serves / throws by lateral Rotation, The test to measure speed and accuracy of straight strike tennis anterior respond straight blow, Test of the speed and precision strike straight opposite respond to straight blow" and sensitive kinetic skills experiments which are "Ball saves opposite to forehand of opposite to rear back on the middle of table test, Ball saves opposite to forehand of opposite to rear back on the middle of table test, Test of the speed and precision of ball muting skill opposite to behind sticker" the relationship between those experiments will be shown by the descriptive research.

3.2 Participants

In this research, the experiment has been applied on 19 players of Duhok table tennis club. Duhok table tennis club is a professional club located in Duhok/Iraq. The age of the players are between12-16 (X=14.40±1.34), weight (X=50.10±9.87) and height (X=160.20±9.11)**,** the main experiment test has been done on 10 players, originally the test was going to run 19 players, but 9 of the players excluded from the test. The players of target have been chosen after getting the permission of the head of the team and the coach of the team.

3.3 Parameters

Means, tools and devices that are used in research the researcher has used the following Arabic and foreign resources and references reconnaissance of experts' opinion to select perceptual-motor tests and skills tests 2 tables of table tennis 10 ball tennis electronic o'clock timer.

In addition, the tests that have been used in this research are:

All tests were taken from the book "Scientific bases in table tennis and methods of measurement" by (Ibrahem, 2009) on the basis of those steps mentioned in the book have been applied in the test also found the researcher reliability and validity of tests, and these testes are used in many national and international studies in the world and the study by (Khizir, 2015) is international study which used the same tests.

3.3.1 Perceptual – motor test by place orientation:

The aim of test:

The aim of the test is to measure a spatial orientation line.

Tools that are used:

"Ball, striker, legal tennis table, Adhesive tape, Band for the eyes, measure tape, and stopwatch"

Performance way:

It explains to the participant how to do the test and the aim after it.

The table is divided in to 10 areas, area 8,3 it is size is 68,5cm ×52cm width and the rest it's size is 68,5 length 25 cm width the width of line in each area and other is 2 cm as the following figure, the participant will do three training attempts to send to each area from 1 to 10 second in sight interval presence among three attempts, participant will do experimental try to send In the absence of sight of each region in order interval 10 second relying on the sense of spatial orientation in the training attempts.

Test instructions:

- Each tester has ten attempts.
- Points are calculated when the ball fall in the stomach assigned areas on the table
- If the ball touches the net and goes out of the stand and does not pass the net then the tester will get zero.
- If the ball touches the net and fall down and any selected area, the attempt repeat.

- If the ball touches a line then it is considered as if it fell in the area that line Determines.

  Recording of test:

- Tester will get one degree if the ball falls in the selected area orderly.
- Degrees will be recorded for the tester in all of the ten experimental attempts, the maxim to the total of degrees for tester are 10 degrees. Lesser than 10 degrees represent wrong value in the sense of spatial orientation.

Figure1. Perceptual-motor test by place orientation

3.3.2 Perceptual – motor test by visual orientation:

The aim after the test:

Measures the line sense in-depth of front send distance

Tools that are used:

"Ball, striker, table tennis, eye swathe, Adhesive tape, measure tape, and stopwatch"

Performance way:

- It explains t for the tester the way of performance and the goal after it.
- The table is divided into two five rectangle parts in width 25cm length *152.5 the width of line is 2cm as the following figure.
- The tester will do three training attempts for front sent in sight presence to rectangle number 3 by Time interval 20 second between one attempt and another.
- Participant will do experimental try to send in the absence of sight of to the same rectangle number 3 by time interval 20 seconds relying on the sense of spatial orientation.

Tests instructions:

- Each tester has three attempts.
- Doing the referral or the sending in a logical way.

Registration:

- The tester will get 5 degrees if the ball falls in the rectangle number 3 and 3 degrees if the ball fall in rectangle 2, and number 4, while the tester will get two degrees if ball falls in the rectangle number 5 and number 1 the will get zero if ball falls outside the table and does not pass.
- The maxim total of degree that tester gets in all the three attempts is 15 degrees/ points. However, degrees which are less than 15 represent in sight sense by depth of distance.

Figure 2. Perceptual-motor test by visual orientation

3.3.3 Perceptual – motor test by time orientation:

Test aim:

- To measure sense line by time 10 seconds

Used Tools:

"Stopwatch sensitive for the nearest measure 1/100 seconds and eye band"

Performance way:

It explains for the tester the way of performance and aim after that, so the tester will do the test by actuating /operating stopwatch for 10 seconds for the three paving attempts under sight control by time interval 30 seconds and sense 10 seconds. Thus, the tester is required without sight control to repeat the record of 10 seconds actuality depending on sense retrieval in passed time that his sense by time in the paving attempts and that for three experimental attempts.

Recording of test:

In each experimental attempts between the selected time 10 seconds and the time the tester has recorded the value of mistake -/+ is recorded.

Figure 3. Perceptual-motor test by time orientation

3.3.4 Forehand serves / throws by lateral Rotation:

Forehand serves / throws by lateral Rotation**,** The test to measure speed and accuracy of straight strike tennis anterior respond straight blow**,** Test of the speed and precision strike straight opposite respond to straight blow

The aim of test:

To measure the accuracy of front sends rotation.

Used Tools:

"Measure tape, pasting tape 5 tennis balls a table divided into 5 areas in depth"

Way of performance:

The tester will stand in place of doing blow send in the middle and little in the right of the table then he will send the ball to the selected area the end of behind line in face of front striker, however, giving a lateral Rotation to ball in left side and repeat that 10 times, as the following figure.

Recording of test:

- If ball falls in side A area tester will get 5 points
- If ball falls in side B area tester will get 4points
- If ball falls in side C area tester will get 3points
- If ball falls in side D area tester will get 2 points
- If ball falls in side E area tester will get 1 points

The total points will be calculated for the 10 attempts for front send a lateral rotation.

Recording of test

- The perfect way of doing this performance is the fall of ball in north behind side.
- Dividing table into 5 equal areas depend on the degree of difficulty of performance 27,4cm *76, 25.

Figure 4. Forehand serves / throws by lateral Rotation

3.3.5 The test to measure speed and accuracy of straight strike tennis anterior respond straight blow:

The aim of test:

To measure speed and accuracy of straight strike tennis anterior respond straight blow.

Used Tools:

"Ball jerked machine, Adhesive tape, tennis table divided as in the figure, 15 tennis balls and a table"

Way of performance:

The tester will be in stand by position. Ball Jerked machine will be fixed to throw 15 tennis balls Straight strikes) during 15 seconds to the right side of table.

Tester will Re strike the ball straight at large tennis ball anterior directed as follows:

- 5 Balls to area 1
- 5 Balls to area 2
- 5 Balls to area 3

Recording of test:

Tester will get or record for him two degrees when the ball falls in the aimed area orderly respectively 1-2-3.

- One degree if the ball falls in the any other area on the table.
- No degree will be recorded if the ball goes out of the table
- Tester will get a total degree out of the 15 overall balls.

Figure 5. Test to measure speed and accuracy of straight strike tennis anterior respond straight blow

3.3.6 Test of the speed and precision strike straight opposite respond to straight blow:

Test purpose:

To measure speed and accuracy of straight strike tennis anterior respond straight blow.

Used Tools:

"Ball Jerked machine, Adhesive tape, tennis table divided as in the figure, 15 tennis balls and a table"

Way of performance:

The tester will be in stand by position.

Ball Jerked machine will fixed to throw 15 tennis ball Straight Strikes during 15 seconds to the right side of table.

Tester will save ball straight at large tennis ball anterior direct as follows:

- 5 Balls to area 1
- 5 Balls to area 2
- 5 Balls to area 3

Recording of test:

Tester will get or record for him two degrees when the ball in the aimed area orderly respectively 1-2-3.

- One degree if the ball falls in the any other area on the table.
- No degree will be recorded if the ball went out of the table
- Tester will get a total degree out of the 15 overall balls.

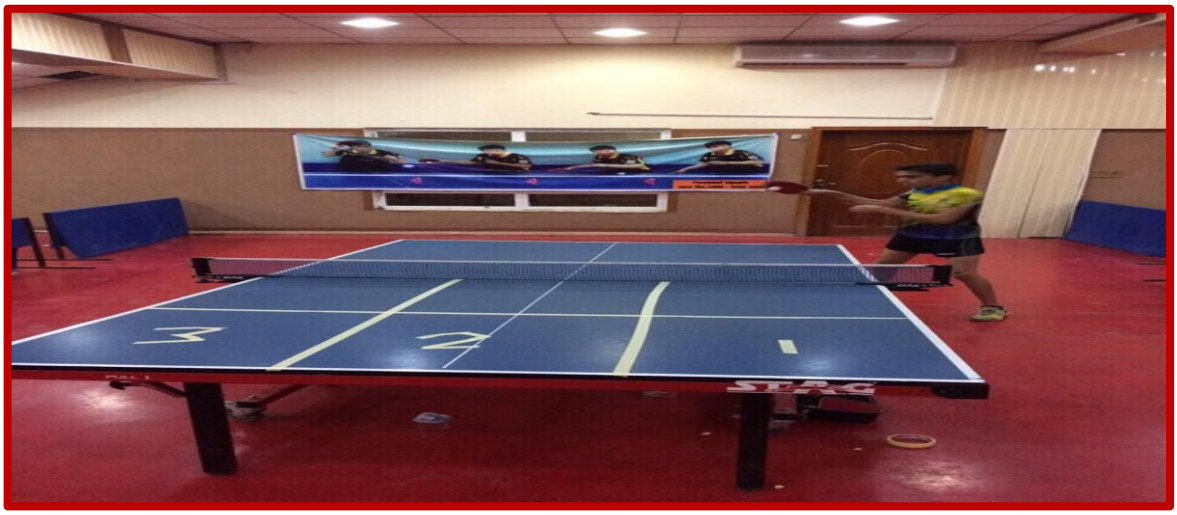

Figure 6. Test of the speed and precision strike straight opposite respond to straight blow

3.3.7 Ball saves opposite to forehand of opposite to front racquet on the middle of Table test:

Test purpose:

The aim of test is to measure the level of ball repel skill opposite to front racquet on the middle of table.

Used Instruments:

"Balls Ejector device, table, net group, balls, adhesive tape, two stable erects above the net about 10 cm and thread taut over the net"

Way of performance:

- The tester will be in stand by position in the right side of table.
- In which balls exit from device when ball of player come down in the second part of table the machine will starts.
- Player repeats repel the ball 10 consecutive strikes.

Test instructions:

- Ball receiver must pass throw the net and taut line above it without touching any one of them.
- It is right if the ball touches the adhesive line on the table.

Recording of test:

The right corner would be divided into lengthily three areas

- The first corner beside the net – 1 degree
- The second corner – 2 degrees
- The third corner – 3 degrees

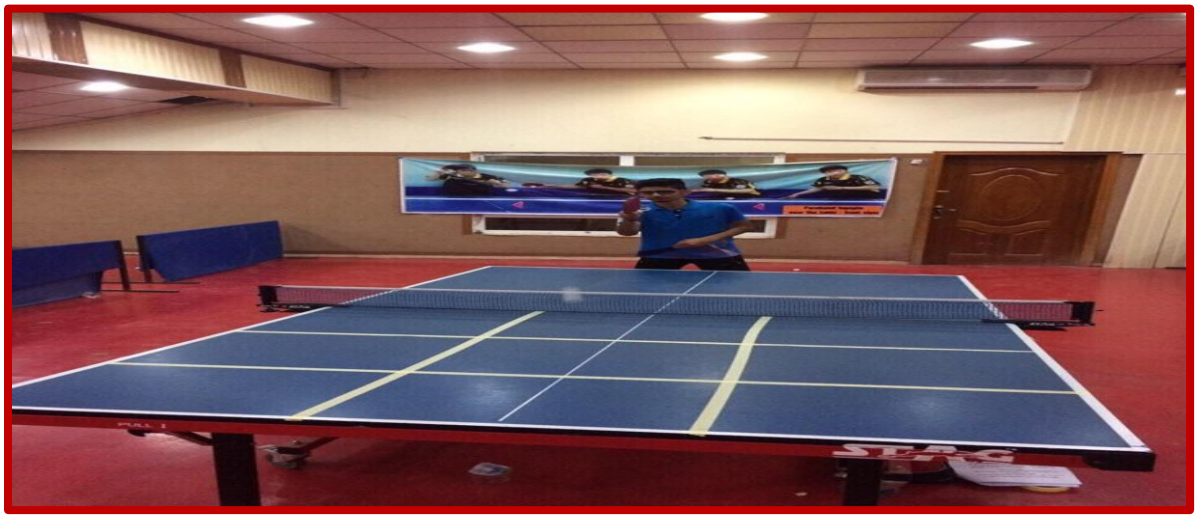

Figure 7. Ball saves opposite to forehand of opposite to front racquet on the middle of table test

3.3.8. Ball saves opposite to forehand of opposite to rear back on the middle of table test:

Test purpose:

The aim of test is to measure the level of ball repel skill opposite to rear racquet on the middle of table.

Used Instruments:

"Balls ejector device, table, net group, balls, adhesive tape, two stable erects above the net about 10 cm and thread taut over the net"

Way of performance:

- The tester will be in stand by position in the right side of table.
- The machine will start in which balls exit from device when ball of player comes down in the second part of table.
- Player repeats repel the ball 10 consecutive strikes.

Test instructions:

- Receiver ball must pass throw the net and taut line above it without touching any one of them.
- It is right if the ball touches the adhesive line on the table.

Recording of test:

- The first corner beside net – 1 degree.
- The second corner – 2 degree.
- The third corner – 3 degree.

Figure 8. Ball saves opposite to forehand of opposite to rear back on the middle of table test

3.3.9. Test of the speed and precision of ball muting skill opposite to behind sticker:

Test Perouse:

The aim of test is to measure the ball muting skill opposite to leverage strike back Spiral.

Used Tools:

"Ball jerked the machine, Adhesive tape, tennis table divided as in the figure, 15 tennis balls and a table"

Way of performance:

- The tester will be in stand by position in the right side of table.
- Ball Jerked machine will be fixed to throw 15 tennis ball Straight strikes during 15 seconds to the right side of table.
- Tester will save balls by muting skill opposite to strike back towards ball on the following pattern respectively:
- 5 balls to area 1.
- 5 balls to area 2.
- 5 balls to area 3.

Recording of test:

Two marks will be recorded for tester if the ball in aimed area orderly respectively 1-2-3.

- One degree if the ball falls in any area on the table.
- No degree will be recorded if the ball falls out of the table.
- For tester will be scored where all points he got out of 15 balls as total.

Figure 9. Test of the speed and precision of ball muting skill opposite to behind sticker

3.4 Validity and reliability of the tests

Use of the researcher to calculate the stability of the re-test within two weeks between the first and second application of the same sample

Table 2. The mean, the standard Deviation, p value, and the correlation between the first and second measurements for finding the Validity and reliability of the tests

Testes	Test 1		Test 2		r	p
	$\bar{x}$	Sd	$\bar{x}$	Sd		
Forehand serves / throws by lateral Rotation	39.60	4.69	39.60	5.71	0.93	*0.00
The test to measure speed and accuracy of straight strike tennis anterior respond straight blow	22.80	3.39	23.60	2.98	0.86	*0.01
Test of the speed and precision strike straight opposite respond to straight blow	24.80	3.52	25.00	2.74	0.87	*0.00
Ball saves opposite to forehand of opposite to front racquet on the middle of Table test	23.00	2.58	22.60	3.02	0.85	*0.01
Ball saves opposite to forehand of opposite to rear back on the middle of table test	22.80	4.56	22.60	3.68	0.95	*0.00
Test of the speed and precision of ball muting skill opposite to behind sticker	21.40	3.74	22.60	3.47	0.98	*0.00
Perceptual – motor test by place orientation	11.70	8.59	11.70	8.59	1.00	*0.00
Perceptual – motor test by visual orientation	5.00	2.74	4.60	2.45	0.95	*0.00
Perceptual – motor test by time orientation	0.80	0.91	0.70	0.82	0.94	*0.00

*p<0.05

In Table 2, it shows that the correlation between the first and the second measurements "0.85 - 1.00" and p value "0.00 – 0.01" which indicates a high number of a Fixed Coefficient in these measurements.

3.5 Main Experiment

The main experiment has been applied on research sample for two days in "14-15/07/2016" The research apply the skills test on 10 players in the internal specific hall for table tennis in Duhok sport club.

3.6 Data analysis

For testing the statistical significance difference between the tests sensory kinetic correlation of tests offensive table tennis and defensive table tennis. The level of significance was kept P=0.05 in order to test the hypothesis. Data was analyzed Percentage, arithmetic mean, standard deviation, simple correlation coefficient, with the help of SPSS (Version18.0) used to present the statistical data graphically**.**

CHAPTER 4

RESULTS

4.1 Findings of the relation between offensive basic skills under studying and Perceptual-motor place test.

Arithmetic mean and standard deviation was used for the relation between offensive basic skills under studying and Perceptual-motor place test can be seen in the table below.

Table 3. The relation between offensive basic skills under studying and Perceptual-motor place test

Tests	$\bar{x}$	Sd	r	p
Serve	39.60	4.69	0.06	0.42
Forehand	22.80	3.39	0.21	0.27
Backhand	24	3.52	0.57	*0.04

**p<0.05*

As the table 3 shows that; the mean score of serve 39.60±4.69, and the relation r=0.06, p=0.42, p>0.05. There is no significant correlation between offensive basic skills under studying and Perceptual-motor place test according to Serve. This means that there is no significant correlation between offensive basic skills under studying and Perceptual-motor place test according to Serve. The hypothesis, therefore, is rejected.

The mean score of serve 22.80±3.39, and the relation r=0.21, p=0.27, p>0.05. There is no significant correlation between offensive basic skills under studying and Perceptual-motor place test according to Forehand. This means that there is no significant correlation between offensive basic skills under studying and Perceptual-motor place test according to Forehand. The hypothesis, therefore, is rejected.

The mean score of serve 24±3.52, and the relation is r=0.57, p=0.04, p<0.05. There is a significant correlation between offensive basic skills under studying and Perceptual-motor place test according to Backhand. This means that there is a significant correlation between offensive basic skills under studying and Perceptual-motor place test according to Backhand. The hypothesis of the study is accepted.

4.2 Findings of relation between attack skills under studying with Perceptual-motor time test.

Arithmetic mean and standard deviation was used for the relation between attack skills under studying with Perceptual-motor time test can be seen in the table below.

Table 4: The relation between attack skills under studying with Perceptual-motor time test

Tests	$\bar{x}$	Sd	r	p
Serve	39.60	4.69	0.09	0.39
Forehand	22.80	3.39	0.12	0.36
Backhand	24	3.52	0.048	0.44

p>0.05

As the table 4 shows that; the mean score of serve 39.60±4.69, and the relation r=0.09, p=0.39, p>0.05. There is no significant correlation between attack skills under studying with Perceptual-motor time test according to Serve. This means that there is no significant correlation between attack skills under studying with Perceptual-motor time test according to Serve. The hypothesis rejected.

The mean score of serve 22.80±3.39, and the relation r=0.12, p=0.36, p>0.05. There is no significant correlation between attack skills under studying with Perceptual-motor time test according to Forehand. This means that there is no significant correlation between attack skills under studying with Perceptual-motor time test according to Forehand. The hypothesis rejected.

The mean score of serve 24±3.52, and the relation r=0.048, p=0.44, p>0.05. There is no significant correlation between attack skills under studying with Perceptual-motor time test according to Backhand. This means that there is no significant correlation between offensive basic skills under studying and Perceptual-motor place test according to Backhand. The hypothesis rejected.

4.3 Findings of the relation between attack basic skills under studying and Perceptual-motor visual test.

Arithmetic mean and standard deviation was used for the relation between attack basic skills under studying and Perceptual-motor visual test can be seen in the table below.

Table 5. The relation between attack basic skills under studying and Perceptual-motor visual test.

Tests	$\bar{x}$	Sd	r	p
Serve	39.60	4.69	0.37	0.14
Forehand	22.80	3.39	0. 56	*0.03
Backhand	24	3.52	0.08	0. 41

*p<0.05

As the table 5 shows that; the mean score of serve 39.60±4.69, and the relation r=0.37, p= 0.14, p>0.05. There is no significant correlation between attack basic skills under studying and Perceptual-motor visual test according to Serve. This means that there is no significant correlation between attack basic skills under studying and Perceptual-motor visual test according to Serve. The hypothesis rejected.

The mean score of serve 22.80±3.39, and the relation r=0.56, p= 0.03, p<0.05. There is a significant correlation between attack basic skills under studying and Perceptual-motor visual test according to Forehand. This means that there is a significant correlation between attack basic skills under studying and Perceptual-motor visual test according to Forehand. The hypothesis accepted.

The mean score of serve 24±3.52, and the relation r=0.08, p= 0.41, p>0.05. There is no significant correlation between attack basic skills under studying and Perceptual-motor visual test according to Backhand. This means that there is no significant correlation between attack basic skills under studying and Perceptual-motor visual test according to Backhand. The hypothesis rejected.

4.4 Findings of the relation between defend basic skills under studying and Perceptual-motor place test.

Arithmetic mean and standard deviation was used for the relation between defend basic skills under studying and Perceptual-motor place test can be seen in the table below.

Table 6. The relation between defend basic skills under studying and Perceptual-motor place test

Tests	$\bar{x}$	Sd	r	p
Block blow the forehand face	23	2.58	0.07	0.42
Block blow the backhand face	22.80	4.56	0.60	*0.03
Muting backhand blow	21.40	3.74	0.04	0.45

*p<0.05

As the table 6 shows that; the mean score of block blow the forehand face 23±2.58, and the relation r=0.07, p= 0.42, p>0.05. There is no significant correlation between defend basic skills under studying and Perceptual-motor place test according to block blow the forehand face. This means that there is no significant correlation between defend basic skills under studying and Perceptual-motor place test according to block blow the forehand face. The hypothesis rejected.

The mean score of block blow the backhand face 22.80±4.56, and the relation r=0.60, p= 0.03, p<0.05. There is a significant correlation between defend basic skills under studying and Perceptual-motor place test according to block blow the backhand face. This means that there is a significant correlation between defend basic skills under studying and Perceptual-motor place test according to block blow the backhand face. The hypothesis accepted.

The mean score of serve 21.40±3.74, and the relation r=0.04, p= 0.45, p>0.05. There is no significant correlation between defend basic skills under studying and Perceptual-motor place test according to Muting backhand blow. This means that there is no significant correlation between defend basic skills under studying and Perceptual-motor place test according to Muting backhand blow. The hypothesis rejected.

4.5 Findings of the relation between defend basic skills under studying and Perceptual-motor time test.

Arithmetic mean and standard deviation was used for the relation between defend basic skills under studying and Perceptual-motor time test can be seen in the table below.

Table 7. The relation between defend basic skills under studying and Perceptual-motor time test

Tests	$\bar{x}$	Sd	r	p
Block blow the forehand face	23	2.58	0. 18	0. 30
Block blow the backhand face	22.80	4.56	0. 14	0. 34
Muting backhand blow	21.40	3.74	0. 44	0.09

p>0.05

As the table 7 shows that; the mean score of block blow the forehand face 23±2.58, and the relation r=0.18, p= 0.30, p>0.05. There is no significant correlation between defend basic skills under studying and Perceptual-motor time test according to block blow the forehand face. This means that there is no significant correlation between defend basic

skills under studying and Perceptual-motor time test according to block blow the forehand face. The hypothesis rejected**.**

The mean score of block blow the backhand face 22.80±4.56, and the relation r=0.14, p=0.34, p**>**0.05. There is no significant correlation between defend basic skills under studying and Perceptual-motor time test according to block blow the backhand face. This means that there is no significant correlation between defend basic skills under studying and Perceptual-motor time test according to block blow the backhand face. The hypothesis rejected.

The mean score of serve 21.40±3.74, and the relation r=0.44, p=0.09, p>0.05. There is a significant correlation between defend basic skills under studying and Perceptual-motor time test according to Muting backhand blow. This means that there is a significant correlation between defend basic skills under studying and Perceptual-motor time test according to Muting backhand blow. The hypothesis rejected.

4.6 Findings of the relation between attack basic skills under studying and Perceptual-motor visual test.

Arithmetic mean and standard deviation was used for the relation between attack basic skills under studying and Perceptual-motor visual test can be seen in the table below.

Table 8. The relation between attack basic skills under studying and Perceptual-motor visual test

Tests	$\bar{x}$	Sd	r	p
Block blow the forehand face	23	2.58	0.81	*0.01
Block blow the backhand face	22.80	4.56	0.15	0.33
Muting backhand blow	21.40	3.74	0.15	0.33

*p<0.05

As the table 8 shows that; the mean score of block blow the forehand face 23±2.58, and the relation r=0.81, p=0.01, p<0.05. There is a significant correlation between attack basic skills under studying and Perceptual-motor visual test according to block blow the

forehand face. This means that there is a significant correlation between attack basic skills under studying and Perceptual-motor visual test according to block blow the forehand face. The hypothesis accepted.

The mean score of block blow the backhand face 22.80±4.56, and the relation r=0.15, p=0.33, p>0.05. There is no significant correlation between attack basic skills under studying and Perceptual-motor visual test according to block blow the backhand face. This means that there is no significant correlation between attack basic skills under studying and Perceptual-motor visual test according to block blow the backhand face. The hypothesis rejected.

The mean score of serve 21.40±3.74, and the relation r=0.15, p=0.33, p>0.05. There is no significant correlation between attack basic skills under studying and Perceptual-motor visual test according to Muting backhand blow. This means that there is no significant correlation between attack basic skills under studying and Perceptual-motor visual test test according to Muting backhand blow. The hypothesis rejected.

4.7 The research interpretation

The research found that there is no significant correlation between offensive basic skills under studying and Perceptual-motor place test according to Serve, it also there is no significant correlation between offensive basic skills under studying and Perceptual-motor place test according to Forehand, and there is a significant correlation between offensive basic skills under studying and Perceptual-motor place test according to Backhand; it was also found that these results are no consistent with hypothesis. It found that there is no significant correlation between attack skills under studying with Perceptual-motor time test according to Serve, it also there is no significant correlation between attack skills under studying with Perceptual-motor time test according to Forehand, and there is no significant correlation between attack skills under studying with Perceptual-motor time test according to Backhand. The found that there is no significant correlation between attack basic skills under studying and Perceptual-motor visual test according to Serve, it also there is a significant correlation between attack basic skills under studying and Perceptual-motor visual test according to Forehand, and there is no significant correlation

between attack basic skills under studying and Perceptual-motor visual test according to Backhand; it was also found that these results are no consistent with hypothesis.

It found that there was no significant correlation between defend basic skills under studying and Perceptual-motor place test according to block blow the forehand face, it also there is a significant correlation between defend basic skills under studying and Perceptual-motor place test according to block blow the backhand face, and There is no significant correlation between defend basic skills under studying and Perceptual-motor place test according to Muting backhand blow; it was also found that these results are no consistent with hypothesis. It found that there was no significant correlation between defend basic skills under studying and Perceptual-motor time test according to block blow the forehand face. it also there is no significant correlation between defend basic skills under studying and Perceptual-motor time test according to block blow the backhand face, and there is a significant correlation between defend basic skills under studying and Perceptual-motor time test according to Muting backhand blow; it was also found that these results are no consistent with hypothesis. It found that there was a significant correlation between attack basic skills under studying and Perceptual-motor visual test according to block blow the forehand face and this is consistent with the hypothesis. Also there was no significant correlation between attack basic skills under studying and Perceptual-motor visual test according to block blow the backhand face, and there was no significant correlation between attack basic skills under studying and Perceptual-motor visual test according to Muting backhand blow; it was also found that these results are no consistent with hypothesis.

CHAPTER 5

DISCUSSION

The present study aimed to identify the relationship of the sensory kinetic perception with the accuracy of some essential offensive and defensive table-tennis skills, the research used three kind of skill table tennis test (Sensory Kinetic Perception, Offensive skills and Defensive skills), each of them part on three skills test.

Results table 3 shows there was no significant correlation between Perceptual-motor skills by place and serve which the hypothesis is rejected. Also there was no significant correlation between Perceptual-motor by place and forehand which is reject hypothesis. And there was a significant correlation between Perceptual-motor skill by place and backhand which the hypothesis is accepted. The results of table 6 shows there was no significant correlation between Perceptual-motor by place and block blow the forehand face which is reject hypothesis. And there was a significant correlation between Perceptual-motor place and block blow the backhand face which is accept hypothesis. And there was no significant correlation between Perceptual-motor by place and muting backhand blow which is reject hypothesis.

The output of these two tables demonstrates the relationship between the sense of place and the defense and attack skills in table tennis game. The table shows the correctness of the hypothesis and the fact that the orientation is an affective factor in table tennis game According to study Sa'eed the sense of the place has a significant impact on improving the skills in table tennis game, but it is different from a place to another place (Saeed, 2014).

In these two tables, the impact of the sense of place cannot be found. Either it is because of the deficiency in performance of the players, or it might be because most of the skills could not be improved by this hypothesis according to study Sa'eed, attack and defense skills of table tennis game has a considerable relationship with the orientations (Sa'eed, 2014).

Results table 4 shows there was no significant correlation between the perceptual-motor through time and serve a rejection of the hypothesis. Also, there was no significant

correlation between the perceptual - motor by time and headlights, which rejected the hypothesis. There is no significant correlation between the perceptual-motor by time and backhand, which rejected the results of hypothesis. The result of table 7 shows there was no significant correlation between the time of perceptual-motor and the mass bombing of a refusal to face the forehand hypothesis. Also, there was no significant correlation between the place of perceptual-motor and the mass strike face backhand which rejected the hypothesis. There is no significant correlation between the place of perceptual-motor and mute hit a backhand rejected the hypothesis.

These two tables show that the time perception has nothing to do with the performance of the player in defense and attack skills. The reason behind the failure might be either that the performance of the players are not sufficient good for such a test, or that the table tennis game is about how to get points and does not depend on the time, or the place of the test might be inappropriate for such tests according to study Kida et al, found that the athletic skill level improved the reaction time of go or no go visual image operation. The present study further found that the athletic skill level improved the operation level of more complicated visual images and according to study reaction time, swing time and total reaction time shortened remarkably as school age increases. This is consistent with previous findings that reaction time declines sharply during childhood and middle adolescence (Andersen et al, 1984)

Results table 5 shows there was no significant correlation between perceptual–motor by dynamic visual perception and serve which is reject hypothesis. And there was a significant correlation Perceptual-motor dynamic visual perception and forehand which is accept hypothesis. And there was no significant correlation between perceptual–motor by dynamic visual perception and backhand which is reject hypothesis. The results of table 8 shows there was a significant correlation between perceptual–motor by dynamic visual perception and Block blow the forehand face which is accept hypothesis. There was no significant correlation between perceptual–motor by dynamic visual perception and block blow the backhand face which is reject hypothesis. There was no significant correlation between perceptual–motor by dynamic visual perception and muting backhand blow which is reject hypothesis.

These two tables show the significant impact of the sight sense on the both defense and attack skills of the table tennis and the output matches our hypothesis. The table tennis is game is always played in an almost quite atmosphere that is why the sensitive kinetic skills could effect on the performance of the player according to study Walhan and Hameed, emphasizes the importance of the visual focus, which the results reached that there is no positive relationship between the ban and accuracy skills in visual focus sitting volleyball (Walhan & Hameed, 2016). According to study Paul,Biswas & Sandhu Coaches and sportsmen are searching continuously and very frequently to find out better and newer techniques in order to improve the performance and and vision playing a particular role in athletic ability can form a platform for this search. The current study results indicate that the visual skill and eye hand coordination training program progresses the elementary visual and motor skills of the table tennis players. In addition, improved performance evaluation scores of the experimental group highlighted that the performance can be enhanced with enhancing visual skills in parallel. As such the performance of a player can get better by dedicating a designated visual program training for that player (Paul, Biswas& Sandhu2011)

According to these two tables, the sight sense does not effect on the defense and attack skills in table tennis game. As a result, it shows that the sense of sight could not be a factor that effects on the defense and attack skills in table tennis game. The reason behind failure of this theory might be the lack of the performance of the players. According to study Zupan et al being the first step of information processing vision forms an important component of successful sports performance. As such an athlete's ability to vary his visual determinants and coordinated movement in interceptive task add to his skills. Pertaining to the distinctive role of vision in sports, there has been claims that the use of visual training programs can be productive in player's performance (Zupan et al., 2006).

CHAPTER 6

CONCLUSIONS AND RECOMMENDATIONS

6.1 Conclusion

This study measured the sensory kinetic perception and its relation with the accuracy of some offensive and defensive skills in players between (12 -16) years old table-tennis Duhok sport club". The total number of all participants of the study was 19 player of Duhok table tennis club. Participants answered the questionnaire of the study to collect the data, SPSS statistical methods was used to analyze the descriptive data.

The results of this study as shown in the table 3, the score of serve 39.60±4.69, and the relation r=0.06, p=0.42, p>0.05, there is no significant correlation between offensive basic skills under studying and Perceptual-motor place test according to Serve. The score of serve 22.80±3.39, and the relation r=0.21, p=0.27, p>0.05, there is no significant correlation between offensive basic skills under studying and Perceptual-motor place test according to Forehand. The score of serve 24±3.52, and the relation r=057, p=0.04, p<0.05, there is a significant correlation between offensive basic skills under studying and Perceptual-motor place test according to Backhand. The result in the table 4, the score of serve 39.60±4.69, and the relation r=0.09, p=0.39, p>0.05, there is no significant correlation between attack skills under studying with Perceptual-motor time test according to Serve. The score of serve 22.80±3.39, and the relation r=0.12, p=0.36, p>0.05, there is no significant correlation between attack skills under studying with Perceptual-motor time test according to Forehand. The score of serve 24±3.52, and the relation r=0.048, p=0.44, p>0.05, there is no significant correlation between attack skills under studying with Perceptual-motor time test according to Backhand. The result in the table 5, the score of serve 39.60±4.69, and the relation r=0.37, p= 0.14, p>0.05. There is no significant correlation between attack basic skills under studying and Perceptual-motor visual test according to Serve. The score of serve 22.80±3.39, and the relation r=0.56, p= 0.03, p<0.05, there is a significant correlation between attack basic skills under studying and Perceptual-motor visual test according to Forehand. The score of serve 24±3.52, and the

relation r=0.08, p=0.41, p>0.05, there is no significant correlation between attack basic skills under studying and Perceptual-motor visual test according to Backhand.

The results of this study as shown in the table 6, the score of block blow the forehand face 23±2.58, and the relation r=0.07, p= 0.42, p>0.05, there is no significant correlation between defend basic skills under studying and Perceptual-motor place test according to block blow the forehand face. The score of block blow the backhand face 22.80±4.56, and the relation r=0.60, p= 0.03, p<0.05, there is a significant correlation between defend basic skills under studying and Perceptual-motor place test according to block blow the backhand face. The score of serve 21.40±3.74, and the relation r=0.04, p= 0.45, p>0.05, there is no significant correlation between defend basic skills under studying and Perceptual-motor place test according to Muting backhand blow. The results of this study as shown in the table 7, the score of block blow the forehand face 23±2.58, and the relation r=0.18, p= 0.30, p>0.05. There is no significant correlation between defend basic skills under studying and Perceptual-motor time test according to block blow the forehand face. The score of block blow the backhand face 22.80±4.56, and the relation r=0.14, p=0.34, p>0.05, there is no significant correlation between defend basic skills under studying and Perceptual-motor time test according to block blow the backhand face. The score of serve 21.40±3.74, and the relation r=0.44, p=0.09, p>0.05, there is a significant correlation between defend basic skills under studying and Perceptual-motor time test according to Muting backhand blow. The results of this study as shown in the table 8, the score of block blow the forehand face 23±2.58, and the relation r=0.81, p=0.01, p<0.05, there is a significant correlation between attack basic skills under studying and Perceptual-motor visual test according to block blow the forehand face. The score of block blow the backhand face 22.80±4.56, and the relation r=0.15, p=0.33, p>0.05, there is no significant correlation between attack basic skills under studying and Perceptual-motor visual test according to block blow the backhand face. The score of serve 21.40±3.74, and the relation r=0.15, p=0.33, p>0.05, there is no significant correlation between attack basic skills under studying and Perceptual-motor visual test according to Muting backhand blow.

6.2 Recommendations:

- Following the same methodology with testing on players whose ages are in the range (17-20) or more instead of testing on players whose ages are in the range (12-16).
- Following the same methodology but instead of testing on male players, the researcher could test on the female players in various ranges of ages.
- Following the same methodologies but taking some other skills rather than the defense and attack skills that we took in the experiment.
- Following the same methodology but using other sensitive kinetic skills rather than those, we took.
- In addition, the researcher claims that the trainers of table tennis game should take the importance of the sensitive kinetic skills in consideration.

REFERENCE

Al Zayadi, H. (2010). The Effect of Program to Development the Coordination Abilities on the tennis service, for students in physical education, Muthana university

Al- zoghbi, K. 2. (2002). The impact of development of reaction speed and accuracy on some level offensive and defensive skills of emerging table tennis under 17 years faculty of physical education , Port Said .

Alawi, M. H. (1982). Educational psychology sports . Dar Al – marifa, Alexandria.

Al-hakim, h. 2. (2015). Kareem Mo talk in table tennis . World sport foundation , 1st edition .

Amazeen, E.L., Amazeen, P.G., & Beek, P.J. (2001). Eye movements and the selection of optical information for catching. Ecological Psychology, 13, 71-85.

Andersen, K., Starck, L., Rosen, I. & Svensson, E. (1984). The development of simple acoustic reaction time in normal children. Developmental Medicine & Child Neurology, 26, 490-494.

Bernstein, N.A. (1996). On dexterity and its development. In M.L. Latash & M.T. Turvey (Eds.), Dexterity and Its Development (pp. 3-244). Mahwah, NJ: Erlbaum.

Billingsley, J. (1984). Machineroe joins new title fight. Practical Robotics, 14-16. Andersson. A robot ping-pong player: experiment in real-time intelligent control. MIT Press, Cambridge, MA, USA, 1988

Bingham, G.P. (1988). Task-specific devices and the perceptual bottleneck. Human Movement Science, 7, 225-264.

BROADEN, T. (1987). Toshiba progresses towards sensory control in real-time. The Industrial robot, 14(1), 50-52.

Cruse, H. (1986). Constraints for joint angle control of the human arm.Biological Cybernetics, 54(2), 125-132.

Djokić, Z. (2007). ITTF scored a goal (changes of rules in table tennis during 2000-2003). In Proceedings book. 10th International Table Tennis Sports Science Congress (pp. 168-174).

Fawzi, A. 1. (1980). Psychology of learning psychomotor skills sports . Dar Al – marifa Alexandria.

Fawzi, A. 1. (1983). Psychology . Dar Al – marifa Alexandria.

fawzi, A. 1. (1992). Sports psychology principles and technical applications . for publishing and printing , Alexandria.

Hussein, A. 1. (1986). The impact of some of the proposal development exercises sensory perception- kinesthetic on the level of performance in the technical exercises phD thesis unpublished. faculty of physical education for boys Cairo Halwan universty.

Huys, R., Daffertshofer, A., & Beek, P. J. (2004). Multiple time scales and multiform dynamics in learning to juggle. Motor Control, 8(2), 188-212.

Huys, R., Daffertshofer, A., & Beek, P.J. (2003). Learning to juggle: On the assembly of functional subsystems into a task-specific dynamical organization. Biological Cybernetics, 88, 302-318.

Ibrahim, M. 2. (2007). Scientific bases in table tennis and methods of measurement Ayat. Al -Zaqaziq , Egypt.

Khairou- Allah, s. 1. (1981). Educational psychology and its theoretical . experimental fundamentals .

khizir, A. 2. (2015). The impact of exercises proposed by some Elkinmetekih variables using a number of tools to help in the development of accuracy and speed of the forehand and backhand stroke in table tennis KOYA University. Kurdistan Rission.

Kida, N., Oda, S., & Matsumura, M. (2005). Intensive baseball practice improves the Go/Nogo reaction time, but not the simple reaction time.Cognitive brain research, 22(2), 257-264.

Kollarovits, z ,Teplicke , s , 1. (1995). Acts Faculties Educations physical Universities Comenianal Bratislava . (z)(37) , ,189-196 , Refs:3.

Larry , H. 1. (1993). Table Tennis: Steps to Success. Human Kinetics. ISBN 0-87322-403.

Liao, C. M., & Masters, R. S. (2001). Analogy learning: A means to implicit motor learning. Journal of sports sciences, 19(5), 307-319.

Paul, M., Biswas, S. K., & Sandhu, J. S. (2011). Role of sports vision and eye hand coordination training in performance of table tennis players.Brazilian Journal of Biomotricity, 5(2), 106-16.

Pipoll, H. and Fleurance, P. (1998). What does keeping ones eye on the ball mean Ergonomics, 31, 1647-1654.

Raab, M., Masters, R. S., & Maxwell, J. P. (2005). Improving the‘how’and‘what’decisions of elite table tennis players. Human movement science, 24(3), 326-344.

Raab,M. Masters,R Maxwell, J. (2005). Improving the ‘how’ and ‘what’ decisions of elite table tennis players.Human Movement Science Volume 24, Issue 3, June 2005, Pages 326–344.

Raab,M. Masters,R Maxwell, J. (2005). Improving the ‘how’ and ‘what’ decisions of elite table tennis players. Human Movement Science Volume 24, Issue 3, June 2005, Pages 326–344.

Rajih, A. 1. (1985). Origins of psychology. Dar Al – marifa.

Ramanantsoa, M., & Durey, A. (1994). Towards a stroke construction model.International Journal of Table Tennis Science, 2(2), 97-114.

Robergs, R. A., & Roberts, S. (1997). Exercise physiology: exercise, performance, and clinical applications (pp. 546-563). St. Louis: Mosby.

Saeed, S, J. (2014). : An analytical study for some of the attacking skilled performances for world ranked players in Table Tennis, during the 2012 London Olympics, Alexandria University, Egypt.

Seemiller , D. & Holowchak, M. (1997). Winning table tennis. Human Kinetics.

Sergio T. Rodrigues, Joan N. Vickers & A. Mark Williams (2002). Head, Eye and Arm Coordination in Table Tennis. Journal of Sport Science. Pages 187-200

SIMPSON , P. 1. (1980). Success-Ful Table Tennis . Charles Letts ,Co Ltd , Uk.

Sindik, J. Kondric, M.(2013). Differences in Indexes and Variables Directly Arising from the Results of a Table Tennis Competition in Two Different Seasons. Acta Kinesiologica 7 1:32-38

Sørensen, V., Ingvaldsen, R. P., & Whiting, H. T. A. (2001). The application of co-ordination dynamics to the analysis of discrete movements using table-tennis as a paradigm skill. Biological cybernetics, 85(1), 27-38.

Szymanski, B. (1997). Techniktraining in den Sportspielen-bewegungszentriert oder situationsbezogen. Hamburg: Czwalina.

Toriola, A. L., Toriola, O. M., & Igbokwe, N. U. (2004). Validity of specific motor skills in predicting table-tennis performance in novice players.Perceptual and motor skills, 98(2), 584-586.

Vickers J. N. (2003). Decision training: An innovative approach to coaching. Canadian Journal for Woman in Coaching, 3, 1-9

WALHAN, H. A., & HAMEED, R. M. (2016). The visual focus and its relationship to the accuracy of blocking skill in Sitting Volleyball. Ученые записки университета им. ПФ Лесгафта, (8 (138)).

Williams, A.M. and Davids, K. (1998). Visual search strategy, selective attention and expertise in soccer. Research Quarterly for Exercise and Sport, 69, 111-129.

Zhang, P. Ward, P. Li, W. Sutherland, j. Goodway, J. (2012). Effects of Play Practice on Teaching Table Tennis Skills. Journal of Teaching in Physical Education, 71-85.