CHAPTER -I
INTRODUCTION

1.1. HISTORY OF VIDEO AND COMPUTER GAME

Education system continues to face stern challenges due to swiftly technologies changes and consequences of that. Beside growing economical and information technology in world some new pattern of activities in recent decades grown up such as video and computer games that effect of them on children and adolescent users become new psychologists, educators and parents source of concern. One of the most popular multimedia activities in last few decades is electronics games. more than forty years passed of the first successful widespread arcade video game pong in year 1972 by Atari inc. Truly for this generation who is growing up in digital era, the interactive media is not entirely new phenomenon. It became as a dominate activity for them in 21st century. in the years ahead, it’s clear that the interactive entertainment media will have extra main role in the social and educational experiences of children and adolescents in the world and as well as in relation between them and educators, parents, researchers and society due to make changes in their behavioral patterns.

Adolescence is one of the crucial stages of development between childhood and adulthood moments which many physical, cognitive, social and emotional changes take place (Feldman, 2002), and beginning by onset of puberty and will ended by the attainment of psychological or physiological maturity (Reber, 2001). In this period of development individuals tend to identify with a groups of peers who becomes pivotal highly influential in their choices of activities, styles, music, idols, and role models. they underestimated of the risks associated with variety of recreational behaviors and their sense of supremacy, mixed with their drive to be autonomous (Sadock & Kaplan, 2007).

Video and computer games are now a common part of leisure activity for children and adolescents. Game is a generic term referring to any pattern of social interaction or organized play (i.e. a range of voluntary, intrinsically motivated activities normally
associated with pleasure and enjoyment. Garvey, 1990) with well-defined rules” (Reber, 2001). American Academy of Pediatrics (2006) defined free and unstructured play as a healthy and— in fact— essential element for helping children reach important social, emotional, and cognitive developmental milestones as well as helping them manage stress and become resilient” (as cited in Moe, 2007). Entertainment Software Association (2004) defined Video games an electronic game that involves interaction with a user interface to generate visual feedback on a device, their software is available on CDs or DVDs, although earlier game machines used cartridges (as cited in, pmag, 2011). due to combination of some elements(e.g. Fun, play, rules, goals, interactive, adaptive, outcome and feedback, win states, conflict/competition/challenges/opposition, problem solving, interaction, representation and story) the video and computer games are potentially the most engaging entertainment in the history of humankind (prenskey, 2001). The colorful, magnificent, amusing and attractive elements of video and computer games make them popular. They are accessible by a variety of devices, the range of handheld machine such as game console (e.g. Play station, Xbox and Wii), mobile phone, computers and even accessible in social network as Facebook that allow people to play in different situation and even during travelling .because of these factors they have users of all ages, genders, ethnic and backgrounds. Computer games are generally recognized as one of eight “genres,” (Action, Adventure, Fighting, Puzzle, Role Playing, Simulations, Sports, and Strategy) which often overlap (Circa, 2000, as cited in Prenskey, 2001).The worldwide pc-based game market is worth as $10.7 billion as of 2008 .this number includes retail sales, online revenue, digital distribution and relevant advertisement sales. By 2015 analysts predict the global video game industry will reach $91 billion. According to Strategic Management Group (2010) gaming industry in India is estimated only USD 239 million. However, this segment is expected to show high growth of 53% within 2013. Iran’s consumer electronics devices market, clarified as the addressable market for computing devices, mobile handsets and video, audio and gaming products, is forecast to be worth around US$9.6 billion in 2012. This is expected to increase to US$12.7 billion by 2016(Business Monitor International , 2009). Today we are in the middle of a new cultural and technological revolution, a dramatic change in which our children are pioneers. In the years that have followed, researchers found that video and computer
games can indeed have several positive and negative effects on user.children and adolescents playing video and computer games for increasing amount of time, and the games themselves become more graphically violent over time. Parents, educators, physicians and researchers commence to ask what the impact of these rapid changes might be. Behaviors from the media are often times considered suitable manners of acting by adolescent and children. It only stands to theoretical claim that violent video games would have a similar impact into lives as one would identify with the characters in video games, (Anderson et al., 2000). Video game also encourages players to identify with and role plays their favorite characters. This is referred to as a “first person” video game (Dill, 2000) because players are able to make decisions affecting the actions of the character they are imitating. After a limited amount of time playing a violent video game, a player can “automatically prime aggressive thoughts” (Bushman, 2002). According to Gentile et al. (2003) there are some reasons that video and computer games cause even a greater impact on adolescents compared to the violent programs on televisions such: Identification with an aggressor increases limitation of the aggressor; Active participation increases learning; Violence is continues; Practicing an entire behavioral sequence is more effective than practicing only a part; Repetition increases learning and Rewards.

As growing numbers of adolescent and children in the world play video and computer games, potential effect of game playing are being considered by researchers. There are series of previous studies that suggesting exposure to violent video games increased the aggressiveness in users and automatic learning of aggressive self-views (e.g. Uhlmann, Swanson, 2004; Gentile et al., 2004; Lindsay & Anderson, 2000; Olson, 2008; Polman, 2008; Moller & Krahe, 2009; Giumetti, Markey, 2007; konijn et al., 2007); players with higher level of trait aggression were more likely to prefer games with violent contents (e.g. Arriaga et al., 2006; Przybylski, Ryan & Rigby, 2009; Irwin & Gross, 1995); playing violent video game lead to decreasing of empathy and pro social behavior (e.g. Chu et al., 2007; Anderson, Bushman 2001; Anderson et al., 2010); in support of earlier evidence the research have shown users of video games with the pro social content behaved more pro socially (e.g. Gentile et al., 2009); The difference between user genders coming another concern of researchers in sphere of video and computer game comparative study. Finding have shown potential differences in
aggressive style between men and women, the game x sex interaction has larger effect on men (e.g., Bartholow & Anderson, 2002; Krahe & Moller, 2011); female player were healthier than males player (Williams et al., 2009); and boys are more attracted to violent video game (e.g., Lemmens, Bushman & Konijn, 2006).

We can generalize this result to other aspects of behavior. Most of the studies about the impact of using computer and video games on users’ behavior are focused on aggressive behavior; however, a few studies have investigated the other aspects of behavioral status like somatization. In this regard, as the health crises besetting our children continue to grow, and as the industry continues to expand, the need for additional research becomes ever more apparent. Only by overcoming our ignorance and filling in gaps of our understanding about the impact of video and computer games on users, we will be able to determine how to address the problems which we already face and the ones we foresee. This was an investigation into comparative between level of behavior symptoms (Somatization, Obsessive – Compulsive, Interpersonal Sensitivity, Depression, Anxiety, Hostility, Phobic Anxiety, Paranoid Ideation and Psychoticism) due to using video and computer games among Indian and Iranian adolescent boys, regarding two different cultures to find out extended and inclusive result.

1.2. NEED OF THE STUDY

Electronic games in terms of video and computer games have been achieving their Predominancy in realm of entertainment system since four decades ago which continued till current day. Movies, recorded music and television– these are all stagnating or contracting entertainment sectors. Video games are poised to eclipse all other forms of entertainment in the years ahead (Griffith, 2009). By virtue of the popularity of video and computer games, eradicating them from children and adolescent leisure time seems impossible. Roughly 1.2 billion number of adolescents (10-19 years) estimated in the world (2009), adolescents are approximately 33 percent of Indian population (global health fact 2011), and In Iran youth constitutes a significant proportion of population (25 percent). In the event that the economical class of society the person is belongs to does not be a barrier, most of adolescent use video and computer games. The gender difference
among users has shown through earlier studies (e.g., Males player are meaningfully more likely to be driven by the achievement and manipulation factors of those games (yee, 2006); 80 percent of gamers are boys (Cummings and Vandewater, 2007). In relation to favorite features of video games, significantly more adolescent than adult claims their favorite aspects of playing is violence elements (Griffith, 2004); Most adolescent boys routinely play M-rated (mature ranking suitable for age 17 and older ) games (Olson, 2007) by this presumption that most consumers are male who craving about M-rating games current research focused on male adolescents.

Owing the fact that video and computer games are interactional media with the exclusive elements such as rewards, continuous and active participation which Anderson and lynch (2001) have suggested, logically we can draw a conclusion that this type of games have more influential lasting effects on consumers In comparison with other electronic entertainment system such as television programs and movies which spectator are passive viewer. The result of previous study have shown existence of both negative and positive effects of video and computer games on adolescent and children consumers. The most important positive effect of video and computer game consuming on users are enhancing the problem solving ability and dexterity with learning computer skills, which supported by previous researches. But in other hand we face to this reality that video and computer games indeed have wide variety of negative impact on user also. First ,as most of the previous studies about the impact of using computer and video game on users’ behavior were focused on aggressive behavior due to content of games (e.g. Irwin & Gross, 1995; Anderson & Bushman, 2001; Gentile, Lynch & Walsh, 2004; Arriaga, Esteves, Carneiro & Monteiro, 2006; Guo, Xiao-Li, 2007; Anderson, 2008) and prososial behavior (Carnagey, Anderson, & Bushman, 2007; Guo Xiao-Li, 2008) a few studies have investigated the other pathological effects therefore in this study influence of these factors investigated as a same time and separately. Second the literature research about video and computer games in these geographical and cultural parts of Asia (India & Iran) obviously are insufficient and rare. Only by filling the gaps in our knowledge and conquering the ignorance, we will be able to ascertain how deal with the difficulties which we already confront and the ones we predict to face. This is an investigation into comparative between level of behavior symptoms (somatization, obsessive – compulsive,
interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation and psychoticism) due to using video and computer games time amount and content of favorite games among Indian and Iranian adolescent boys, regarding two different cultures to find out extended and inclusive result.

1.3. SIGNIFICANCE OF THE STUDY

The research per se contributes to knowledge production in a general manner. The intention of scholastic research is to achieve better comprehension of/or perspective on specific subject. This study is particularly relevant in the field of the social science in general and specifically in the discipline of education and psychology. However, study about video and computer games effect on behavioral problem realm is still essential. This section will provide brief description on the various significances of the study given the three categories Education, psychology and social science.

The Researchers. The result of the study will be benefit and helps the future researcher particularly education and psychology field as their guide. They would be able to use these data for them to get the ideas and references if they are planning to conduct the similar study. Through this study; the researchers will get better understanding about the potential problem and unusual symptoms of adolescent behavior (i.e. Somatization, Obsessive-Compulsive, Interpersonal Sensitivity, Depression, Anxiety, Hostility, Phobic Anxiety, Paranoid Ideation and Psychoticism dimensions) due to exposure of video and computer games. The importance of negative effect of video and computer games with M rating which may contain intense violence, blood and gore (i.e., the unsuitable content for children and adolescent consumers).

Teachers and parents. The current study will help teachers and parents to have a deeper understanding about potential negative effects of video and computer games as a one of the most appealing leisure activity for children and adolescent with inappropriate contents mostly violent component or spending highly amount of time with those games without monitoring that especially led to hostility symptoms and aggressive behavior in consumers.
User of video and computer games. The youngsters are the main consumers of this kind of entertainment. They are the main target and subject of this study for answering whether this games influences on their behavior negatively. Through this study, they would be able to have better understanding about content of games they use and importance of awareness about meaning of rating symbols noted on game cover that give them impartial information about games which helps consumer in a manner of giving clear sight and made guideline for purchasing and consuming appropriate games to prevent of probable negative effects. Follow some disciplines about time using these entertainment materials to prevent any probable problems.

The Readers. The readers would be able to understand some of predictable negative reaction after playing video games with M-rating content or applying excessively.

Policy maker and authorities: They would be able to use this data for future policy makings to control and monitor content of video and computer games produced or available in market.

1.4. STATEMENT OF THE PROBLEM

• “Comparative Study of Abnormal Behavior of Indian and Iranian Adolescents Due To Video and Computer Games”.

1.5. DEFINITIONS OF THE IMPORTANT TERMS AND PHRASES USED IN THE STUDY

Abnormal Behavior

• Conceptual definition:

Carson et al. (2008) defined abnormal behavior as maladaptive behavior detrimental to an individual or a group (G-R). According Feldman (2002) the difficulty in distinguishing normal of abnormal behavior has inspired a diversity of approaches for devising a precise, scientific definition of abnormal behavior. Furthermore Reber (2001) noted that Abnormal as any departure from norm of the normal, the term is used
variously to denote such things as purely quantitative deviations in statistical analyses and deviant behavior patterns of individuals.

Feldman (2002) has categorized abnormality as following definition:

- Deviation from average; views abnormality as deviation from the average—a statistical definition.
- Deviation from the ideal; abnormality as one that measures behavior against the standard toward which most people are striving—the ideal.
- Abnormality as a sense of subject subjective discomfort; behavior considered abnormal if it produces a sense of distress, anxiety, or guilt in an individual—or if it is harmful to others in some way.
- Abnormality as the inability to function effectively; people who are unable to function effectively and adapt to the demands of society are considered abnormal.
- Legal definitions of abnormality; according to the law, the distinction between normal and abnormal behaviors rests on the definition of insanity which is a legal, but not a psychological term.

- **Operational definition:**

  For the purpose of this study abnormal behavior refers to maladjustment behavior deleterious for a particular person or a group which involve somatization, obsessive-compulsive, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation and psychoticism distress which assessed by scl-90-r self report inventory.

- **Video And Computer Game**

  - **Conceptual definition:**

    According To Entertainment Software Association (2004) Video game is an electronic game that involves interaction with a user interface to generate visual feedback on a video device. The word video in video game traditionally referred to a raster display
device. A PC game, also known as a computer game, is a video game played on a personal computer, rather than on a video game console or arcade machine.

Prenskey (2001) claimed that due to combination of twelve elements video and computer games are potentially the most engaging pastime in the history of mankind. Games are a form of fun, play, rules, goals, interactive, adaptive, outcome and feedback, win states, conflict/competition, challenges/opposition, problem solving, interaction, representation and story. Circa (2000) categorized video and computer games in eight genres which often overlap. They are, in alphabetical order, Action, Adventure, Fighting, Puzzle, Role Playing, Simulations, Sports, and Strategy.

Craw and Cost (1998) mentioned two key elements which distinguish video games (although this distinction is not exclusive) of other games: Firstly Playing a Videogame is more than a ludic activity engaged in for its own sake. In videogames players always face a challenge and have a specific goal, for the accomplishment of which they must struggle with some kind of opposition. Secondly videogames provide not only the means (i.e., the toys) and the rules to play, but also an interactive gaming environment, as opposed to many other games, and, additionally, the gaming environment is always virtual (as cited in Fabricatore, 2000).

- **Operational definition:**

  For the purpose of this study, video and computer games refers to electronic games that come in forms of CDs, DVDs, internet downloads and online games. They can be played on a personal home computer (pc), television or portable hand-hold such as separate joystick or console and cell phone.

- **Adolescent**

  - **Conceptual definition:**

    According to Feldman (2002) adolescence is the developmental stage between childhood and adulthood during which many physical, social, and emotional changes take place. Adolescent is one who is at the stage between childhood and adulthood.
Reber & Reber (2001) remarked adolescence as: the period of development marked at the beginning by onset of puberty and at the end by the attainment of psychological or physiological maturity. The adolescent years extend from the onset of puberty, between the ages of 11-13 in the average child, to the age of maturity 19-21 years (Mangal, 2007).

Kundu & Tutoo (1988) consider this part of development as a most crucial period in the life of human beings: Adolescence is the time when the surge of life reaches its highest peak. The adolescent life is, or might be full of hopes. The adolescent is eager to interact with new experiences, to find out new relationships to examine resources of inner strength of inner ability .the adolescent tries to have freedom and set his goals and discover meant to achieve them.

According to Markus and Nurius (1986), adolescent adopt many different tactics to help them resolve their own personal identity crises, They try out many different roles – the good girl/boy, the rebel, the dutiful daughter/son, the athlete, the super cool operator – and join many different social groups. They consider many possible social selves – different kinds of persons they might potentially become. out of these experiences they gradually piece together a cognitive framework for understanding themselves – a self schema . once formed , this framework remains fairly constant and serves as a guide for adolescents in many contexts (as cited in Baron, 1995).

- **Operational definition**:
  For the purpose of this study Indian boys’ student between 14 to 16 years old who are going English medium schools and Iranian boys’ student between 14 to 16 years old who are going Persian high schools considered as adolescent.

- **Somatization**

- **Conceptual definition**:
  Sodock & Kaplan (2007) defined somatization as: A converting psychic derivatives into bodily symptoms and tending to reach with somatic manifestation, rather than psychic manifestations. In desomatization, infantile somatic
responses are replaced by thought and affect; in somatization, the person regresses to earlier somatic forms in the face of unresolved conflicts.

Lipowski (1998) defined somatization as “the tendency to experience and communicate somatic distress and symptoms unaccounted for by pathological findings, to attribute them to physical illness, and seek medical help for them” (as cited in Merskey). According to Reber (2001) Somatization disorder is a condition which characterized by a history of recurrent and multiple physical causes. The disorder virtually always begins in the teens or twenties and has a chronic but fluctuating course involving a wide variety of complaints about organic dysfunctions. Common complaints are vague pains, allergies, gastrointestinal problems, psychosexual symptoms, palpitations and conversions symptoms.

- **Operational definition:**
For the purpose of this study Somatization disorder considered as a somatoform disorder which assessed by scl-90-r self report inventory questions’ number (1,4,12,27,40,42,48,49,52,53,56 &58).

**Obcessive-Compulsive**

- **Conceptual definition:**

According to Carson (2008) obsessive –compulsive defined as occurrence of unwanted and intrusive obsessive thought or disturbing images which usually accompanied by compulsive behaviors performed to naturalize the obsessive thoughts or imaged or to prevent some dreaded event or situation.

The commencement of distress and severity of that are difference, Childhood or early adolescent onset is more common in boys than in girls and is often associated with greater severity. In most cases the disorder has a gradual onset, but once it becomes a serious condition, it tends to be chronic, although the severity of symptoms usually waxes and wanes over time (e.g., Matrix-Cols, Rauch et al., 2002; Stewart et al., 2004 as cited in Carson, 2008).
Operational definition:
For the purpose of this study obsessive – compulsive considered as an undesirable and intrusive thoughts or distressing images occurred with compulsive behaviors which in this study assessed by scl-90-r self-report inventory questions’ number (3,9,10,28,38,45,46,51,55&65).

Interpersonal Sensitivity

Conceptual definition:

Derogatis (1994) explained the Interpersonal Sensitivity concept as a tension which focuses on feelings of inadequacy and inferiority, particularly in comparison with other people. Self-deprecation, self-doubt, and marked discomfort during interpersonal interactions are characteristic manifestation of this syndrome. In addition, individuals with high scores on I-S report acute self-consciousness and negative expectations concerning interpersonal behavior with others and others' perceptions of them. Perugi et al. (1999) defined Avoidant personality disorder as a condition which operationally is broad and ‘avoidant as a specifier of a personality type is insufficiently precise. APD captures avoidant traits -which appear secondary to a core dimension such as interpersonal sensitivity. According to Millon (1996), “avoidant personality disorder is essentially a problem concerned persons, in contrast to social phobia, which is largely a problem of performing situations” (as cited in Crozier, 2001).

American Psychiatric Association (2000) defined the avoidant personality disorder as a Pervasive pattern of social inhibition, feeling of inadequacy, and hypersensitivity to negative evaluation that begins by early adulthood and is present in variety of contexts. Individuals with Avoidant Personality Disorder avoid work or school activities that involve significant interpersonal contact because of fear of criticism, disapproval, or rejection.

Operational definition:
For the purpose of this study the distress which considered equal with Avoidant Personality Disorder characterized by pervasive pattern of social inhibition, feeling of inadequacy, and excessive sensitivity to negative estimation that assessed by scl-90-r self report inventory questions’ number (6,21,34,36,37,41,61,69&73).
Depression

- **Conceptual definition:**

  According to Sadock and Kaplan (2007) depression is a mental state characterized by feeling of sadness, loneliness, despair, low self-esteem, and self-reproach; accompanying signs include psychomotor retardation or, at times agitation, withdrawal from interpersonal contact, and vegetative symptoms, such as insomnia and anorexia; the term refers to a mood that is so characterize or to a mood disorder.

  Reber (2001) defined generally depression as a mood state characterized by a sense of inadequacy, a feeling of dependency, a decrease in activity or reactivity, pessimism, sadness and related symptoms. In this sense depressions are quite normal, relatively short lived and (damnably) frequent.

  Birmaher et al. (1996) estimated the prevalence of depression which in children and adolescents occurs with high frequency:

  The point prevalence (the rate at the time of the assessment of major depressive disorder has been estimated to be between 0.4 and 2.5 percent for children and between 4.0 and 8.3 percent for adolescents one review of the epidemiology of depression in children and adolescents concluded the major depression is relatively rare in young adolescents, with up to 25 percent lifetime prevalence (as cited in Carson, 2008).

- **Operational definition:**

  For the purpose of this study depression is a mental state characterized by feeling of sadness, loneliness, hopelessness, low self-esteem, and self-blame which assessed by scl-90-r self-report inventory question number(5,14,15,20,22,26,29,30,31,32,54,71,79).

Anxiety

- **Conceptual definition:**

  According Sadock and Kaplan (2007) normal anxiety experiences with everyone. It is characterized most commonly as a diffuse, unpleasant, vague sense of apprehension, often accompanied by autonomic symptoms such as headache, perspiration, palpitation.
tightness in chest, mild stomach discomfort, and restless, indicated by and inability to sit or stand for long. The particular constellation of symptoms present during anxiety tends to vary among persons (p. 579). The behavioral or learning theories of anxiety postulate that anxiety is a conditioned response to a specific environmental stimulus (p. 581). In children and adolescents, the anxieties and worries often concern the quality of their performance or competence at school or in sporting events, even when their performance is not being evaluated by others (DSM-IV, 2000)

- **Operational definition**: For the purpose of this study anxiety characterized by the signs of nervousness, tension, and trembling which are assessed by scl-90-r self-report inventory question number (2.17, 23, 33, 39, 57, 72, 78, 80& 86).

**Hostility**

- **Conceptual definition**: According to Reber (2001) hostility is a long lasting emotional state characterized by enmity toward others and manifested by a desire to harm or inflict pain upon those at whom it is directed (p. 342). According to Sadock and Kaplan (2007) aggression is primarily a learned form of social behavior – one that is acquired and maintained in much the same manner as other forms of activity” (p. 150), which according to social factors divided to frustration, direct provocation and media violence which media violence influence behavior through modeling, desensitization, the arousal aggressive feelings, and the encouragement of risk taking. Feldman (2002) described aggression as an intentional injury of or harms to another person.

- **Operational definition**: For the purpose of this study hostility defined as a long lasting emotional state which characterized by hatred toward others and manifested by an aspiration to damage or agonize others which assessed by scl-90-r self-report inventory question number (11, 24, 63, 67, 74 & 81).
Phobic Anxiety

- **Conceptual definition**:

  Phobic Anxiety is defined as a persistent fear response—to a specific person, place, object, or situation—that is irrational and disproportionate to the stimulus and leads to avoidance or escape behavior. The items of this dimension focus on the more pathognomonic and disruptive manifestations of phobic behavior. Phobic Anxiety is very similar in definition to “agoraphobia” (Marks, 1969), also called "phobic anxiety-depersonalization syndrome" by Roth (1959) (as cited in Derogatis, 1994).

  Reber (2001) pointed out phobic anxiety as a fear experienced by one with a phobia when presented with the phobic object or circumstances. According to American psychology association (2000), anxiety is a fear about being in places or situations from which escape might be difficult (or embarrassing) or in which help may not be available in the event of having a Panic Attack or panic-like symptoms (e.g., fear of having a sudden attack of dizziness or a sudden attack of diarrhea).

- **Operational definition**:

  For the purpose of this study phobic anxiety fear about being in places or situations from which escape might be difficult in the event of having a panic attack which assessed by scl-90-r self-report inventory question number (13, 25, 47, 50, 70, 75 & 82).

Paranoid Ideation

- **Conceptual definition**:

  Reber (2001) described Paranoid ideation condition as a typical pattern of thinking displayed in cases of paranoia; it is characterized by suspiciousness and beliefs that one is being followed, plotted against, persecuted, etc.

  Colby (1981) defined paranoid cognitions as persecutory delusions and false beliefs whose propositional content cluster around ideas of being harassed, threatened,
harmed, subjugated, persecuted, accused, mistreated, vilified, and so on, by malevolent others, either specific individuals or groups (as cited in Hardin, 2004). Persons with paranoid personality disorder are characterized by long-standing suspiciousness and mistrust of persons in general. They refuse responsibility for their own feelings and assign responsibility for others. They are often hostile, irritable, and angry (Sadock & Kaplan, 2007).

- **Operational definition**:

  For the purpose of this study mental disorder characterized by delusions of persecution and suspiciousness and beliefs that one is being followed, plotted against, persecuted, etc. which assessed by scl-90-r self-report inventory question number (18, 18, 43, 67, 76, & 83).

**Psychoticism**

- **Conceptual definition**:

  Psychoticism is conceptualized as a continuum of liability to psychosis (principally schizophrenia and bipolar affective disorder) with psychopathy (i.e., anti-social behavior) defined as a halfway stage towards psychosis (Eysenck & Eysenck, 1976).

  Schizophrenia occurs in people from all cultures and from all walks of life, and its characteristic symptoms have long been recognized. The disorder is characterized by an array of diverse symptoms, including extreme oddities in perception, thinking, action, sense of self and manner of relating to others. However, the hallmark of schizophrenia is a significant loss of contact with reality, referred to as psychosis (Carson et al., 2008).

- **Operational definition**:

  For the purpose of this study psychoticism characterized as a withdrawn, isolated, schizoid lifestyle which in this study assessed by scl-90-r self-report inventory item numbers (7, 16, 35, 62, 77, 84, 85, 87, 88 & 90).
User of Video and Computer Game

- **Operational definition**: 
  For the purpose of this study, user of video and computer games has referred to students aged 14-16 boy who plays the video and computer game which divided in two groups of higher than mean time and lesser than mean time (7 hours for Indian and 7.5 hours for Iranian) according to the participants’ self-report.

**Mature Rating**

- **Conceptual definition**: 
  According to The Entertainment Software Rating Board (2010), the mature game is the group which Appropriate only for anyone aged above 17 years old. The game has content of strong violence (Scenes involving aggressive conflict. May contain bloodless dismemberment), language (Mild to moderate use of profanity), sex (Non-explicit depictions of sexual behavior, possibly including partial nudity) and blood (Depictions of blood or the mutilation of body parts).

- **Operational definition**: 
  For the purpose of this study favorite video and computer games with age ranking above teen which categorized by ESRB classification considered as a Mature Games that sorted out according to participants’ self-report

**Under M Rating**

- **Conceptual definition**: 
  Jason (2005) recommended this game rating for adolescent user under 17, involve rating group every one, every childhood, every one 10 and older and t (teen) children 13 +.

  Entertainment Software Rating Board (2010) categorized the games under mature rating in the following classification:

  - **Early Childhood**: titles rated EC have content that may be suitable for ages 3 and older. Contains no material that parents would find inappropriate.
Everyone: Titles rated E have content that may be suitable for ages 6 and older. Titles in this category may contain minimal cartoon, fantasy or mild violence and/or infrequent use of mild language.

Everyone10+: Titles rated E+10 have content that may be suitable for ages 10 and older. Titles in this category may contain more cartoon, fantasy or mild violence, mild language and/or minimal suggestive themes.

Teen: Titles rated T have content that may be suitable for ages 13 and older. Titles in this category may contain violence, suggestive themes, crude humor, minimal blood, simulated gambling, and/or infrequent use of strong language.

- Operational definition:
  For the purpose of this study the favorite video and computer games with age ranking every childhood, every one, every one +10 and teen which categorized according to ESRB classification considered as under Mature Games that sorted out in accord with participants’ self-report.

Comparative Study

- Operational definition:
  In this study the comparative research methodology conducted in order to compare the abnormal behavior status across Indian and Iranian adolescents due to content of video and computer games and time amount spending on the games.

1.6. OBJECTIVES OF THE STUDY

1) To identify adolescents boys’ abnormal behavior due to content of computer and video games.
2) To assess the level of abnormal behavior among Indian adolescent boys.
3) To assess the level of abnormal behavior among Iranian adolescent boys.
4) To compare the level of abnormal behavior across the nationality and time using video and computer game.
# 1.7. VARIABLES OF THE STUDY

<table>
<thead>
<tr>
<th>NO</th>
<th>Variables were measured in this study</th>
<th>Measuring tools</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Amount of time spending for video and computer games weekly</td>
<td>Self report by questionnaire</td>
</tr>
<tr>
<td>2</td>
<td>Age rate of video and computer game</td>
<td>Favorite game Self report</td>
</tr>
<tr>
<td>3</td>
<td>Content of video and computer game</td>
<td>Favorite game self report</td>
</tr>
<tr>
<td>4</td>
<td>Level of somatization disorder</td>
<td>Scl-90-r item numbers (1,4,12,27,40,42,48,49 ,52,53,56,58)</td>
</tr>
<tr>
<td>5</td>
<td>Level of obsessive-compulsive</td>
<td>Scl-90-r item numbers (3,9,10,28,38,45,46,51,55,65)</td>
</tr>
<tr>
<td>6</td>
<td>Level of interpersonal sensitivity</td>
<td>Scl-90-r item number(6,21,34,36,37,41,61,69,73)</td>
</tr>
<tr>
<td>7</td>
<td>Level of depression</td>
<td>Scl-90-r item numbers(5,14,15,20,22,26,29,30,31,32,54,71,79)</td>
</tr>
<tr>
<td>8</td>
<td>Level of anxiety</td>
<td>Scl-90-r item numbers (2.17,23,33,39,57,72,78,80,86)</td>
</tr>
<tr>
<td>9</td>
<td>Level of hostility</td>
<td>Scl-90-r item numbers (11,24,63,67,74,81)</td>
</tr>
<tr>
<td>10</td>
<td>Level of phobic anxiety</td>
<td>Scl-90-r item numbers (13,25,47,50,70,75,82)</td>
</tr>
<tr>
<td>11</td>
<td>Level of paranoid ideation</td>
<td>Scl-90-r item numbers (18,18,43,67,76,83)</td>
</tr>
<tr>
<td>12</td>
<td>Level of psychotism</td>
<td>Scl-90-r item numbers (7,16,35,62,77,84,85,87,88,90)</td>
</tr>
</tbody>
</table>
1.8. RESEARCH HYPOTHESES

**Hypothesis 1** “There is significant difference between adolescent boys’ abnormal behavior due to content of video and computer games”.

- **Hypothesis 1-1** there is significant difference in Somatization level between M rating and under M rating video game user adolescent boys.
- **Hypothesis 1-2** there is significant difference in obsessive-compulsive level between M rating and under M rating video game user adolescent boys.
- **Hypothesis 1-3** there is significant difference in interpersonal sensitivity level between M rating and under M rating video game user adolescent boys.
- **Hypothesis 1-4** there is significant difference in depression level between M rating and under M rating video game user adolescent boys.
- **Hypothesis 1-5** there is significant difference in anxiety level between M rating and under M rating video game user adolescent boys.
- **Hypothesis 1-6** there is significant difference in hostility level between M rating and under M rating video game user adolescent boys.
- **Hypothesis 1-7** there is significant difference in phobic anxiety level between M rating and under M rating video game user adolescent boys.
- **Hypothesis 1-8** there is significant difference in paranoid ideation level between M rating and under M rating video game user adolescent boys.
- **Hypothesis 1-9** there is significant difference in psychoticism level between M rating and under M rating video game user adolescent boys.

**Hypothesis 2** “There is significant difference in abnormal behavior level between higher and lesser than mean time Indian adolescent boy user of video and computer game”.

- **Hypothesis 2.1** “There is significant difference in somatization level between higher and lesser than mean time Indian adolescent boy user of video and computer game”.
- **Hypothesis 2.2** “There is significant difference in obsessive-compulsive level between higher and lesser than mean time Indian adolescent boy user of video and computer game”.

Hypothesis 2.3 “There is significant difference in interpersonal sensitivity level between higher and lesser than mean time Indian adolescent boy user of video and computer game”.

Hypothesis 2.4 “There is significant difference in depression level between higher and lesser than mean time Indian adolescent boy user of video and computer game”.

Hypothesis 2.5 “There is significant difference in anxiety level between higher and lesser than mean time Indian adolescent boy user of video and computer game”.

Hypothesis 2.6 “There is significant difference in hostility level between higher and lesser than mean time Indian adolescent boy user of video and computer game”.

Hypothesis 2.7 “There is significant difference in phobic anxiety level between higher and lesser than mean time Indian adolescent boy user of video and computer game”.

Hypothesis 2.8 “There is significant difference in paranoid ideation level between higher and lesser than mean time Indian adolescent boy user of video and computer game”.

Hypothesis 2.9 “There is significant difference in psychoticism level between higher and lesser than mean time Indian adolescent boy user of video and computer game”.

Hypothesis 2.10 “There is significant difference in additional items level between higher and lesser than mean time Indian adolescent boy user of video and computer game”.

Hypothesis 2.11 “There is significant difference in global index level between higher and lesser than mean time Indian adolescent boy user of video and computer game”.

Hypothesis 3 “There is significant difference in abnormal behavior level between higher and lesser than mean time Iranian adolescent boy user of video and computer game”.

• **Hypothesis 3.1** “There is significant difference in somatization level between higher and lesser than mean time Iranian adolescent boy user of video and computer game”.

• **Hypothesis 3.2** “There is significant difference in obsessive-compulsive level between higher and lesser than mean time Iranian adolescent boy user of video and computer game”.

• **Hypothesis 3.3** “There is significant difference in interpersonal sensitivity level between higher and lesser than mean time Iranian adolescent boy user of video and computer game”.

• **Hypothesis 3.4** “There is significant difference in depression level between higher and lesser than mean time Iranian adolescent boy user of video and computer game”.

• **Hypothesis 3.5** “There is significant difference in anxiety level between higher and lesser than mean time Iranian adolescent boy user of video and computer game”.

• **Hypothesis 3.6** “There is significant difference in hostility level between higher and lesser than mean time Iranian adolescent boy user of video and computer game”.

• **Hypothesis 3.7** “There is significant difference in phobic anxiety level between higher and lesser than mean time Iranian adolescent boy user of video and computer game”.

• **Hypothesis 3.8** “There is significant difference in paranoid ideation level between higher and lesser than mean time Iranian adolescent boy user of video and computer game”.

• **Hypothesis 3.9** “There is significant difference in psychoticism level between higher and lesser than mean time Iranian adolescent boy user of video and computer game”.

• **Hypothesis 3.10** “There is significant difference in additional items level between higher and lesser than mean time Iranian adolescent boy user of video and computer game”.
Hypothesis 3.11 “There is significant difference in global index level between higher and lesser than mean time Iranian adolescent boy user of video and computer game”.

Hypothesis 4 “There is significant difference between adolescent boys’ abnormal behavior due to time of playing video and computer games”.

- Hypothesis 4.1 “There is significant difference between adolescent boys’ somatization due to time of playing video and computer games”.
- Hypothesis 4.2 “There is significant difference between adolescent boys’ obsessive-compulsive due to time of playing video and computer games”.
- Hypothesis 4.3 “There is significant difference between adolescent boys’ interpersonal sensitivity due to time of playing video and computer games”.
- Hypothesis 4.4 “There is significant difference between adolescent boys’ depression due to time of playing video and computer games”.
- Hypothesis 4.5 “There is significant difference between adolescent boys’ anxiety due to time of playing video and computer games”.
- Hypothesis 4.6 “There is significant difference between adolescent boys’ phobic hostility due to time of playing video and computer games”.
- Hypothesis 4.7 “There is significant difference between adolescent boys’ phobic anxiety due to time of playing video and computer games”.
- Hypothesis 4.8 “There is significant difference between adolescent boys’ paranoid ideation due to time of playing video and computer games”.
- Hypothesis 4.9 “There is significant difference between adolescent boys’ psychoticism due to time of playing video and computer games”.
- Hypothesis 4.10 “There is significant difference between adolescent boys’ additional items due to time of playing video and computer games”.
- Hypothesis 4.11 “There is significant difference between adolescent boys’ global index due to time of playing video and computer games”.

Hypothesis 5 “There is significant difference in adolescent boys’ abnormal behavior due to nationality”.

- Hypothesis 5.1 “There is significant difference in adolescent boys’ somatization due to nationality”.
• Hypothesis 5.2 “There is significant difference in adolescent boys obsessive compulsive due to nationality”.
• Hypothesis 5.3 “There is significant difference in adolescent boys ’interpersonal sensitivity due to nationality”.
• Hypothesis 5.4 “There is significant difference in adolescent boys ’depression due to nationality”.
• Hypothesis 5.5 “There is significant difference in adolescent boys ’anxiety due to nationality”.
• Hypothesis 5.6 “There is significant difference in adolescent boys’ hostility due to nationality”.
• Hypothesis 5.7 “There is significant difference in adolescent boys ‘phobic anxiety due to nationality”.
• Hypothesis 5.8 “There is significant difference in adolescent boys’ paranoid ideation due to nationality”.
• Hypothesis 5.9 “There is significant difference in adolescent boys’ psychoticism due to nationality”.
• Hypothesis 5.10 “There is significant difference in adolescent boys’ additional items due to nationality”.
• Hypothesis 5.11 “There is significant difference in adolescent boys’ global index due to nationality”.

Hypothesis 6 “There is significant interaction effect of video and computer games and nationality” on abnormal behavior”.
• Hypothesis 6.1 “There is significant interaction effect of video and computer games and nationality” on somatization level”.
• Hypothesis 6.2 “There is significant interaction effect of video and computer games and nationality” on obsessive-compulsive level”.
• Hypothesis 6.3 “There is significant interaction effect of video and computer games and nationality” on interpersonal sensitivity level”.
• Hypothesis 6.4 “There is significant interaction effect of video and computer games and nationality” on depression level”.

• **Hypothesis 6.5** “There is significant interaction effect of video and computer games and nationality” on anxiety level”.

• **Hypothesis 6.6** “There is significant interaction effect of video and computer games and nationality” on hostility level”.

• **Hypothesis 6.7** “There is significant interaction effect of video and computer games and nationality” on phobic anxiety level”.

• **Hypothesis 6.8** “There is significant interaction effect of video and computer games and nationality” on paranoid ideation level”.

• **Hypothesis 6.9** “There is significant interaction effect of video and computer games and nationality” on psychoticism level”.

• **Hypothesis 6.10** “There is significant interaction effect of video and computer games and nationality” on additional items level”.

• **Hypothesis 6.11** “There is significant interaction effect of video and computer games and nationality” on global index level”.

1.9. NULL HYPOTHESES

**Null Hypothesis 1** “There is no significant difference between adolescent boys’ abnormal behavior due to content of video and computer games”.

• **Null Hypothesis 1-1** there is no significant difference in Somatization level between M rating and under M rating video game user adolescent boys.

• **Null Hypothesis 1-2** there is no significant difference in obsessive-compulsive level between M rating and under M rating video game user adolescent boys.

• **Null Hypothesis 1-3** there is no significant difference in interpersonal sensitivity level between M rating and under M rating video game user adolescent boys.

• **Null Hypothesis 1-4** there is no significant difference in depression level between M rating and under M rating video game user adolescent boys.

• **Null Hypothesis 1-5** there is no significant difference in anxiety level between M rating and under M rating video game user adolescent boys.

• **Null Hypothesis 1-6** there is no significant difference in hostility level between M rating and under M rating video game user adolescent boys.
- **Null Hypothesis 1-7** there is no significant difference in phobic anxiety level between M rating and under M rating video game user adolescent boys.
- **Null Hypothesis 1-8** there is no significant difference in paranoid ideation level between M rating and under M rating video game user adolescent boys.
- **Null Hypothesis 1-9** there is no significant difference in psychoticism level between M rating and under M rating video game user adolescent boys.

**Null Hypothesis 2** “There is no significant difference in abnormal behavior level between higher and lesser than mean time Indian adolescent boy user of video and computer game”.

- **Null Hypothesis 2.1** “There is no significant difference in somatization level between higher and lesser than mean time Indian adolescent boy user of video and computer game”.
- **Null Hypothesis 2.2** “There is no significant difference in obsessive-compulsive level between higher and lesser than mean time Indian adolescent boy user of video and computer game”.
- **Null Hypothesis 2.3** “There is no significant difference in interpersonal sensitivity level between higher and lesser than mean time Indian adolescent boy user of video and computer game”.
- **Null Hypothesis 2.4** “There is no significant difference in depression level between higher and lesser than mean time Indian adolescent boy user of video and computer game”.
- **Null Hypothesis 2.5** “There is no significant difference in anxiety level between higher and lesser than mean time Indian adolescent boy user of video and computer game”.
- **Null Hypothesis 2.6** “There is no significant difference in hostility level between higher and lesser than mean time Indian adolescent boy user of video and computer game”.
- Null Hypothesis 2.7 “There is no significant difference in phobic anxiety level between higher and lesser than mean time Indian adolescent boy user of video and computer game”.
- Null Hypothesis 2.8 “There is no significant difference in paranoid ideation level between higher and lesser than mean time Indian adolescent boy user of video and computer game”.
- Null Hypothesis 2.9 “There is no significant difference in psychoticism level between higher and lesser than mean time Indian adolescent boy user of video and computer game”.
- Null Hypothesis 2.10 “There is no significant difference in additional items level between higher and lesser than mean time Indian adolescent boy user of video and computer game”.
- Null Hypothesis 2.11 “There is no significant difference in global index level between higher and lesser than mean time Indian adolescent boy user of video and computer game”.

Null Hypothesis 3 “There is no significant difference in abnormal behavior level between higher and lesser than mean time Iranian adolescent boy user of video and computer game”.

- Null Hypothesis 3.1 “There is no significant difference in somatization level between higher and lesser than mean time Iranian adolescent boy user of video and computer game”.
- Null Hypothesis 3.2 “There is no significant difference in obsessive-compulsive level between higher and lesser than mean time Iranian adolescent boy user of video and computer game”.
- Null Hypothesis 3.3 “There is no significant difference in interpersonal sensitivity level between higher and lesser than mean time Iranian adolescent boy user of video and computer game”.

- **Null Hypothesis 3.4** “There is no significant difference in depression level between higher and lesser than mean time Iranian adolescent boy user of video and computer game”.

- **Null Hypothesis 3.5** “There is no significant difference in anxiety level between higher and lesser than mean time Iranian adolescent boy user of video and computer game”.

- **Null Hypothesis 3.6** “There is no significant difference in hostility level between higher and lesser than mean time Iranian adolescent boy user of video and computer game”.

- **Null Hypothesis 3.7** “There is no significant difference in phobic anxiety level between higher and lesser than mean time Iranian adolescent boy user of video and computer game”.

- **Null Hypothesis 3.8** “There is no significant difference in paranoid ideation level between higher and lesser than mean time Iranian adolescent boy user of video and computer game”.

- **Null Hypothesis 3.9** “There is no significant difference in psychoticism level between higher and lesser than mean time Iranian adolescent boy user of video and computer game”.

- **Null Hypothesis 3.10** “There is no significant difference in additional items level between higher and lesser than mean time Iranian adolescent boy user of video and computer game”.

- **Null Hypothesis 3.11** “There is no significant difference in global index level between higher and lesser than mean time Iranian adolescent boy user of video and computer game”.

- **Null Hypothesis 4** “There is no significant difference between adolescent boys’ abnormal behavior due to time of playing video and computer games”.

- **Null Hypothesis 4.1** “There is no significant difference between adolescent boys’ somatization due to time of playing video and computer games”.

• **Null Hypothesis 4.2** “There is no significant difference between adolescent boys’ obsessive-compulsive due to time of playing video and computer games”.

• **Null Hypothesis 4.3** “There is no significant difference between adolescent boys’ interpersonal sensitivity due to time of playing video and computer games”.

• **Null Hypothesis 4.4** “There is no significant difference between adolescent boys’ depression due to time of playing video and computer games”.

• **Null Hypothesis 4.5** “There is no significant difference between adolescent boys’ anxiety due to time of playing video and computer games”.

• **Null Hypothesis 4.6** “There is no significant difference between adolescent boys’ phobic hostility due to time of playing video and computer games”.

• **Null Hypothesis 4.7** “There is no significant difference between adolescent boys’ phobic anxiety due to time of playing video and computer games”.

• **Null Hypothesis 4.8** “There is no significant difference between adolescent boys’ paranoid ideation due to time of playing video and computer games”.

• **Null Hypothesis 4.9** “There is no significant difference between adolescent boys’ psychoticism due to time of playing video and computer games”.

• **Null Hypothesis 4.10** “There is no significant difference between adolescent boys’ additional items due to time of playing video and computer games”.

• **Null Hypothesis 4.11** “There is no significant difference between adolescent boys’ global index due to time of playing video and computer games”.

---

**Null Hypothesis 5** “There is no significant difference in adolescent boys’ abnormal behavior due to nationality”.

• **Null Hypothesis 5.1** “There is no significant difference in adolescent boys’ somatization due to nationality”.

• **Null Hypothesis 5.2** “There is no significant difference in adolescent boys’ obsessive compulsive due to nationality”.

• **Null Hypothesis 5.3** “There is no significant difference in adolescent boys’ interpersonal sensitivity due to nationality”.
• **Null Hypothesis 5.4** “There is no significant difference in adolescent boys’ depression due to nationality”.

• **Null Hypothesis 5.5** “There is no significant difference in adolescent boys’ anxiety due to nationality”.

• **Null Hypothesis 5.6** “There is no significant difference in adolescent boys’ hostility due to nationality”.

• **Null Hypothesis 5.7** “There is no significant difference in adolescent boys’ phobic anxiety due to nationality”.

• **Null Hypothesis 5.8** “There is no significant difference in adolescent boys’ paranoid ideation due to nationality”.

• **Null Hypothesis 5.9** “There is no significant difference in adolescent boys’ psychoticism due to nationality”.

• **Null Hypothesis 5.10** “There is no significant difference in adolescent boys’ additional items due to nationality”.

• **Null Hypothesis 5.11** “There is no significant difference in adolescent boys’ global index due to nationality”.

• **Null Hypothesis 6** “There is no significant interaction effect of video and computer games and nationality” on abnormal behavior”.

  • **Null Hypothesis 6.1** “There is no significant interaction effect of video and computer games and nationality” on somatization level”.

  • **Null Hypothesis 6.2** “There is no significant interaction effect of video and computer games and nationality” on obsessive-compulsive level”.

  • **Null Hypothesis 6.3** “There is no significant interaction effect of video and computer games and nationality” on interpersonal sensitivity level”.

  • **Null Hypothesis 6.4** “There is no significant interaction effect of video and computer games and nationality” on depression level”.

  • **Null Hypothesis 6.5** “There is no significant interaction effect of video and computer games and nationality” on anxiety level”.
- *Null Hypothesis 6.6* “There is no significant interaction effect of video and computer games and nationality” on hostility level”.
- *Null Hypothesis 6.7* “There is no significant interaction effect of video and computer games and nationality” on phobic anxiety level”.
- *Null Hypothesis 6.8* “There is no significant interaction effect of video and computer games and nationality” on paranoid ideation level”.
- *Null Hypothesis 6.9* “There is no significant interaction effect of video and computer games and nationality” on psychoticism level”.
- *Null Hypothesis 6.10* “There is no significant interaction effect of video and computer games and nationality” on additional items level”.
- *Null Hypothesis 6.11* “There is no significant interaction effect of video and computer games and nationality” on global index level”.

### 1.10. Delimitations of the Study

- The study is delimited to the school going adolescent boys between 14 to 16 years age.
- The study is delimited to boys’ student study in English medium schools of Pune (India) and private high schools of Tehran (Iran).
- The study is delimited to boy adolescents’ user of video and computer games.
- The study is limited to video and computer games that can be played on pc. Portable hand–hold device, separate joystick, console and mobile phones.

### 1.11. Limitation of the Study

- There was few conceptual and research literature pertaining to current research domain which have done in Iran and India.
- As the present study used the self-reports data collection tools the level of honesty and collaborations as well as psychological condition of respondent was out of researcher’s control.
- Difference feature of social and cultural issues between India and Iran.
- Result of the study was depending on participations’ assumption of the study.
1.12. ASSUMPTION OF THE STUDY

- Students have knowledge to operate computer and video games.
- Parents allow students to play the computer and video games freely.
- Most students are interested to play video and computer games.
- The computer and video games have effect on students’ individual behavior.
- Males are more competitive than females in the computer gaming.

1.13. CHAPTERIZATION OF THE STUDY

**Chapter I : Introduction**

This chapter was composed of the introduction, conceptual and operational definition of important terms and phrases used in this study was explained as key concepts such as video and computer game, adolescent, abnormal behavior and 9 dimensions of SCL-90-R, as well as significance of the study, objectives, research hypotheses and null hypotheses, limitation, assumption and variables of the study.

**Chapter II : Review of the Related Literature and Research**

In this chapter review of previous studies and related literature, information is demonstrate in support of and in anticipation of the methodology and analyses presented in this study, by two major parts Conceptual Literature contains literature coming from books, journalism, and other forms of material, concentrating or relevant to the study and Research Literature which empirically based like scientific paper, theses and dissertations, both published and unpublished, coming from local and foreign sources. It helped the investigator to know the current information of the problem in hand.

**Chapter III : Plan and Procedure**

This segment of research describes and illustrates the methodology and research design utilized in current study according to objectives mentioned in chapter one. This chapter will be dedicated to the description of the methods and policy done in order to
obtain the data, how they will be analysed, interpreted, and how the conclusion will be met include of research design, source of data, sample and sampling design, tools and techniques of data collection and analysis of data, ethical consideration and research procedure.

**Chapter IV: Analysis and Interpretation of Data**

In this chapter data were systematically arranged, analyzed and interpreted by statistical methods according to objectives of the study.

**Chapter V: Summary and Conclusions**

The purpose of final chapter is to summarize the research that was conducted. Included in this summary are a review of the purpose of the study, a restatement of the research objectives, the research methodology used, and a summary of major findings, conclusions and discussion. Recommendations for further research and possible studies conclude this chapter.

In the next chapter review of related literatures have presented.