

Sociological Analysis of Cybercrimes

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Abstract. In recent decades, the world witnessed immense developments and progresses in electronic technologies. Computers and the internet have become necessary tools which are affecting all individual and social dimensions of peoples' lives. With the increased influence of the internet in peoples' lives and in societies across the world, internet and computer crimes have also risen. The peculiar nature and characteristics of cybercrimes as including trans-national and global dimensions, an absence of global agreement around a unified legal definition of cybercrimes, rapid pace of such crimes being committed, lack of certain procedures on mutual cooperation and high prices incurred by the discovery of such crimes have caused judicial and police authorities to face serious challenges. Hence, determination of the nature and the growth rate of such crimes as well as its outcomes seem necessary. The studies done in various human science areas could be promising in this field. The current article, using gathered documents methods, is an introduction to cybercrimes and aims to explore this issue as well as related statistics. It will also review sociological theories provided in this regard and explain these crimes as well. The theories examined will be discussed in form of three general categories of social structure, social process and social reaction.

Keywords. Cybercrimes, Theories, Social Structure, Social Process, Social Reaction

1. Introduction

Today, the world is caught in the midst of an unprecedented technological transition which is accompanied by increasing growth in the number of people, tools and instruments connected to the internet. Millions of peoples across the worlds make use of ICT infrastructures for establishing exchanges and establishing communications with each other or with statesmen. The World Economic Forum has declared that: "Over 70% of world citizens are living in societies which have just taken step into the world of digitalization" (Report by the World Economic Forum, 2012). According to statistics released by the Global Internet Statistics, by the end of 2013, Asia, with a rate of 45.1%, had the highest number of internet users across the world. Graph 1 shows the percentage of internet users in 2013 as distinguished by continents.

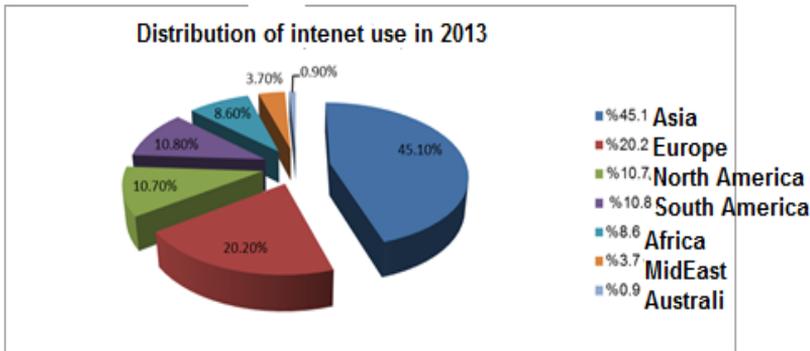


Figure 1: Internet Use in the World by Continents

As seen from the graph, it is clear that the percentage share of the internet users in the Mideast is 3.7%. Among Mideast countries, Iran as around 47 million users in the first three months of the year 2013 ranking first, Saudi Arabia is seconds with a gross difference with the number of 16.5 million people. The use if the internet in Iran has seen a rapid rise in recent years and ha reached 39% in 2014 from a low of 19% in 2011. In 2015, Iran ranked among the first twenty countries across the world as it had a 57.2% growth rate of the internet use. Thus, a large population of Iran has been absorbed to using the internet in recent years, and the internet has found way into various economic, social and political areas. The expanded use of the internet across the world along with the comfort and solace it has brought about for the users, has also engendered darks sides and bad consequences. Most important of which is the incrementing growth rate of cybercrimes.

Since cybercrimes are parts of the modern technologies and involve peculiar characteristics distinguishing tem from classic crimes (Zandi, 2010, p. 57), such properties as speed, diversity and accessibility of commission, cheapness, being cross-

border, anonymity, being automatic and the like have all shaped a distinct form of crimes, facing researchers and policy makers with serious challenges. According to the difficulties existing in measuring cybercrimes, the international comparative statistics are less than other crimes. The most significant source for gaining information as to the statistics and rate of cybercrimes is police reports. Some studies and researches done on people and internet ordinary users and also financial and commercial companies can yield estimates in this regard as they provide statistics on such crimes. Graph 2 has compared the first 20 countries across the world with the highest cybercrimes rates. While the nature of these crimes inhibit them to be accurately measured, one can gain an overall situation of world countries in the area of cybercrimes by looking at graph 2.

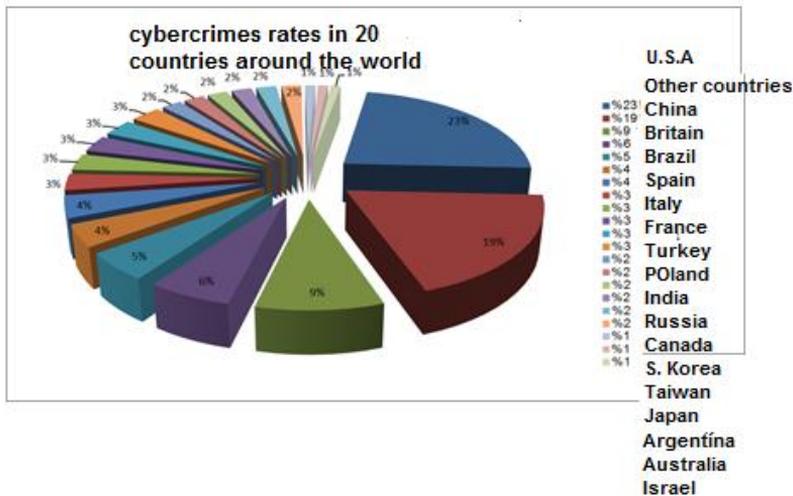


Figure 2. The first 20 Countries in the World with Highest Cybercrimes Rates

As shown in the graph, countries of the United States, China, Germany, Britain, Brazil, Spain, Italy, France, Turkey, Poland, India, Russia, Canada, South Korea, Taiwan, Japan, Mexico, Argentina, Australia and Israel rank first to 20th in terms of commission of cybercrimes. In total, cybercrimes show a large scale distribution across the world, involving all sorts of crimes including financial crimes and crimes related with content and violation of spiritual rights and assets. The most important issue raised in regard to cybercrimes is the label of damages inflicted from such crimes. Victimization of consumers as a result of cybercrimes entail, hefty financial costs both directly and indirectly. On the one hand, this will cause a flow of money from the pockets of the users to the pockets of the users, and hence it requires much time and energy for repairing computer systems or reviving the identity of people and compensating damages. On the other hand, some sort of mistrusts will occur towards electronic

banking systems in then society.

Content related crimes account for one-third to half of the most conventional cybercrimes. Content may be considered criminal for some various reasons; for example, due to contradiction with national security general order, general security, ethics and health, and rights and liberties of others. Looking at over 4600 request by world rulers for removing various material from Google, we find out that the said issues will not hold true in a wide range of content and material. Graph 3 compares different continents of Asia, America and Asia and the Oceania, showing violence-involving content, concerns relating to the privacy and peoples' security, pornography, identity forgery, hatred, disrespect and criticism of rulers are among the material which have been requested to be removed as they are called criminal.

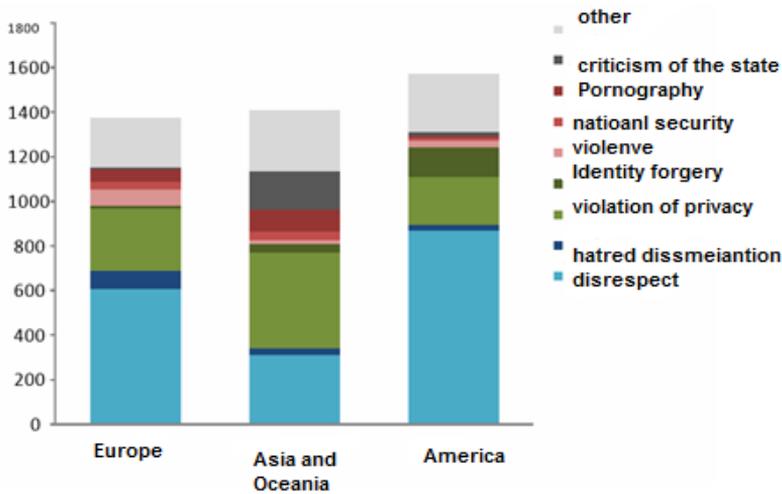


Figure 3. Content Requested to be Removed Due to Their Criminality Nature Since 2010-2012(source: Report by the United Nations Bureau of Drugs, 2013)

Violation of spiritual rights and assets also account for a high percentage of cybercrimes. The right of spiritual assets is a right granted to people and companies for their mental creations, Thus, each person has an exclusive right, for a certain period of time, to sue (provide and sell) scientific, literary and artistic works, and any use of these products without notifying and acquiring permission from the owner of the work is considered crime. The Copyright laws have been provided for this purpose and for protecting the books, writings, films and computer programs. However, some estimates suggest that 24% of total traffic is used for violating these laws.

Another major dimension of cybercrimes that has caused worries for societies is the

number of victims of these crimes; because the number of victims under aggression due to cybercrimes has considerably risen compared to ordinary crimes. The rate of online victims such as fraud via credit cards, identity theft, fishing and illegal permission and or aces to electronic posts are estimated to be between 1-17% of the total online people (connected to networks). Figure 4 shows the rate of cybercrimes victims and that of traditional crimes among the 20 countries across the world.

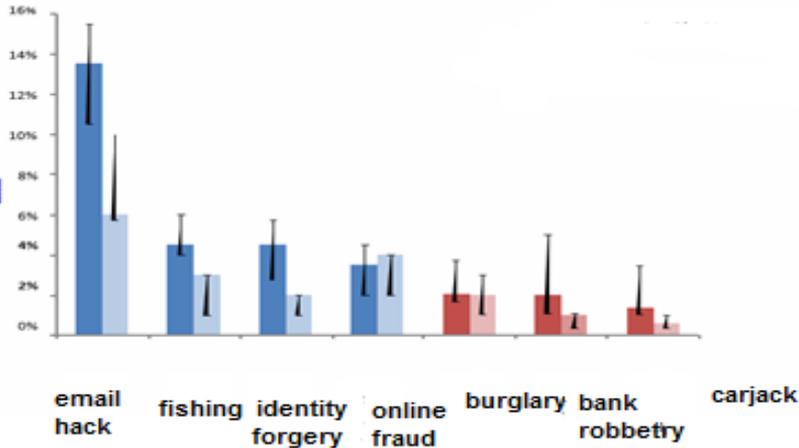


Figure 4: Comparison of Cybercrime and Traditional Crimes Victim Rates Among the 20 Countries Across the World (Source: the report by the United Nations' bureau of Drugs and crimes, 2013).

In Figure 4, the studied countries have been divided into two categories of countries with human development indices higher than 0.8 and lower than 0.8. As seen from the figure, in total, cybercrime victims statistics in less developed countries is higher. This pattern is only violated about crimes related with credit cards. Higher rate of victims of these kinds of crimes in developed countries can be attributed to more dependency of people of these countries to credit cards in daily lives, something not seen well in developed countries.

In graph, the percentage of victims from traditional crimes has been shown in both categories of countries. It is obviously seen that cybercrime victims are higher than those of traditional crimes in both categories of countries. Also, one can see that traditional crimes statistics in underdeveloped countries is higher than that of developed countries. Higher traditional crimes in underdeveloped countries can be attributed to such factors as inequality of income, economic challenges, historic conflicts, the yoi8n population and poor and unfair legal and judicial systems in these countries. However, these factors rarely affect cybercrimes. Cybercrimes victims may

be attacked by criminal from across the world due to the nature of such crimes. Hence, higher cybercrimes statistics in underdeveloped countries can be attributed to lower awareness among people with regards to cybercrime ills and weak cyber security systems.

In recent years, Iran has also faced with cybercrime growth and expansion of online perversions. According to the statistics release by the Information Technology Police in Iran, around 4000 cases of computer crimes were registered in this country only in 2011, 47% of which related to illegal bank withdrawals. As per statistics published in 2011, 36 websites were on average hacked. Over 73% of security holes divided in 2011 related to state websites, from which 60% of security holes were seen in the area of banks and internet services relating to banking systems.

To sum up, one can state that human societies, including the Iranian community, are not facing with serious challenges as a result of cybercrimes. Thus, researches about the nature of these kinds of crimes, their development, could help prevent them. In recent years, many researches and studies have been conducted in this regard. Psychologists, criminologists and sociologists have also addressed the causes of those crimes and various theories have been provided. The current writing is a review of sociological theories on internet crimes that could be promising in understanding social dimensions.

2. Research Methodology

The current research was a documentary method. In this method, the researcher gathers his own data about actors, events and social phenomena from among documents and sources. This form of research moves to modern insights about a certain issue as it combines various researches results. Thus, the research was aimed at reviewing the literature related with the subject matter as it seeks to criticize them and assess the methods ahead. Regarding cybercrimes, interdisciplinary researches have been done which have all sought to define and explain these kinds of crimes. The nature of these kinds of crime have brought about many discussions in scientific assemblies.

Some maintain that though cyberspace has culminated in many new challenges, the following mechanisms for crime commission in the virtual world are the same as the real-world. This group of researchers have explained the emerging cybercrimes by using traditional theories and in this regard, Self-control Theory, Social Learning Theory and Lifestyle –Routine activities- Theory have contributed most (Golden, Nalla, 2014, p. 1). However, some others have faith in developing new theories or rewriting of old theories; because they believe that cybercrime are new kinds of crimes (Boldne and Nlala, 2014, p. 5). These two perspectives have led to numerous definitions of cybercrimes. From among various definitions provided for cybercrimes, it seems that the definition applied by McGuire and Dowling is an encompassing and detailed one. They define cybercrime as an umbrella concept covering two kinds of

fully distinct but related criminal activities: Cyber-dependent crimes and Cyber-enabled crimes (McGuire and Dowling, 2013, p. 6).

- **Cyber-dependent crimes:** These kinds of crimes are performed by using computers, computer networks or other forms of ICT. Such activities as dissemination of viruses and other malwares, hacking, DdoS attacks are examples of such crimes. Cyber-dependent crimes are, in the first glance, done for damaging computers and network sources; though they may engender secondary outputs such as fraud. Cyber-dependent crimes can be groups in two: illegal infiltration to computer networks (e.g. hacking) and dysfunction or reduced effectiveness of computers and online networks (e.g. viruses and DdoS attacks).
- **Cyber-enabled crimes:** These kinds of crimes include old crimes whose scale and scale have risen by means of the internet and other forms of ICT. Unlike cyber-dependent crimes, these kinds of crimes can still be committed without using the ICT. Such crime as financial fraud, financial tricks, fishing and farming are such crimes.

The results of these definitions and various classifications form a set of theories for explaining cybercrimes; Sara Lowman have subdivided them into three categories of Criminological theories, psychological theories and sociological theories (Lowmann, 2010,p. 44). In the current paper, we introduce sociological theories and examine them in relation to cybercrimes.

3. Research Findings

Sociological theories are mainly concentrated on social structure, and deal with social reactions and processes. Siegel and Senna have divided social theories provided on cybercrimes into three general categories: social structure theories, social process theories and social reaction theories (Omidvar and Saremi, 2002), each of which involves several theories. Table 1 shows theories raised in each field.

Table 1. Social Theories on Cybercrimes

Row	Theory name	Theory name	Founder	Theory properties
1	Social structure theories	Social disorganization theory	Emil Durkheim	Criminal behavior is considered to be the individual's adjustment with conditions governing low class settings
		Pressure theory	Robert Morton	
		Pervert subculture theory	Albert Cohen	
2	Social process theories	Differential link theory	Edwin Sutherland	Abnormality is considered as arising from humans' interactions in daily social life
		Social control theory	Hershey	
3	Social reactions theories	Label theory	George Herbert Mid Alfred Schutz	It is concentrated on a role economic and social entities have in creating abnormal behavior
		Conflict theory	Marx	

4. Social Structure Theories

According to the social structure theories, the Criminal behavior is considered to be the individual's adjustment with conditions governing low class settings. Siegel and Senna have divided social structure theories into three categories: social disorganization theories, pressure theories and subculture theories (pervert culture).

- Social disorganization theory:** The social disorganization theory has roots in structural functions and considers the society as a complicated and dynamic system whose different parts are coordinated through social rules and regulations together, and when an issue changes a part of the system, others parts of which need to adjust and coordinate themselves with it. Otherwise, the social and cultural system of the society will disrupt and various social issues will follow. According to this theory, in line with modernity and urbanization of the society or occurrence of any major changes in the society, the intimacy existing in old small communities will be lost. With group links disrupting and old common regulations disappearing away, peoples' lives will be unpredictable. The society will face confusion and contradiction, because the benefits and interests of various groups will stand against each other, and the social system will, as a result of commonplace rules, face such a dire situation that, according to Durkheim, it is called "Anomy". The anomy created will, in the end, lead to the emergence of social deviations and problems (Zembroski, 2011, p. 4).

In other words, various forms of anomy is a result of transformation and disruption of organizing laws that were previously existing, but, due to social abnormal changes, they have been aborted and have caused deviations (Mohaaamdi Asl, 2006, p. 138). Hence, the annihilation of traditions existence of contradictions in social rules, lack of

various behavioral rules at the social level, cultural conflicts, anomy, weakness of laws and incoordination among entities and social relations could pave the way for the emergence of various social issues.

Pressure theory: The pressure theory was introduced with the macro perspective of social disorganization view. Morton became concerned with analyzing individual patterns and means to attain valuable social goals under disorganization conditions and clarified peoples' reactions to disorganization in form of five individual conformity methods including harmony, isolationism, rites centeredness, rebellion and innovation. Innovation attracted the highest attention in the area of crime studies and delinquency. Morton defines this situation as: "When the individual accepts the emphatically valuable goals by the society, but he/she has not internalized institutional norms relating to it and the means to attain it". Morton applied this situation for explaining criminal behaviors (Zembroski, 2011).

Robefrit Agnew (1999) considers failure in reaching positive valuable goals, lack of positive valuable motives and the existence of negative motives as sources of pressure. In societies in which people are directed to more emphasis on special goals (e.g. money, position and independent), and it is difficult to attain such goals through legitimate channels, people all struggle to achieve those goals through illegitimate methods (Alivardi Nia et al. 2007, p. 9).

- **Deviant subculture theory:** Extending Morton's theories, Albert Cohen conducted some studies on deviant subculture and concluded that deviation results from the harmony of people with social groups' norms and values to which they belong. If people do belong to groups whose values and norms are different t from a larger society, they are considered as deviant (Cook, 2012, p. 3). In fact, a major part of deviant behaviors is usually done in form of a deviant group framework. Mostly, people sharing some certain deviations come together for mutual supports and ends and for providing facilities for committing crimes. The deviant subculture refers to dominant values and behaviors and mutual understanding in which members of a group share them; however, the conventional society does not accept them. The link between the deviant subculture with the rest if the society is already disrupted, because this subculture makes use of norms, values, languages and terms which are specific to them. Many people ostracized by the conventional society seek to join to the deviant subculture to discover position, comfort and latter recognition. After joining this subculture they start a process of socialization so as to lard accepted behaviors rules and their meritorious roles in this new context.

5. Social Process Theories

Social process theories consider anomy as arising from humans' interactions in daily social lives. Siegel and Senna considerations kind of theory as including differential link theories, social control theories and social control theory by Hershey.

Differential link theory: In his studies, Sutherland (1995) found out that crimes are taught through social interactions. He also referred to the significance of "differential social organization". This means that social groups are organized in various ways; some are formed in support of criminal behaviors and some in conflicts with them (Zembroski, 2011, p. 5). To align with desires ideals and group expectations, some people would like to join t them and strengthen their coherence with them and thus they commit deviancies. This approach assumes social deviation as a function of a set of interactions and exchanges which arise from environmental situations. The differential link theory suggests that deviant behavior is taught in interaction with others, particularly in interaction with close and intimate people. Therefore, deviant behaviors by patents and friends are among the most important sources for learning criminal behaviors. Research and statistical surveys have shown that the functioning of families and friends are directly related with deviation behaviors and crime commission (Shambiani, 2003; quoted by Tavakoli Fard, 2012, p. 33).

- **Social control theory:** This theory considers the main cause of deviancy as lack of social control. The main assumption is that of Freud who has stated that people naturally tend to deviancy and if not placed under control, they do deviant behaviors and peoples' deviancy is a product of lack of inhibition than arising from forces stimulating towards anomy (Sedigh Sarvestani, 2010, p. 51). The most notable theory introduced in this regard is that of Hershey. He maintains that the factor preventing delinquent behaviors by adolescents and the young people is social link". Social links or bonds have four main elements of attachment, commitment, engagement and belief. Weakness in each of these four elements in the individual can result in the emergence of deviant behaviors: those having no attachment in others, are not worries to risk their social relations, and for this, they are likely to commit deviant behaviors. The more the individual is committed to families, friends and the like, the more the possibility of deviant behavior will be. The ones who have no continued participation in life activities work and family affairs, and are idle, have more opportunity for deviations. If an individual has not string belief in ethical values and principles of a group, or he/she is no loyalty to this these values, he/she is more likely to commit deviant behaviors (Omidvar and Saremi, 2002, p. 56).

6. Social Reaction Theories

Social reaction theories concentrate on the role social and economic entities have in creating abnormal behaviors; in other words, the way in which the society reacts against the individual and a way in which people react to the society as well. The two theories of label and conflict can be named as the most important social reaction theories (Omidvar and Saremi, 2002, p. 39).

- **Label or stigma theory:** Then stigmatizing approach is a product of social philosophy by George Herbert Mid and Alfred Schutz. This approach deals with social definition of deviancy. Then sociologists in this area have sought to discover how situations, people, processes and events are called issues by others. Then focus of this approach is this belief that social issues and deviancy do exist in "the eyes of the beholder" (Robington and Weinberg, 2010, p. 137). This approach considers deviancy as a concept made by the society; i.e. a group in the society conveys the sense of deviancy with the enactment of laws, violation of which is considered deviancy. From this perspective, deviancy is not the property of a behavior done; rather it is the result of laws and punishments about an individual who has done that behavior (Sedigh Sarvestani, 2010, p. 57).

This theory considers people as able to stigmatize who are representing common laws, order and ethics and stigmatizing as deviant whoever breaches the said laws and ethics. Police, judges, prison guards, psychiatrist, mental hospitals' authorities and other social control factors do possess such authorities. Examples of the labeled include the poor, criminals, delinquents, addicts and mental patients and the like (Shor, 1980, p. 58). Stigmatizing a person as deviant has consequences. The notoriety from being famous for deviant is in fact a kind of fulfilling prophecy, because, at first others look at his/her conventional behaviors with pessimism and secondly, they behave differently and inappropriately towards him/her. Hence, they increase his/her willingness to take part in deviant groups more than encouraging him/her to conformity.

- **Theory of conflict:** The conflict theory is inspired by Marx' theories and unlike construct and functional approach of deviancy assumes that inside the society there is no unified and actual agreement about values, and the society is combined of opposing groups that enjoy different values and benefits that are embodied in form of social classes. From this perspective, crime is the outcome of class conflicts. Hence, powerful groups govern their own values on the society and call people and groups lacking power not obeying their values and norms as deviant and criminals. In this environment, the laws are simply turning to a mechanism for controlling the malcontent, the poor, and those lacking power in the society, such that the interests of the authorities groups are protected. In reality, social conflicts theories claim that the differential distribution of power in plural societies cause some groups enjoying

sufficient share of power to enact laws and to implement them which are detrimental to the rival groups and serve their own interests (Sedigh Sarvestani, 2010.p. 69). From this regard, social deviation is a reaction against conflicts existing in the society.

7. Discussion and Conclusion

In the late twentieth century and in the post-industrial era, the world saw an impressive phenomenon as a result of scientific progress and new communication technologies; a phenomenon which is fact meant re-birth of the world with some different characteristics with those of the real world. This phenomenon was called cyberspace and rapidly encompassed many daily activities of human beings (Varva'ea and Momeni Pur, 2012, p. 2). The speedy growth of technology caused value and ethical systems, legal and supervisory systems not to have the opportunity for conformity with this new emerging phenomenon and thus, the human communities were faced with serious challenges. The old order died and in then vacuum of the new order, deviancy and perversion heightened in the new emerging cyber world. One of the best sociological theories for explaining this situation is the social disorganization approach which attributes the emergence of internet deviancies in the society to lack of social rules as proportionate to the virtual world.

The virtual world has major differences with the real world and requires its own special rules and laws. Until do's and Don'ts are not developed in te virtual world and in regards to the use of the internet, and social mechanisms are not prepared for controlling the virtual world, it will be possible those deviancies in the virtual world. The production and dissemination of material contrary to ethics and societal ethics, prostitution and gossips in social networks can be enumerate as outcomes of this sort of disorganization. Cultural gap created as a result of rapid growth of technology and that culture has been left behind of these rapid changes have entailed many cultural outcomes for the developing society of Iran. Among such bad repercussions, we can refer to weakening of friendship and intimacy links and limited bonds because of social networks.

People who spend most of their time in ten virtual world seek to establish relations with others who are similar to them. Hence, there is a mutual understanding among them in such communication networks which get engaged people close to each other. The society become virtual gradually which will have its own culture; a subculture which is unknown and incomprehensible for people out of this society and some members of it may be called pervert or deviant. The interactions formed in relations to this space will result in dissemination of this culture and deviancies. Cyber criminals are mostly intelligent and knowledgeable people and their interactions with other people with similar interest take place through electronic communications. If some of them have no tendency to communications acts, they may be affected by people being

in contact with them, and to be encouraged to do criminal acts (Okeshola and Adeta, 2013, p. 4). Such crimes as dissemination of viruses, malwares, hacking of sites and personal data theft are cases which are done by students.

On the other hand, cybercrimes, like traditional crimes, are, in some cases, affected by economic situation of the individual and by the society. Poverty, inflation, economic corruption, joblessness, and bad economic situation are among the factors which have affected human societies from old times. According to the pressure theory, crime commission is a solution for releasing from the pressure imposed on the individual as a result of economic factors, in so far as according to statistics, a large part of internet crimes in Iran and in the world (around 80% of computer crime in Iran) are comprised of financial and economic crimes (Varva'ea and Momenipur, 2013, p. 11).

Internet deviancies like social deviancies are in some cases reactions against conflicts existing in the society. Wealthy and powerful groups in the society control all media and supervise all information and communication processes so that through this, they can convey to people the news and information which are in line with their own benefits and values. Hence, any effort for acquiring information from other sources, is deviation from their view and is called crime. One of the media which provides an endless source of information and diverse opportunities for establishing communications is the internet which equips the groups lacking power in the society for countering powerful groups. Thus this will face with harsh reaction by the wealthy and powerful people. Internet crimes related with content can be thus explained. After reviewing theories provided, one can conclude that cybercrimes are diverse and large scale due to their scope and content and they cannot be explained by one unified theory; rather, there is a need for an interdisciplinary set of researches and various theories to explain these crimes.

Since the advent of cybercrimes, scientists of various sciences have dealt with the causes of this phenomenon and various theories in different humanities areas have been provided in this regard. The knowledge existing on cybercrimes is not coherent and developed body of knowledge due to scope of range and the fact that the subject matter is common in various sciences. Thus, some researchers seek to regulate this wide ranging scope and have provided different categories of theories in this regard. In the current article, a three-fold categorization of theories introduced was provided on cybercrimes (criminological, psychological and sociological theories) and sociological perspectives in relation to cybercrimes (internet crimes) as well as relevant guidelines to prevent them were offered. In sum, one can state that some of these theories could alone suffice to explain cybercrimes, because cybercrimes is a multidimensional and complicated phenomenon and to explain it in each society, it is required to take into account all individual, social, economic, cultural and political dimensions. However, to prevent from these crimes, one needs to think of measures and actions.

Since adolescents account for a large part of internet users in Iran, the level of vulnerability of this group of people in the face of internet crimes and deviancies is

high to the same extent and given the determining role the young people have in marking their destiny, it is necessary to adopt measures for protecting these people.

- The first step in this way is to accurately define crime and internet deviancies; such that it is fair and free from one's own tastes, paving the way for countering and preventing from these kinds of deviancies.
- Enactment of up-to-date laws and determination of crime appropriate to crimes can be a deterring factor against potential criminals and the cyber police is a major force for countering criminals and protecting citizens' rights. However, one van do more work to prevent from the occurrence of crimes.
- Education is the best weapon against illiteracy and lack of awareness. Via holding conferences and educational workshops, one can educate people how to make use of cyberspace privileges while protecting their own personal data and not top fall victims to cyberspace minuses. Also, via including rubrics with subjects related to cyberspace in the schools' educational program, one can start these educations from low ages.

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