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Risk Factors Related to Juvenile Drug Use

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Abstract

The aim of this study was to explore the prevalence of drugs abuse in the juvenile prison taken from pre-trial detention and Penitentiary Institution of the Albanian Country and to examine some evidence between criminal behavior and use of drugs by juvenile offenders. This research is an exploratory one, and tries to determine a link between criminal behavior and drugs. The target population consists of 71 imprisoned juveniles aged from 14 to 18 in four prisons in pre-trial detention and prison institutions in Albania. For the entire population of males and females offenders interviews are used, due to their small numbers. Direct interviewing was managed by trained interviewers at a time and place convenient to the prison system and insuring the confidentiality of the offenders' responses. Analyses reported in the present study involve simple descriptive statistics from Univariate Analysis to describe the central tendency of mean, mode, median, range, variance, max, min, standard deviation and percentages. Juvenile offenders who experiment with drugs, report episodes of offending, especially physical assault, robbery and stealing either those who were in detention for the first time or recidivists in crimes. An important finding is related to the onset of first offense among the juveniles. The mean age of first offending suggests that young males under the age of 16 years are at increased risk of criminal offending. Almost all offenders reported having used marijuana or alcohol, a percent reported crack cocaine use at the age of 11-14 years old. It is important to establish that not all drug users are criminals, and not all criminal acts are committed by drug users. However, the study highlight certain issues that need attention of country policy-makers. Juveniles are heavy users of marijuana and according to the present research, typically began their marijuana use at around the age of fourteen.

Keywords: juvenile, drug use, pre-trial detention, sentenced.

1. Introduction

Substance abuse remains an issue which is quite difficult to deal with (Kenneth et al., 2018), during its withdrawn process (Kenneth & Botvin, 2011). Referring to the term “abuse of narcotic substances”, we consider the use of alcohol, tobacco, marijuana and other forms of synthetic drugs by the adolescent. It is either considered as an issue of mental health (Childs & Sullivan, 2013) and as such is addressed in a multidisciplinary team. Substance abuse does not

only affect the abusive individual (DeLisi et al., 2015), but also has an extension to the family, society, school and community (Brook et al., 2013) where the user lives. It seems that the most vulnerable category to fall a prey to drug abuse (Burnhams, 2016) remains the adolescence. Drug use in a teen age (Averdijk et al., 2016) has long and short-term consequences in the user's life. An element that is believed to link narcotic drug users is their involvement into illegal activities as a source of drug purchasing (Brook et al., 2006) or acting under their effects (Ramsoomar, 2015). Referring to studies on the risk factors for substance abuse, there could be included a series of factors that can interact alone or with one another. Socio-economic factors (Botvin et al., 1995) seem to play a major role in the drug use matters.

There is a connection between lower socio-economic status (Magidson et al., 2016) and drug use growth. Children grown in families living in a lower socio-economic status, especially whose parents, work for a minimum wage (Ennett, 2008) exhibit little care and supervision that can push their children to drug abuse problems. Communities with a lower social economic status are characterized by high unemployment (Kadalie & Thomas, 2013), drug use, easy drug finding and criminality.

But other factors can also make the situation threatening, such as physical and mental health disorders (Merrill et al., 1999), including self-mutilation and suicidal behaviors, poor education, adolescent friendships with problematic and violent family history of drug abuse and alcohol adults (Catalano et al., 2002). Another risk factor relates to school (Eggert et al., 2001) and its role in order that the adolescent be able to manage his aggressive behavior or be protected from peers abuse form or even from teachers in some cases.

Coping with academic failures and finding sustainable forms of improvement in academic achievement (Matthews, Griggs & Caine, 1999) can help teenagers not to undertake the decision (Broadus et al., 2010) to leave school. It is suggested by the researchers that the school, the decision to expel a teenager from school due to behavioral problems (Choi et al., 2012) can be managed more carefully (Kenneth & Botvin, 2011). Researchers have suggested that adolescents drug users tend to be easily involved in criminal activity (Akers, Sellers & Jennings, 2016) and in a variety of other serious behaviors forms (Agnew, 2015).

But even the adolescent period is likely to develop transitional dynamics (Poundall, Bogdanovica & Langley, 2018) that increase the adolescent's uncertainty (Agnew, 2006) in relation to his status (Francis, 2014) both inside and outside the family. It seems that puberty with changes in physical development or social conditions related to the relocation of the family from one area to another, the divorce of the parents, during the period where the children begin to exhibit a higher vulnerability toward behavioral problems. The aim of the research is to give the opportunity of exploration of these factors based on how adolescents perceive them.

2. Method

Through an explorative study is aimed to define the links between criminal behavior and drug abuse in four institutions, 3 detention centers, concretely two in the city of Tirana and one in Durres, and the juvenile prison in Kavaja. Data were collected during the February-May 2017 period. The overall objective of the study was to determine the prevalence between the use of juvenile substances and the analysis of the link between criminal behavior and drug use as perceived by the adolescent. However, we would like to emphasize that it is not intended to determine the link between substance use and criminal behavior.

Relating the research sample, it consisted of 71 juveniles, of whom 4% were female and 94% males.

Table 1. Demographic data for gender

Gender		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Girls	3	4.22	4.22	4.22
	Boys	68	94.4	94.4	100.0
	Total	71	100.0	100.0	

3. Instrument

Data collection was developed through a pre-encoded interview that allowed us to collect information about the following dimensions:

- The socio-demographic data of the studied population;
- Their legal status;
- The use of drugs before imprisonment, the impact on imprisonment and the connection with violence before and during imprisonment;
- Changes in obtaining it while in jail;
- The link between crime and drug use, its classification.

The history of criminality for every convict who took part in the study

Interviews' data were transcribed using the Excel program and then imported into the SPSS.18 statistical program.

4. Data analysis

Types of performed analyzes included descriptive statistics, mean, median-range, variance, max, min, standard deviation and percentage statistics.

5. Results

Referring to the statistics of the General Pennintentiary Directorate, it appears that the number of juveniles involved in criminal offenses has increased from year to year. Referring to the demographic data on the settlement, it results that juveniles belonging to urban areas have the highest proportion of juvenile prisoners.

Table 2. Demographic data

Location		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Rural Areas	29	45.8	45.8	45.8
	Urban Areas	42	54.2	54.2	100.0
	Total	71	100.0	100.0	

Referring to the statistics of the General Penitentiary Directorate it is revealed that the number of juveniles involved in criminal offenses related to the use and use of narcotic drugs has increased.

Table 3. Number of juveniles in penal I.E.V., May 2017

Institution	Detained	Sentenced
Kavaja	19	21
Tirana	18	-
Durres	13	-

Source: General Penitentiary Directorate

Referring to statistics at the national level, the largest number of criminal offenses involving juveniles are in the two main cities of Tirana and Durres. This evidence was provided by juveniles serving the sentence or are under trial at the Institution of Execution of Criminal Decisions in Kavaja, which is the only penitentiary institution for juveniles in the Republic of Albania.

Table 4. Type of crimes committed by juveniles, 2015-2017

Types of crime	2015	2016	2017
Unauthorized possession of weapons	18	18	25
Injury	8	20	14
Trafficking and Use of Narcotic Substances	17	21	25
Theft	51	31	65
Weapon theft	9	12	6
Violent theft	19	18	8
Attempted Theft	2	-	6
Theft in collaboration	56	75	36
Murderer	10	3	10
Attempted Homicide	3	1	4
Rape of the graves	-	-	-
Sexual/homosexual relations with minors	3	9	8
Laundry of criminal offense products	1	-	-
Threat for not denouncing crime	2	-	-
Light criminal offenses	-	-	7

Source: General Penitentiary Directorate

This evidence can be argued by the fact that after the 1990s' there has been a large population shift in these two cities in almost from all Albanian areas. Referring to the general data, the majority of the juvenile are involved in criminal acts against property and less against the person. It is noted that the offenses committed by juveniles are mostly thefts, according to the Criminal Code classifications. In addition, the growth of juveniles who commit the criminal offense of narcotics distribution or use is of a great concern, especially in recent years.

6. The history of criminal behaviors

If we look at the data, it is revealed out that the theft and theft in co-operation are the two types of criminal offenses we have and the largest number including the juvenile. Another interesting fact worth discussing is the fact that the biggest number of juveniles in the last year was found to be unauthorized weapons and trafficking and use of narcotic drugs.

The prevalence of using narcotic substances referring to self-report questionnaire.

Referring to the data on the use of narcotic substances by juveniles by the type and age when they started using drugs, it results that tobacco and marijuana are among the two narcotic substances that are used in the highest percentage of juveniles and that the age of commencement

of use starts early, around 11-13 years, it is also reported that both alcohol and Crack were used by youth of this age.

Table 5. Type of drug used by age when experimenting for the first time

Descriptive Statistics						
Age		N	Minimum	Maximum	Mean	Std. Deviation
11-13	Marijuana	39	.86	2.43	3.6500	.48050
	Alcohol	39	1.00	3.57	2.9330	.70125
	Tabacco	39	1.60	3.80	4.9000	.61171
	Krack	39	1.30	3.60	2.6700	.54396
	Valid N (listwise)	39				
14-16	Marijuana	32	1.00	3.47	2.4530	.70225
	Alcohol	32	1.50	3.70	2.2300	.51171
	Tabacco	32	1.70	3.30	1.9040	.41171
	Krack	32	1.00	3.50	1.6740	.53396
	Valid N (listwise)	32				

Whilst in the other 14- to 16-year groupage, marijuana and alcohol are seen as forms that are often experimented with by teens. From the data collected through self-report surveys, it is seen that juveniles have their own perception of risk factors related to the use of narcotic substances. Teens (21.7%) think that drug injection and use are real-risk behaviors. But even though they see it as threatening, among 62.7% of them consider substance use necessary, feeling helpless to withdraw from.

About 37.3% of adolescents think that substance use has had a detrimental effect on their education, their relationships with others (inhere referring mostly to relationships with family members which have been affected as a result of their problems with the use of narcotic substances such as tobacco, alcohol, marijuana) and everyday life.

They report that their daily routine changed dramatically after the drug use began, some of them reported that they were like fuzzy and were not able to provide much information about what they remembered in these stages. Another interesting report referring to the perception of juveniles on the possible causes of criminal offenses were to obtain or buy drugs (47.4%).

Table 6. Self-reports of minors on their perception of risk factors related to drug use

Risk factors connected to drug use	N	Frequency	Percent	Valid Percent	Cumulative Percent
Behaviors that put the minor at real risk (drug injecting/use)	71	21	1.07	1.07	1.4
Considers the use of substances a necessity	71	62	19.3	19.3	6.2
Harmful effects on education / relationships / everyday life	71	37	9.3	9.3	39.0
Has committed criminal offenses to provide/buy drugs	71	47	12.4	12.4	67.4
Has traded/exchanged drugs	71	45	11.8	11.8	81.4
Other drug-related behaviors (criminal behavior, fraud)	71	54	18.2	18.2	100.0

Of the juveniles involved in the study, 45.8% of them reported being involved in drug trading and drug trafficking. And 54.2% of them revealed their involvement in drug-related behaviors such as robbery and fraud.

Referring to the data on the level of education, it results that 5% of them did not have any school class, 14% had only completed elementary education, 68% had completed the 9-years secondary education and only 13% had begun secondary education although not all had completed it. Referring to the reasons that teens revealed on the possible causes of the school termination, it is shown that 13% of them were excluded, 10% reported being forced to leave school as for family problems and 12% associate school dropouts with economic problems.

While 30% relate the issue to emigration and they said they left school because they wanted to leave the country, 21% of juveniles bring about learning difficulties, 2% refer to peer conflicts and 8% to conflicts with teachers. Distance of school from juvenile dwelling is reported by 2% of them and health issues from the 2% of teens.

7. Conclusions

It's not easy to be a teenager in our country. It seems that the political situation of the last few years makes it easier to deal with narcotic substances. On the other hand, the family and school institutions are not playing their role properly in terms of support and non-abstinence of the teenager adrift. Two of the cities that represent the highest levels of criminal behavior involving juveniles are Tirana and Durres which are the two largest centers with the largest number of population in the country. The criminal offenses that see as protagonist teens are theft and theft in collaboration followed by illegal weapons possession and trafficking and the use of narcotic drugs. Concerning is the fact that juveniles report that involvement in risky criminal behavior is related to their need for income from drugs.

Most of juveniles involved in criminal behavior comes mainly from urban areas. Their education is interrupted and adolescents find that there are some reasons where, with the highest percentage of emigration, they decide to leave school to migrate from their country into a European country for better life, learning difficulties as well as the exclusion for the unreasoned absences and economic problems, such as the inability to purchase books and clothing which are also presented as reasons for school interruption.

Adolescents have been in contact with marijuana, alcohol, tobacco, and other types of drugs very early between the 11-13 years old, a fact of great concern to every actor in our society, whether they are individuals or institutions. Teens admit that they find it very difficult to withdraw from drug use even though they appear to show a sort of awareness about the problems drugs have caused at a personal and interpersonal plan. These evidences should give more attention to the police, family, school and community structures in order to help youth for a better future.

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The authors declare no competing interests.

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Cyberdeviance and the Role of Data Privacy Officer's Sustainable Structures in its Prevention

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Abstract

Prevention is undoubtedly one of the core items of today's health and social care. Mass media, technology and the information technology system are of the most influential tools in the cognitive and psychological development of a person's social life. The objective of the present article is to explore some of the basic aspects of the relationship between cyber deviant behaviors and the role of order security and cyber security structures such as the Data Privacy Officers (DPO) that exist in the cyber-digitalization preventing process. This article intersects the core aspects of deviant cyber subculture and the role of DPO officers in the screening and prevention of criminal extreme acts. The implementation of misguided protection strategies and consumer safety from hazardous navigation and risky online behaviors directly affects the growth of passive and active criminality, qualitative changes of attitudes and behaviors by pointing more towards antisocial personalities and rising risks for a broader national and regional security.

Keywords: cyber deviant behavior, digitalization technology, DPO, national security, prevention.

1. Introduction

Technical and technology developments have made human life changing a lot over the last decades. Within the development and refinement of technology in general and the informative one in particular, remains the *cyberspace* as an important part. The Internet can have a powerful impact on the development of value systems and shaping behavior.

The extraordinary increase in the use of computer technology and information, ICT, has brought a very wide range of exploration opportunities and vulnerability to exposure risk in the juvenile populations. Given its global and easy access character through connected devices, the internet has undoubtedly changed the socio-evolutionary form of the mankind. ICT influences on fluid and crystallized intelligence are two important arguments in support of this premise.

On the hand, the alienization of technology has also provided new crime opportunities that can use the same advantages offered by these technologies to meet their own objectives. The growing number of Internet users offers society the perspective to accelerate communications in everyday life and for the purpose of fostering relationships, reducing transactions and spending, doing business, increasing access to information, and creating a *global identity*.

On one hand, with the development of new opportunities for economic and social growth, the distribution of technology has changed the current picture of the concept of crime and introduced new challenges to the community, for micro and macro policy-makers as well as law enforcement officers. The cyberspace is constantly a major source of various illegal activities that include not only the emerging new types of crime, such as *hacking* or tracking through encryption or spyware programs, but also poses a specific concern in the increasement of the right for the protection of personal data and on the broader national security.

On the other hand, aggressive cyberdeviance has also led to an increased influx of traditional crime migration such as malicious exposure, trafficking, pornography and juvenile abuse, fraud, theft, etc. From the way we build an investigation profile, information sources, designs, stages and the need for and assistance that gives a profile, we can construct data on the psychological profile of the author and the target group as well as with the stimulating behavior and psychological state of an individual in committing a criminal act (Agastra et al., 2017).

Undoubtedly, the fight against cybercrime requires strengthening, either at the legal, but also at the criminal and procedural level, the instruments that allow the investigation and prosecution of persons who abuse with ICT for committing criminal acts. The present global dimension of cybercrime and the transboundary nature of information networks through ICT also bring the need for harmonization of legislative approaches and coordinated actions in the prevention and investigation of cybercrime at national, regional and interregional levels (Gercke, 2006-2009).

Although ICT networks are largely privately owned, the comprehensive cybercrime approach also includes the development of tools for effective cooperation with the industrial informatic sectors that promote the implementation of co-regulatory and self-regulatory methods.

Every actor in this multilateral environment interested in combating and preventing crime in the cyberspace faces a wide range of challenges that may be related to general problems of the global nature of cybernetics or the unique character associated with the change of nature of the tasks, responsibilities and functions of the parties used to act either in the real world or in the cyberspace. Police as a responsible and regulatory entity for maintaining and protecting public order, detecting, monitoring and preventing crime is one of the protagonists in this scene facing a wide range of challenges (Walt, 2007) regarding the migration of traditional crime to the ICT environment and the emergence of new forms of criminal activity with a focus on the juvenile group (Quille, 2009; Kozlovski, 2005; Wall, 2007).

2. The role of Data Protector Officer and law enforcement structure in screening and preventing cybercrime

Existing approaches to combating crime in the real world are often not functional in cyberspace or may not be applicable in cases of ICT misuse for criminal purposes. It is therefore important to propose and develop a comprehensive approach to a hierarchy micro and macro-structural to address the various aspects of cybercrime along the unique challenges that seem new to law enforcement and investigative entities.

On a big issue of relevance, the Data Protection Officer structures in the European Union are principally governed by the EU Data Protection Directive 95/46/EC (the Data

Protection Directive), which regulates the collection and processing of personal data across all sectors of the economy. The Data Protection Directive has been implemented in all 28 EU Member States through national and an International data protection laws. The reform of EU data protection laws has been the subject of intense discussion in the European Commission's publication in January 2012 of its proposal for an EU Data Protection Regulation, which would replace the Data Protection Directive and introduce new data protection obligations for data users and new rights for individuals, especially in the security and defence of the cybercrime populations. The European Commission proposal was adopted in May 2016 as the EU's General Data Protection Regulation (the Regulation) which entered into force in all Member States from the 25th of May 2018. Personal sensitive data relate to a data subject's race or ethnicity, political life, trade union membership, religious or other similar beliefs, health or sex life that can be processed in specific defined circumstances. For a more secure and safe cyberspace, the EU Electronic Communications proposed a Directive 2002/58/EC (the ePrivacy Directive) for the electronic use and misuse of Data. This ePrivacy Directive imposed requirements on providers of electronic communication services to provide an appropriate security measures and to notify certain security breaches in relation to personal data. The ePrivacy Directive was also amended in 2009 to require that website operators obtain the informed consent of users through website 'cookies' or similar technologies used for storing information. In 10 January 2017, the European Commission issued another draft of the proposed Regulation on Privacy and Electronic Communications to replace the existing ePrivacy Directive, which was formally patterned in 28 May 2018.

More effort from the police structures is needed when we refer to the rights of e-users and juveniles using a safe and protected cyberspace.

Authors have proposed some approaches should be taken into account in the development of strategies to combat crime in the virtual world (Bamberger & Mulligan, 2011):

- **The quantity and number of users.** The proliferation of internet usage in people's daily lives and as a way of doing business is dramatically increasing in the number of users in recent years. So in 2005 the number of internet users in the developing countries for the first time exceeded the number of users of the industrialized countries (Special Immigration and Development Report, Information Society, 2005).

In our country, the data show that in 2016-2017 out of 175 cybercrime cases 143 have the involvement of injured persons or 81.7% of cases, from which 51% are female. 11.8% of cases belong to the 14-18 years old or adolescence (Agastra et al., 2017)

In the global perspective, cybercrime is a form of crime that affects both sexes at the same time, but the long-term exposure of developing ages has already changed the focus of this target group. The increase in the number of users regarding the globalization of the communication network is a new challenge for the police and the cyberspace protection structures for at least two reasons: First, one of the weaknesses that poses an opportunity for criminals is the lack of understanding of individual online security along with the application of social engineering and privacy techniques (Rash et al., 2009).

Secondly, identity theft, *spam* and *phishing* activities can be performed automatically (Berg, 2007; Ealy, 2003) without investing money and efforts, it is therefore very difficult to automate the investigation process (Gercke, 2009).

- **Availability of means and information.** Internet is designed as an open access network to information and now extreme deviants can access sources of information or tools to commit cybercrime. Availability of software or compute softwares and devices that allow password tracing and theft, automation of cyber

attacks, the possibility of using search engines and robots for illegal purposes (Long, Skoudis & van Eijkelenborg, 2005; Dornfest, Bausch & Calishain, 2006) and guidelines on how to commit offenses have facilitated the development of crime both in the real world and cyberspace.

- **Difficulties in tracking offenders.** The various opportunities to conceal identity in ICT networks and the different means, ways and approaches to access anonymous, surfing, and social networking links really complicate the work of law enforcement agencies to track and monitor the offenders (Lovet, 2009).

Opportunities for the use of proxy servers, anonymizers, unprotected public wireless networks and the use of anonymous communication services have been largely exploited by cybercrime. When criminal activity involves different states, it is very difficult to investigate such acts that include both the international aspect and the hidden identity concern.

- **A lack of control mechanisms.** Since its first discovery, in the 1960s, the Internet was not designed to be vertically led. The horizontal structure and decentralized network model hampers control over online activity and makes it difficult to investigate crimes committed in cyberspace. Co-regulatory and self-regulatory approaches and cooperation with infrastructure operators as well as with internet service distributors are needed when dealing with the problem of ICT misuse (Sofaer & Goodman, 2001).

- **The lack of boundaries in the cyberspace and the international aspect of cybercrime.** Penology and criminal investigations are considered a matter of national sovereignty in international law and security, while the protocols applied to the transfer of data on the internet are based on the optimum data transfer, so the data transfer processes pass on more than one country (Putnam & Elliott, 2001; Sofaer & Goodman, 2001; Roth, 2005).

Furthermore, because cyberspace has no boundaries, criminals and victims can be found in different countries or even in different continents, requiring a multitude of co-operation by all countries involved in an international investigation. While the formal requirements for cooperation take up its time, the investigation process can often be faced with obstacles (Gercke, 2006; Sofaer & Goodmann, 2001), data and tracks are very delicate and may disappear shortly after the crime has been committed. States, which have no co-operation framework for cybercrime issues, may become a safe shelter for offenders who want to hinder the investigation process. Moreover, the internet can motivate an individual deviant to be physically present in a state while committing a crime to another state.

The role that police and law enforcement agencies must play in combating cybercrime with a focus on juveniles is endangered by all the above-mentioned issues. Not only cybercrime investigation is complicated, but cybercrime investigation policing may also be hindered. It is very difficult for police agencies to initiate investigations mainly because of the low visibility of this crime and the lack of reporting by the victims (Lovet, 2009). The phenomenon of non-declaration of cybercrime, as well as many other phenomena of the social aspect, may occur for various reasons such as the unwillingness of commercial entities and financial companies to report to the police a certain account or threatening injurious behavior, the negligence of individuals involved in cyberbullying in ignoring these issues, the denial and the unknowledge that cybercrime is true and may have involved the individual and at last the lack of trust in police structures (CSI & FBI, 2004; Wall, 2007). Due to the low level of reporting, the lack of resources and reporting to law enforcement agencies, these structures are not able to investigate and prospect more than a "small" fraction of what is happening in cyberspace (Vogel, 2007).

Since the use of internet and ICT technologies, provide researchers the opportunity to create low-impact income to a specific victim as one of the most significant challenges for the

police is the justification of the violation of public order and the opening of investigation procedures.

Differences in criminal acts and offences, cultural differences for the seriousness of crime, great discrepancy over what should be considered illegal, place police units among those most affected units by these contemporary evolution challenges. Finding a fair balance between investigative power and human rights, the application of preventive measures and the preservation of the nature of open access to the Internet remain a serious problem of the police units in the cyberspace.

The lack of control mechanisms, of the initial development of internet and network architecture require the development of cyberspace policing tools, the mechanisms for monitoring ICT networks, of the prevention and detection of illegal activities on the Internet and the net space. Likewise, the initial idea of the internet as a space for open discussion, exchange and sharing of opinions and viewpoints as well as the free flow of information should not be hindered, so, the challenge is also to maintain the network opening and its developing process along with social developments.

According to the National Central Bureaus of Interpol (NCB) published in April 2016, 83% of international offices had dedicated cybercrime units, but lacked the capacity for conducting a high profile incident (Interpol, 2016).

Thus, another necessary and crucial step is to develop effective mechanisms of human resource use and capacity to strengthen national and international cooperation mechanisms.

To enhance the effectiveness of response against cybercrime with a focus on juveniles, studies of the Senior Intelligence Agencies and Crime Prevention have suggested:

- Creating a Task Force working team within the law enforcement and crime enforcement structures with priority in cyberspace crimes;
- Increasing of training capacities for police officers for the psychopathological social structures of the age of the child, the target group with the highest incidence of cyber victimism;
- Increase access and cooperation approaches of police officers with the community they are responding to, with educational institutions, Internet service centers and private sector operators;
- Developing human resource capacities trained and certified for aspects of database creation, mapping of areas and communities with higher risk and Cyber Laboratory for Priority Care and Examination;
- Strengthen legal, civil and criminal penalty acts for abusers and those identified as having high potential of cyberdeviance;
- Coordination of structures at the local and central level for the prevention of cybercrime with a target of juveniles.

The sharing of responsibility and cooperation between the police, community, state and private service sectors seems to be the most effective way of dealing with cybercrime at local and national levels (European Commission and Parliament, Security Council and Regional Committee, 2007). As revealed in a number of studies and publications, such a cooperation with co-ordination and self-regulation can yield even better results than mere enforcement of criminal law *per se* (Sieber, 2010).

3. Conclusions

The fight against cybercrime needs a comprehensive approach involving the development, application and revision of technical, legal, structural and social measures, with the construction of specified organizational structures to address this global-scale problematic as Central Bureau of Investigation in Cybercrime and Data Protection Privacy, Article 7, 8 and 18 of the Data Protection Directive. Moreover, cybercrime treatment requires effective national and international coordination with regard to cybercrime issues that need to be built on coordination of local and national policies (Report of WGIG, 2005). The approach of many participants, including the community, pre-university and university education institutions, defense and law enforcement agencies, social protection structures, etc., implemented at national level should be coherent with the regional and international developments where the harmonization of tools for treating Cybercrime has shown positive and efficient results. Macro-social efforts to establish policies and legal coercive measures should necessarily be based on respect for the Human Rights and Freedom Declaration (Declaration of Human Principles and Rights, Artc. 11 – 2003) as well as technical and economic expertise, civil society readiness, and ease of interaction with organizations and support structures that develop common application standards. Despite the challenges faced, police and juvenile protection units in the regional states of European Union and especially between Neighborhood countries, as one of the key parties in the cybercrime, can act as a central encouraging model for building links between different actors, developing co-operation and developing national and international approaches to address the problem ICT of misuse and harm.

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Measuring Organizational Stressors and Individual Reactions

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Abstract

This study is undertaken to create a generic work stress scale (WSS) and a stress reaction scale (SRS) in Turkey. Additionally, the buffering hypothesis of job satisfaction between work related stressors and stress reactions is tested. Factor analysis of the WSS based on 222 participants coming from the different work places in Ankara show that five-factor solution is the most adequate one. The factors are “expected and unexpected work overload”, “negative organisational climate”, “perceived lack of autonomy”, “lack of resources”, and “role ambiguity”. The results of four-factor solution of SRS are “psychosomatic reactions”, “burnout”, “withdrawal”, and “irritability”. The short form of the Minnesota Satisfaction Questionnaire is utilized to measure job satisfaction. Furthermore, to test the buffering hypothesis of job satisfaction, four hierarchical regression analyses are used for each of the factors of stress reaction scale after controlling for the demographic variables. No buffering effect of job satisfaction is found. However, job satisfaction appears to be one of the major predictors of stress reactions at work. The implications of the results for employees are considered.

Keywords: job stress, stress reactions, job satisfaction.

1. Introduction

Stress at work received considerable attention from many researchers due to its consequences for both employees and organizations. Since late 1970s many articles appeared in the psychological, organizational, and medical literature dealing with stress. Especially during 1990s this number increased exponentially (Spielberg & Reheisen, 1994). According to the literature, work stress is a process variable. It is typically caused by many stressors at work such as role characteristics, organizational structure, interpersonal conditions, and physical qualities of work environment (Schuler, 1980). People at work are under stress for many reasons (Coetzee & de Villiers, 2010; Chetty & Ferreira, 2016). Among these factors, we may count the change in organizations, roles, difficulties in the people to deal with (Janssens, 2016; Smollan, 2016). These stressors in turn create some consequences for both individuals and the organizations. Individual consequences may be behavioral, physical, and psychological. Organizational consequences may be changes in quality and/or quality of job performance, increase in withdrawal behaviors, difficulties in industrial relations, and poor quality control (Cooper & Cartwright, 1994; Gilboa et al., 2008; Slate & Vogel, 1997).

Stress has many definitions in the literature. One of the definitions points out that it

results from adaptation to unusual or irregular conditions at work place. In this process, the organism is taxed due to using up of the deposited energy. According to Krinsky, Kieffer, Carone, and Yolles, for an event to be stressful, there are some key ingredients: These are stimuli that are perceived to be stressful, frequency and duration of stressors, and intensity of physical and emotional reactions caused by stressors (cited in Miner, 1992). Therefore, any instrument measuring stress should have anchors addressing to this side of the work stress. Moreover, there is a controversy in the literature as to whether major life events or daily hassles cause stress. It seems that accumulation of daily hassles create more stress than the major events (Ruffin, 1993). This information is very important in creating stress measures. For example, to understand the matter further, there is a necessity to use two different types of anchors in the scales such as frequency and importance.

Although there is increased amount of stress research in the literature, there are not many generic measures of work related stress as pointed out by Barone et al. (1988). Jackson and Schuler (1985) pointed out the necessity of good measures in stress research. So far, except some generic measures of work stress, the studies mostly used either few questions to understand stress or they developed occupation specific stress measures such as the Police Stress Survey by Spielberg et al.; Teacher Stress Survey by Grier (cited in Spielberg & Reheiser, 1994). The two generic measures are the Job Stress Survey (Spielberg & Reheiser, 1994) and the Work Stress Inventory (Barone et al., 1988). Those measures seem to have good psychometric qualities, but they were developed for the western cultures. Therefore, they may measure constructs that do not have the same meaning in non-West countries as it has in the west because, in those countries organisational life may bring different stressors due to different organisational cultures and structural environments. It may be possible that same or similar aspects of work create stress for the Turkish people as they do for the westerners.

This study was undertaken to create a stress scale measuring organizational stressors in terms of frequency and importance in white-collar, service and technical occupations and to look at the relationship between stressors and stress reaction. The satisfaction and distress scales were included in this study because one of the well most known consequences of stress is job dissatisfaction. Studies found negative correlation between experienced job stress and job satisfaction since it is one of the reactions to person-environment misfit. Distress is also related to stressors experienced at work. Individuals generally show adapted behaviors toward stressors and these adapted behaviors express themselves in terms of some behavioral, psychological, physiological reactions (Cuskey & Vaux, 1997; Kushniri, Melamed & Ribak, 1997).

It was hypothesized that the work stress scale's composite index will consist of several subscales related to organizational stressors. Frequency and importance scales will show different factorial structures because characteristics of the work place may not result in same degree of emotions in the individuals. Furthermore, it was expected that the relationship between job stressors and distress will be positive one; the job stress survey subscales will show negative correlation with the job satisfaction since stress is a negative construct whereas satisfaction is related to positive emotions.

The second purpose of this study is to test the buffering effect of job satisfaction between job related stressors and stress reactions. The studies relating stress to satisfaction took job satisfaction as an end state variable. It was always thought that job related stressors have some consequences for the individuals in terms of job dissatisfaction (Şahin & Durak-Batıgün, 1997; Udo, Guimaraes & Igbaria, 1997). They never considered its buffering effect between stressors and stress reactions. If satisfaction is a positive state, it may act as a buffer between stressors and stress reactions by offsetting the negative effect of work related stress. If it has a buffering effect, we expect that job satisfaction should moderate the relationship between the job-related stressors and various stress reactions.

2. Method

2.1 *Participants*

The participants consisted 222 full-time employees from various work places, all located in Ankara, the capital of Turkey. Both public and private sector employees coming from different occupations and levels participated in this study. Table 1 shows the demographic characteristics of the participants.

2.2 *Instruments and procedures*

The instrument used in this study consisted of four parts. The first part is the short form of the Minnesota Satisfaction Questionnaire by Weiss, Dawiss, England and Lofquist (1977). The MSQ consists of 20 5-point Likert type questions concerning the various aspects of job (1=very dissatisfied, 5=very satisfied). The scale translated into Turkish by the author and two senior psychology students who have good command of English. The translations were, then, compared and disagreements were reduced. The instrument was administered to three employees of the university for the clarity of language. This scale has good psychometric qualities and easy to fill out (Bilgiç, 1998; Ivanchevich, 1978, 1980; Ivanchevich & Smith, 1985).

The second part of the study consists of 50 items with two types of anchors: frequency and importance of the stressors for the individuals. The items were written to this scale from the dairies of 17 people working in different occupations and sectors. They were instructed to observe their work every day for a week and record any incidence that may be troublesome for them. In order to obtain more detailed information about the daily stressors, the following questions were asked:

- (1) Which events created stress at work?
- (2) How did they react to these stressful events?
- (3) How others would react to the same events?

Not all of the participants at this stage answered the questions in this order for every working day during a week. Some of them preferred to keep dairies and recorded every incidence that occurred on the job. Moreover, some had written a one-two page reports at the end of the observation week. The dairies were transcribed into short statements and put five-point frequency and importance scales.

The third part consists of a 44-item scale related to the one's reactions to the stressful events. This scale can be labeled as Stress Reactions Scale. The items in this part were taken from the second and third questions above. The instruction asked the subjects the degree to the following conditions bothered them within last 15 days. The scale is a five-point scale, one as being "the condition never bothered" and five as being "it bothered me very much".

The last part of the instrument obtained the relevant demographic and personal information. The final version of the scale was administered to two working people for clarity. As a result, some items were removed whereas some were added to the final instrument.

A group of junior and senior psychology students administered the questionnaire to the working people after the permission. The majority of the participants completed the instrument individually at their work places in the presence of the students. However, in some instances, the subjects filled out the questionnaires on the second or third day of the administration and the students collected the questionnaires from the offices. In no case, the subjects held the instrument more than five days. Of 350,221 were returned and used for the analysis.

3. Results

3.1 *Factorial structures and reliabilities of the instruments*

All of the scales used above factor analysed according to the principal component factoring with varimax rotation. Items loading above .30 were included. If any item loaded above .30 on more than one factor, the item was included under the factor in which it had a higher loading. The “SPSS factor analysis” subprogram has been utilized for the factor analyses of the scales. In all analysis, Keiser-Mier-Olkin test for the sampling adequacy was above satisfactory (i.e. above 0.80) and Bartlett’s test for sphericity was significant.

Factor analysis of the MSQ yielded a two-factor solution. They explained 44% of the total variance. All but one item of the scale reached the criterion of .30 loading. The first factor consists of items related to “work itself” or “intrinsic aspects of work”; and the second factor is related to the “extrinsic aspects of work”. The internal consistency reliabilities of the two factors were above .80. The MSQ short form was taken as a whole and twenty items were summed due to its strong uni-dimensional structure.

The factor analysis results of the composite stress which is the cross products of both frequency and importance scales showed that the five-factor solution is the most meaningful one. All items satisfied the criterion for including a variable under a factor. If a factor contained more than three-four items that define an underlined construct, the factor naming was done according to this predominant theme even if some items do not represent that theme. Five factors explained 42.8 % of the total variance in the correlation matrix. The first factor consisted of 10 variables related to “work overload – regular and unexpected”. Nine variables that express “negative organizational climate and feelings with the administration” were included into the second factor. The third factor consisted of 11 variables; they are all related to “lack of autonomy”. The fifth factor included 14 variables related to “lack of resources for adequate performance”. The last factor was related to “role of ambiguity”. The reliabilities of the subscales were above 0.80. The separate factor analyses of frequency and importance scales showed different factorial structures than the composite cross product scale as consistent with the related hypothesis.

The factor analysis results for the 44 item stress reactions showed that four-factor solution is the best one. All the variables met the criterion to be included under a factor. They explained 53.9% of the total variance and reliabilities were above 0.80. The first factor consisted of 13 variables related to psychosomatic reactions whereas the second factor was related to “burnout symptoms” with 11 variables. The third factor of this scale included variables that are indicating “withdrawal”. The last factor indicated “irritability”. The third and fourth factors consisted of 12 and eight variables.

3.2 *Testing the role of the job satisfaction as a moderator between work-related stressors and stress reactions*

To test the buffering hypothesis, different regression analyses were performed for each sub-scale of the Stress Reaction Scale. Table 2 shows the inter-correlations among the factors of the job stress scale, composite job satisfaction, and the personal variables. The correlations among the variables were in the expected direction. Furthermore, the Pearson product-moment correlation showed that several demographic variables were correlated with stress symptoms. Therefore, they were controlled by the hierarchical regression analysis.

Four hierarchical regression analyses were performed to test the buffering hypothesis of job satisfaction between stressors and stress reactions. Each subscale of stress reaction scale was taken as a dependent variable. In each analysis, personal variable(s) used as a control if they (it) correlated significantly with the dependent variable. The results showed that for all the dependent variables – psychosomatic symptoms, burnout, withdrawal and irritability – none of the interaction

terms were significant. There was significant main effect of satisfaction and factor 2 of the stressors (negative organizational climate) when the dependent variable was psychosomatic reactions. This means that, job dissatisfaction and negative organizational climate (one of the stressors) leads to psychosomatic reactions among the workers. When the dependent variable was “burnout”, job satisfaction main effect was significant. Again, we may say that low job satisfaction is leading to burnout for many employees. For the dependent variable “withdrawal”, factor 3 (lack of perceived control) was significant. No other main effects were significant. The last dependent variable “irritability” was predicted best from the job satisfaction. The other main effects were not significant. As a summary, we may say that job satisfaction is the major predictor of all kind of stress reactions as measured by the scale used for this study. Table 3 shows the results of the regression analysis for each dependent variable.

4. Discussion

This study was performed to show that that a generic measure developed from the workers of a different culture and stress reactions scale taken from real reactions of the people can work well in studying work-related stress. Secondly, it was intended to test the buffering hypothesis of job satisfaction. The analysis of the Job Stress Scale showed that stress factors are related to the ones found in the literature. For example, the first factor was “work overload”. It is well-established fact that it is related to stress. But what is not usually mentioned in the literature is “unexpected work overload” as one of the correlates of work related stress. The second stress factor was “negative organizational climate” which was not really mentioned in the previous studies. This study disclosed such factor. “Lack of perceived” control as one of the correlates of stress was also mentioned in the previous studies (Perry et al., 1997). This study, too, found it to be one of the factors related to stress experienced at work. The other factors found were “lack of resources” and “role ambiguity” which were also found as causes of stress by the previous researchers. The Factor structure of the second instrument, the Stress Reaction Scale was consistent with the variables related to the stress reactions found in the previous studies (i.e. Iverson, Olekalns & Erwin, 1998).

In the previous studies, the job satisfaction was usually considered to be an end state variable (for example, see Udo, Guimaraes & Igbaria, 1997). Except few studies (Aasland et. al., 1997; Ulleberg & Torbjorn, 1997), it was never thought of as being a basic determinant of the stress reactions at work. This study also disclosed the fact that, job satisfaction is one of the predictors of stress reactions along with work related stressors. It was also found that not all the work related stressors were related to all kinds of stress reactions. Only, a handful of work related stressors are predicting some kind of stress reactions. For example, “negative organizational climate” is one of the predictors of “psychosomatic” reactions. None of the studies in the past pointed out the fact that some aspects of work related stress would predict some stress reactions not all of them were predicted from only one or more kind of work related stressors.

As for the buffering hypothesis, there was no evidence found in this study for the buffering effect of job satisfaction between work stressors and stress reactions. This is may be due to the fact that when one increases the number of steps in the hierarchical regression analysis, more variance is necessarily used up and therefore, no variance leftover for the interaction terms put into the equation at the end.

As a conclusion, we may say that, job satisfaction is very important for the well-being of the working people. Furthermore, “lack of autonomy” and “negative organisational climate” are related to stress reactions among the work related stressors. To improve the mental health of the workers, we need to improve the social psychology of work places so the employees feel good about their work.

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Table 1. Demographic characteristics of the sample

	Mean	Median	Mode	SD	Min	Max
Age	30.51	28	24	9.14	17	59
Income	7.2 M*	5.0 M	3.5M	6.1M	1.0M	50.0M
Tenure	7.90	6	1	7.37	1	35
Sex	Male	Female				
N=	123	97				
%=	55.4	43.7				
Education	Primary school	High school	Some university		University	Graduate and more
N=	26	53	36		99	5
%	11.9	23.9	16.3		44.6	2.4

* Median income is approximately 300\$ per month.

Table 2. Intercorrelations among the variables

Variables	1	2	3	4
1. Job Satisfaction	1.000			
2. Work Overload	-.429**	1.000		
3. Negative Climate	-.519**	.538**	1.000	
4. Lack of Autonomy	-.337**	.620**	.578**	1.000
5. Lack of Resources	-.289**	.579**	.566**	.708**
6. Role Ambiguity	-.309**	.589**	.623**	.575**
7. Psychosomatic	-.299**	.338**	.089	.203*
8. Burnout	-.278**	.218*	.134	.215**
9. Withdrawal	-.364**	.490**	.348**	.402**
10. Irritability	-.329**	.404**	.236**	.341**

Table 2. (Continued)

Variables	5	6	7	8
6. Role Ambiguity	.531**	1.000	.156	.156
7. Psychosomatic	.254	.156	1.00	.776**
8. Burnout	.206*	.156	.766**	1.000
9. Withdrawal	.210	.298*	.700**	.787**
10. Irritability	.296**	.338**	.741**	.721**
	10			
9. Withdrawal	.672**			

* $p < .05$ (2-tail).

** $p < .01$ (2-tail).

Table 3. Regression analysis results for different dependent variables

Variable	F Change	Beta	SE	Δt	R ²
Dependent Variable= irritability reactions					
Step 1				.015	3.449*
Income	-.124	.065	-1.857		
Step 2				.154	6.634***
Work overload (WO)	.159	.083	1.908		
Negative Organizational Climate (NOC)	-.129	.082	-1.570		
Lack of Autonomy (LA)	.100	.090	1.118		
Lack of Resources (LR)	.042	.084	.506		
Role Ambiguity (RA)	.154	.080	1.917		
Job satisfaction (JS)	-.173	.070	-2.462**		
Step 3				.021	1.371
WO X JS	-.100	.141	-.709		
LA X JS	.245	.137	1.782		
LR X JS	.117	.141	.831		
RA X JS	-.209	.136	-1.539		
Table 3. (Continued)					
Variable	F Change	Beta	SE	Δt	R ²
Dependent Variable= burnout					
Step 1				.035	8.050**
Education	-.188	.066	-2.837*		
Step 2				.068	2.721*
Work overload (WO)	-.008	.087	-.088		
Negative Organizational Climate (NOC)	-.049	.087	-.558		
Lack of Autonomy (LA)	.065	.093	.700		
Lack of Resources (LR)	.092	.086	1.603		
Role Ambiguity (RA)	.089	.085	1.046		
Job satisfaction (JS)	-.162	.076	-2.135*		
Step 3				.016	.928
WO X JS	-.036	.145	-.250		
LA X JS	.245	.137	1.782		
LR X JS	.270	.143	1.887		
RA X JS	-.083	.147	-.563		

Table 3. (Continued)

Variable	F Change	Beta	SE	Δt	R ²
Dependent Variable=withdrawal					
Step 1				.067	15.843***
Sex	.259	.065	3.980***		
Step 2				.087	3.683***
Work overload (WO)	.150	.084	1.785		
Negative Organizational Climate (NOC)	-.033	.084	-.386		
Lack of Autonomy (LA)	.203	.091	2.244*		
Lack of Resources (LR)	-.133	.084	-1.583		
Role Ambiguity (RA)	-.003	.081	-.035		
Job satisfaction (JS)	-.125	.071	-1.768		

Table 3. (Continued)

Variable	F Change	Beta	SE	Δt	R ²
Step 3				.016	.990
WO X JS	-.007	.141	-.050		
LA X JS	-.064	.139	-.462		
LR X JS	.265	.143	1.857		
RA X JS	-.049	.138	-.353		
Dependent Variable=somatic					
Step 1				.054	4.141**
Income	-.057	.073	-.777		
Education	-.174	.072	-2.430*		
Sex	.120	.069	1.750		

Table 3. (Continued)

Variable	F Change	Beta	SE	Δt	R ²
Step 2				.099	4.145**
Work overload (WO)	.145	.085	1.696		
Negative Organizational Climate (NOC)	-.190	.087	-2.176*		
Lack of Autonomy (LA)	.056	.092	.607		
Lack of Resources (LR)	.126	.085	1.476		
Role Ambiguity (RA)	.022	.083	.286		
Job satisfaction (JS)	-.193	.074	-2.597**		
Step 3				.016	1.016
WO X JS	-.120	.145	-.823		
LA X JS	.208	.140	1.491		
LR X JS	.120	.144	.831		
RA X JS	-.171	.139	-1.230		

* $P < 0.05$.

** $P < 0.01$.

*** $P < 0.001$.



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