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INTERNET ADDICTION AND ITS RELATION TO MENTAL HEALTH: AN ANALYSIS OF STUDENTS OF TEHRAN ISLAMIC AZAD UNIVERSITY OF MEDICAL SCIENCES IN 2014

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ABSTRACT

Background: The growing use of the internet, has positive as well as negative effects. Negative effects such as obsessive use of the internet for non-educational and non-professional purposes may damage the social, physical and mental health of the users.

Aim: The aim of the present study is to determine the degree of mental health and its relation to internet addiction among students of Tehran Islamic Azad University of Medical Sciences.

Method: The study is descriptive-correlational. Out of all the medical students of Tehran Islamic Azad University, 400 people were randomly chosen; 357 people (61/33 male, and 38/66 female) had the necessary requirements. The degree of dependency on the internet and mental health were respectively measured by Young Internet Addiction Test (IAT) and 25-SCl test. To analyze the data, descriptive and inferential statistics (independent T, correlation coefficients) were used. The significance level for all the tests was considered as P<0/05.

Results: Based on the results of the preset study, 60/5% of the case study were normal users, 35/4% were exposed to internet addiction, and 31/1% were already internet addicts. Also, there was a significant difference among the scores of all aspects of mental health and internet addiction (p=0/0001). The mean of the scores of mental health of the students and internet addiction did not have a significant statistical difference between male and female participants, which was respectively P=0/28, and P=052.

Conclusion: Based on the results, 3/1% of the participants were internet addicts and 36/40% were exposed to internet addiction. This necessitates the need for a comprehensive plan to moderate and refine the internet use.

Keywords: Mental health, internet addiction, university students

INTRODUCTION

Internet addiction has been recognized by psychology and medical sciences as a psychological disorder. Clinical experts do report some of these cases. This form of disorder has recently been a research topic for psychology, psychoanalysis, sociology, and other disciplines. Internet addiction is a pervasive problem in different communities and cultures. The spread of this problem has made the researchers and experts to investigate the causes, reasons, and consequences of it (Iman, 2001). Beard and Wolf consider internet addiction as a psychological-social disorder, a behavioral obsession, and also call it virtual addiction (Dong et al. 2011, p.1). However, the fact that dependency or addiction is not limited only to drug use, and can be applied to other cases, was first introduced by Peel in 1975. According to Peel, the reason behind addiction is to gain a pleasant experience in doing a certain activity. Similar to the use of chemical drugs (Tamanaiefar et al. 2012, p. 65), the internet addict gets used to not the material but to what is done on the internet or to the feeling that is experienced by using the internet (Seyyed Salamn Alavi et al. 2011, p. 31). Internet addiction, in addition to biological and mental consequences, changes the following: changing the life style to spend more time online, cutting down on physical activities and ignoring personal health, avoiding important life activities, lack of enough sleep or changing the sleeping hours to spend more time online, limiting social interaction because of losing friends, ignoring the family, irresponsibility in jobs, aggression, ignoring personal hygiene, lack of interest for social participation, migraine headaches, lack of physical activity and overweight, eyesore and other forms of pain. The growing development of the internet and its users clearly makes more people exposed to the above changes (Camardese 2012, p. 288).

Based on the International Internet Organization, in 2014, out of the 7 milliard people around the world, 2 milliard and 937 thousand people were internet users, whose penetration rate is 40/7, while the penetration rate in 2010 and 2000 were respectively 28/8% and 5%, and based on 2012 statistics, 44/8% of the internet users belongs to Asia. The widespread growth of this technology is extraordinary and more than one third of the world population is exposed to the effects of this technology (International Internet Organization, 2012).

Based on the Center of National Development of Internet (Iran), the impact coefficient[1] in Iran in 2012 was 61/6%. In 2002 the penetration rate was 7/5%, in 2005 it was 10/8%, and in 2008 it was 21/85. The recent statistics about the first six months of 2013 shows that the penetration rate is 54/8%. Currently, out of 75 million people, 40 million people are internet users (National Internet Development Center, 2014). A large number of these users are university students. Given the number of youth and high number of educated youth who are familiar with the internet, it seems that the internet can be considered an influential media in Iran (Deleeuw et al. 2010, p. 1). This modern form of technology has positive as well as negative effects, like many other forms of technology. Of the negative effects one can mention the obsessive use of the internet and in consequence mental disorder (Morrison, 2010, p. 124). Researchers have investigated the issue which has led to different conclusions:

Ghamari et al. in a study conducted in 2011, have stated that the most important reason for the university students for using the internet is research and education. On the contrary, Canan et al. in a study conducted in 2012, have shown that 62/4% of university students' use of the internet, is for chats and online messages.

Based on a 2003 research by Amichai Hamburger and Ben Artzi about the excessive use of the internet and loneliness on 89 volunteers, they found out that there is a significant relationship between internet overuse and loneliness. Xie et al. investigated the issue in intermediate school student in Guangzhou in 2010 and found out that adapting to life events and stressful experiences are also effective in the internet

[1]The ratio of internet users to all of the population

addiction, and that 10/2 of the students had mild addiction and 0/6 had severe internet addiction.

With the internet becoming an indispensable part of university students' lives for their academic and recreational purposes, the internet overuse and its effects on health and lifestyle, parents, mental health experts, education administrators and policy-makers have become disconcerted (Yaqubi, 2010, p. 201). Recent studies about the internet addiction shows that it is a kind of psychological-social disorder with loneliness and social withdrawal, emotional disorders, lack of social interaction, depression (Ferris, 2009 , p. 1), and stress (Gol-Shokouh, 2010, p. 1) as its symptoms. Shayeq et al. (2009) in "Internet Addiction and its Relation to Personality Traits among Teenagers" have found out there is a significant relationship between mental disorder and internet addiction among female teenagers. Moreover, they found out that there is a significant relationship between having a pleasant felling and conscience and internet addiction among male teenagers (2009, p. 150).

Sadeqian (2005) has stated with regard to internet overuse that the best way for a teenager and youth to gain intellectual and identity maturity is interacting with others and gaining experience, however, when they spend a lot of time online, they lose motivation for interacting with others and have little ability to maintain real friendships. Also, they spend little time with the family members, loneliness and isolation increase every day, depression emerges, and their mental health is jeopardized (p. 23).

Kimberly Young states that the internet addiction mostly affects family, work, social relationships, and education, and leads into weak performance among university students. Since university years are a transition period for many students, and may coincide with loneliness, anxiety, depression, and stress, therefore, some students use the internet to deal with these emotions and this unsuitable defense mechanism may damage mental health (Scheonfeld and Yan, 2012).

Given that no previous research has been done on internet addiction among Tehran Islamic Azad University of Medical Sciences and its students' mental health, I decided to investigate the degree of internet addiction and its relation to mental health so that decision-makers would be able to design more comprehensive programs.

MATERIALS AND METHODS

The present study is descriptive. The sample of the study includes all the students of medicine, nursing, midwifery, public health, para-medicine, biological sciences, and clinical psychology, etc. who are studying at Islamic Azad university of Medical Sciences, Tehran Branch, and who have the university ID. Based on the latest figures, the number of students was 10700. In this study, 370 students were chosen by stratified random method from all the students (thical standards in carrying out the research, filling the questionnaire, acquitting the required permissions and forms from the research committee and confidentiality were fully observed). The sample size was determined by Cochran formula. The materials which were used in the study were personal information form, mental health questionnaire (SCL-25), and internet addiction test (IAT).

A) Personal information form includes: age, gender, marital status, semester, level, field of study, grade-point average, residence, etc.

B) SCL-25 questionnaire is a shortened form of "Symptom Checklist-90-Revised". This questionnaire is used to measure pathological aspects of mind such as breathing disorders, obsessive compulsive problems, interpersonal sensitiveness (e.g. complexity inferiority) depression, anxiety, aggression, phobia, paranoia, and psychosis. The aim of the questionnaire is to provide a profile of mental pathology for each person. The questionnaire has 25 items in Likert 5-scale (0=Nothing, 1=A little, 2=somewhat, 3=A Lot, 4=extremely).

C) Internet Addiction test was designed by Kimberly Young in 1998. This questionnaire has 20 items in Likert 6-scale (0=Never, 1=Hardly ever, 2=Sometimes, 3=usually, 4=Often, 5=Always). There are 4 factors in the questionnaire, each factor has sub factor too. The four factors are education, research, communication, and recreation.

The reliability of the study was achieved by using Cronboch Alpha Test which for internet addiction questionnaire was 0.89 and for mental health questionnaire was 0.78. For data analysis, descriptive statistics was used: percentage, mean, and standard deviation. In preparing the tables and figures, inferential statistics such as ANOVA was used.

RESULTS

According to Table 1, most of the participants (60/5%) are normal users and few people (3/1%) are dependent on the internet.

Table 3 shows the relationship between internet addiction mean score with demographic variables in the case study by using T-statistics; internet addiction and gender (P=0/52), marital status (P=0/00), residence (P=0/001), and employment status

(P=0/001). These findings indicate that internet addiction has a significant relationship with marital status, residence, and employment status.

Table 4 shows the mean scores for internet addiction in different economic level (income level), different field and level of studies. Those with more than 4 million income have a higher score of internet addiction in comparison to those with 2-4 million or less than 2 million income (13/92± 46/88). Furthermore, the internet addiction score of medical and nursing students were respectively 50/73±11/16 and49/72±18/46, which is higher than other fields of study. M.D students had the highest internet dependency score among the levels of study (48/01±10/1).

Table 1: Distribution of absolute and relative dependency on the internet based on Young's questionnaire scores among Tehran Islamic Azad University of Medical Sciences in 2014-15 academic year

Percent	Number		
60/5	216	**Normal user** (20-49)	**Internet addiction (score)**
36/4	130	**Exposed to internet addiction**(50-79)	
3/1	11	**Addicted to internet (80-100)**	
100	357	**Total number**	

Table 2: The relationship between internet addiction and mental health and its nine aspects among the students of Tehran Islamic Azad University of Medical Sciences 2014-15

P-Value	Pearson Correlation Coefficient	Number	Internet addiction Mental health and its aspects
0/0001	**-0/36**	**357**	**SOM**
0/0001	**-0/31**	**357**	**OC**
0/0001	**-0/44**	**357**	**INT**
0/0001	**-0/403**	**357**	**DEP**
0/0001	**-0/34**	**357**	**ANX**
0/0001	**-0/26**	**357**	**PHOB**
0/0001	**-0/35**	**357**	**PAR**
0/0001	**-0/39**	**357**	**PSY**
0/0001	**-0/46**	**357**	**Total mental health**

Table 2 shows the results from Pearson statistics test. The results indicate that internet addiction has a significant inverse relationship with mental health and its aspects (P<0/05).

Table 3: The relationship between internet addiction and demographic variables among the students of Tehran Islamic Azad University of Medical Sciences in 2014-15

		Mean ±Standard Deviation (Internet addiction)	Number		Variable Independent T-statistics
0/52	0/64	47/19±16/38	237	**Female**	**Gender**
		46/1±12/51	120	**Male**	
0/00	5/832	48/76±14/98	301	**Single**	**Marital status**
		36/43±11/71	56	**Married**	
0/001	3/4	45/40 ± 14/60	273	**Home**	**Residence**
		51/94 ±16/18	74	**Dorm**	
0/001	3/37	53/23 ± 17/60	53	**Employed**	**Employment status**
		45/71 ±14/46	304	**Unemployed**	

Table 4: The relationship between internet addiction scores and demographic variables among students of Tehran Islamic University of Social Sciences in 2014-15

P-value	**F ratio**	**Degree of freedom**	**Sum of the squares**		**Mean ± Standard deviation (Internet addiction)**	**number**		**Statistics Demographic variables**
0/668	0/144	2	66/53	**Between group**	46/48±16/97	25	**Less than 2 million**	**Monthly income of the family**
					46/59±13/89	244	**2-4 million**	
		354	82038/70	**Inter group**	48/58±18/01	88	**More than 4 million**	
0/001	4/887	4	4320/12	**Between group**	50/73±11/16	75	**Medicine**	**Field of study**
					49/72±18/46	71	**Nursing**	
					43/62±14/65	114	**Clinical psychology**	
		352	77785/10	**Inter group**	41/47±16/34	43	**Health diseases**	
					48/01±10/1	54	**Anesthesia**	
0/053	2/97	2	1354/93	**Between group**	41/60±16/48	43	**A.S**	**Level of study**
					39/47±16/11	239	**M.S**	
		354	80750/29	**Inter group**	48/01±10/1	75	**M.D**	
0/000	**5/275**	**4**	**4643/01**	**Between group**	**44/8**±15/024	**144**	**3**	**Semester**
					49/52±15/26	**54**	**4**	
					54/69±11/08	**39**	**5**	
		352	**77462/21**	**Inter group**	**48/47**±17/55	**59**	**6**	
					42/61±13/086	**61**	**7**	
0/002	4/063	4	4403/11	**Between group**	45/27±10/36	34		**Age**
					53/52±16/04	295		
					48/33±14/17	11		
		352	77281/35	**Inter group**	43/20±15/62	6		
					41/08±14/11	11		

DISCUSSION

The results of this study show that, according to Table 1, 60/5% of the Young questionnaire respondents, had scores between 20-49 (normal user), 36/4% between 50-79 (exposed to addiction), and 3/1% between 80-100 (internet addicts). Dimitri Christakis et al. (2011) have investigated the role of excessive internet use among American universities, and have found out that 4% of the students are exposed to internet addiction, which is consistent with the present study. In a similar study done by Bahri et al. (2011) about the role of internet addiction on mental health of Gonabad University students, it was found out that 5/9% of the students were addicted to the internet and 12/5% was exposed to internet addiction (p. 170). These findings are consistent with the findings in the present study.

Xie (2010) has studied the effective factors in internet addiction among intermediate school students of Guangzhou, and has found out that 0/6% of the students had internet addiction, which is less than the case study in the present study. The reason for such a difference may be due to the age of the students (intermediate school) who obviously need less internet access, and who are monitored by their parents in this regard.

Cao et al. (2007) have investigated the relationship between depression, anxiety, and unsociability and internet addiction (p. 13). The exact relationship between depression and internet addiction was not determined. Depression, as a mental disorder, may make the individual vulnerable to internet addiction, or on the contrary, depression may be the result of internet addiction. This kind of depression exposes the person to internet addiction because of loneliness and isolation (Nastizadeh, 2010, p. 65).

In the present study, there was a significant relationship between physical pains and internet addiction. Which is consistent with Khosravi (2011, p. 76) who has studied the relationship between internet addiction and the role of the family and mental health among Teharan's students. However, Nastizadeh (2010) has reported that there is not a significant difference between the mental health of internet addicts and normal users among the university students (p. 59), which is inconsistent with the findings of the present study. The reason for the relationship between physical disorder and internet addiction can be due to the fact that unlimited use of the internet decreases physical activity and face-to-face interaction and changes one's lifestyle, which leads to various forms of disorder in daily activates, sleep, and nutrition (Young, 2012, p. 57).

The results of T-test in Table 3 show that internet addiction is more severe among female students, however, there is no significant relationship between gender and internet addiction (P=0/52, P>0/05). Beygi et al. (2011) have investigated the issue among the Arak University of Medical Sciences 2009 students, and have found out that there is no significant difference between male and female internet users in terms of their score of internet dependency (p. 45). Fortson in a study about the problematic use of the internet by Virginia University students has found out that there is no significant difference between female and male internet users (2007, p. 89), which is consistent with our study. However, Wang (2007) and Si-Han (2008, p. 177) have respectively shown that there is a difference between the two genders in mental disorders in South Korean highschools and in Turkey universities.

The difference in the findings can be due to the difference in academic facilities accessible to the university students for carrying out their research.

The mean score of marital status shows that internet addiction is higher in the single people, and this relationship is significant (P=0/001, P<0/05).

With regard to residence and mental health the relationship was significant (P=0/001, P<0/05). Those living in the dormitories have higher internet addiction than those living at home. According to Hosseinian (2011), who has investigated internet addiction among Tehran state universities, students who are living with their family, are more strongly dependent on the internet (p. 81), which is inconsistent with the present study. J. J. M. R (2010) argues that because of free and high-speed internet access in the dormitories and the absence of parental monitoring, university students are more exposed to internet addiction (p. 78).

Based on Table 3, the relationship between employment and internet addiction is also significant (P=0/001, P<0/05); the unemployed are more exposed to intent addiction. According to Khajeh-Mogahi (2010) in a research about the personality variables predictors for internet addiction among Ahvaz café net users, unemployment is one of the factors for internet addiction.

Table 4: It shows the mean scores of internet addiction and its relation to demographic variables (age, income, field of study, level of study, semester of study) among Tehran Islamic Azad University of Medical Sciences.

The highest internet addiction score belongs to 20-25 years olds, that is 53/52%, and the lowest score belongs to more than 35 years olds (41/08). According to Young's questionnaire, a higher score shows a higher degree of internet addiction.

Students whose family was reported to have more than 4 million tomans monthly income, had the highest score of internet addiction, and those reported to have less than 2 million tomans, had the lowest score.

In terms of field of study, medical students scored 50/73 which is the highest, and health diseases students scored 41/47, which is the lowest.

A.S students with the mean score of 41/60 had the lowest, and M.D student with the mean score of 48/01 had the highest internet addiction.

Table 4 shows that students of semester 5 with 54/69 had the highest, and semester 7 with 42/61 had the lowest score of internet addiction.

The results of ANOVA analysis shows that the variable of age has a significant positive relationship with internet addiction (p=0/002، P<0/0).

Dastjerdi (2011) who has studied the relationship between using social networks and depression among Isfahan university students, has shown that the relationship between age and internet addiction is significant (p. 43). Solhi (2011) who has examined the prevalence of internet addiction among Tehran University students has shown that internet addiction in 19-25 years olds is higher (p. 32), which is consistent with our study. However, Hamzeh Mohammadi (2012) has shown that there is no significant relationship between age and internet use among the youth in Babolsar city (89). With regard to monthly income, those with more than 4 million toman income per month, had a more severe internet dependency, however, this difference was not significant (P=0/86). Those with less than 2 million toman income had the lowest score.

Özgül Orsal (2012) in a study on Turkey university students, found out that the family's income has a significant positive relationship with internet addiction, and that people who are economically better provided have higher internet addiction (p. 21).

People who are economically powerful spend more time online because they have personal computer and room, and have fewer financial concerns. This can be an important factor in internet addiction.

The findings show that the relationship between field of study and internet addiction is also significant (P=0/001, P<0/05).

Similarly, Dastjerdi (2011) has shown that there is a significant difference between fields of study among university students of Isfahan, so much so that the sciences had lower internet addiction than the humanities and engineering (p. 45). However, Beygi et al. (2011) have not reported any significant difference about the role field of study on internet addiction (p. 116).

As we know medicine is a field of study which requires more library and internet research, and given the fact that most of the libraries and journals are online nowadays, it is reasonable to say that the score is the highest in this field.

The level of education did not have any significant relationship with internet addiction, despite the fact that M.D level students had the highest score (P=0/053).

Beygi et al. (2011) have done a research on Arak Medical Sciences students, and have found out that there is no significant relationship between the level of study and internet addiction (p. 45), which is consistent with our study. In another research, Bakken (2009) has studied internet use among Norwegian adults and has found out that level of study is a factor which has a significant positive relationship with internet addiction, and also M.D students have a higher degree of internet addiction (p. 132). Bakkan's research is quite similar to the present study, and the difference can explain by the different number of the samples.

The relationship between internet addiction and the semester of study is also significant P=0/0001, P<0/05. Students of the fifth semester had the highest score, that is, 54/49, and the students of the fourth semester come next with 49/52.

In Beygi et al. (2011) which was done on Arak Medical Sciences students, the above relationship was significant (p. 46).

The reason behind the above finding can be related to the fact that the fourth and fifth semester is the climax of students theoretical courses, and thus, their need to do internet research. However, in upper semesters, the students take more practical courses and have less time to do internet research.

Hamzeh Mohammadi (2012) did not report any significant difference between the variable of age and internet addiction (p. 89). Also, Solhi (2011) found out that there is no significant relationship between internet addiction and age, however, the findings showed that the highest internet addiction is among 19-25 years olds.

With regard to field of study, the p-value was 0/001 and medical students had the score of 50/73 which was the highest, and health diseases students had the lowers score, that is, 41/47. However, with regard to level of study, the relationship was not significant (P=0/053). A.S students with the mean score of 41/60 had the lowest, and M.D students with the mean score of 48/01 had the highest.

However, Dargahi et al. (2007) who have investigated internet addiction and the factors influencing it in Tehran have found out that there is a significant correlation between field and level of study and the degree of internet use. They also found out that M.D students had the highest intent use, which is inconsistent with the present study (p. 87).

With regard to semester of study, there was a significant positive relationship (P=0/000), where the fifth semester with the score of 54/69 was the highest, and the seventh semester with the score of 42/61 was the lowest score. This latter finding can be related to the students activities during their education and the fact that in lower semesters the internet use is decreased because of practical clinical assignments.

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REFERENCES

[1] Bahri, Narges, Leila Sadeq Moqaddam, Leili Khodadust, Jalal Mohammadzadeh, Elaheh Banafsheh (2011), "The Condition of Internet Addiction and its Relation to Public health of the Studnets of Gonabad Medical Sciences University." Journal of Modern Treatment, Birjand University 8:3, pp. 166-73.

[2] Beygi, Abolfazl, Mohammad Salehi (2011), "The Spread of Internet Addiction and Influencing Factors among the Students of Arak Medical Sciences University." Journal of Gilan University of Medical Sciences 20:78, p. 48.

[3] Center of National Internet Development: http://www.iriu.ir/matma

[4] Hosseini, Hamzeh, Shaqayeq Kazemi, Leila Shahbaznejad (2006), "The Relationship between Sports and Mental Health of University Students." Journal of Mazadndaran University of Medical Sciences 16:53, pp. 97-104.

[5] Jamilian, Hamidreza, Jalil Fathabadi, Mohammadreza Khansari (2008), “Psychological-Behavioral Disorders among Markazi Youth.” Research Center of Humanities and Cultural Studies 55.

[6] Khajeh Mogahai, Nahid, Maryam Alasvand (2010), “Personality Traits Predictors of Internet Addiction.” Jundi Shapur Medicine Journal 9:4.

[7] Khosravi, Zohreh, Hani Alizadeh (2011), “Internet Addiction and family and Mental health among Students.” Journal of Educational Psychology 14, pp.59-80.

[8] Golshokouh, Farzaneh (2010), “Unsociability, Depression, and Anxiety and Internet Addiction among Ahvaz Interent Users.” Journal of modern Findings in Psychology 5:6.

[9] Motamednejad, Kazem (2012), Communications in Contemporary World. Second edition. Tehran: Shahr Publications.

[10] Nastizadeh, Naser (2010), “Public Health and Internet Addiction.” Journal of Tabib-e Sharq 11:1, pp. 57-63.

[11] Young, Kimberly, Christiano Naboko D. Abrao (2012), Virtual Addiction. Trans. Vahdatnia. Tehran: Asim Publications.

[12] Dastjerdi, Negin, Somayeh Sayyadi (2011), “Social Networks and Interent Addiction and Depression among Isfahan Payam-e Nur Universities.” Journal of Behavioral Research 10:5, pp. 332-341.

[13] Dargahi, Hossein, Mansur Razavi (2007), “Internet Addiction among District 2 of West of Tehran.” Journal of Payesh 3, pp. 265-272.

[14] CoaF, Su L. (2007)." Internet addiction along Chinese adolesecents: Prevalence and Psychological fiatures". Department of Psychiatry, the second Xiangtan Hospital, Central South University , no 139 Rennin Road Changsha, Hunan Province410011, China

[15] Derogatis L.R, Cleary PA. "Confirmation of the dimensional structure. of the SCL-90: a study in construct validation". J Clin Psychol. 1977;33:981-9

[16] Ferris RJ."Internet addiction disorder: Causes, symptom, and consequences", psychology Virginia Tech,2002.[web page].Retrieved may 20,2009,from the World Wide

Web:http://www.files.chem.vt.edu/chem

[17] lmann R.J. Reasons for internet use and social anxiety, Pers Individ DifWang W. Internet dependency and psychosocial maturity among college students, International Journal of Human–Computer Studies. 2001. 55 : 919–938.

[18] Morrison, C. M., & Gore, H. (2010). "The Relationship between Excessive internet use and Depression”: A questionnaire-based study of 1.319 Young Peopleand Adults. Psychopathology, 43, 121-126.

[19] Weinstein, A., & Lejoyeux, M. (2010)." Internet addiction or excessive internet use" .American Journal of Drug& AlcoholAbuse, 36, 277-283.