A nation- and gendered-based study about the relationship between the Big Five and motives for Internet use: A Hungarian and Israeli comparison

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Abstract

Objective: Personality psychology has for many years been looking for a taxonomy permitting the study of specified personality characteristics. The Big Five structure captures the common existing systems of personality description, and provides an integrative descriptive model for personality research. The way people are behaving when using the Internet, the Internet motives they have, and the choices they are making then, is very much determined by their individual characteristics. The purpose of the study was to investigate the relationship between the motives for Internet uses and the Big Five personality characteristics.

Method: 300 medical students filled out questionnaires connected to Internet motives, Internet affinity and the brief 44-items BFI (the Big Five Inventory; John, 1990). The sample consisted of 150 Hungarian (75 males and 75 females) and 150 Israeli (75 males and 75 females) medical students.

Results: There were significant gender differences in the Israeli sample between the Big Five and Internet motives. The results showed that the Israeli males and females were both high on agreeableness and the Internet motive of habit. Furthermore, the Israeli students scoring high on the personality factor of neuroticism also scored high on the Internet motive of companionship. When it came to the Hungarian sample, students scored highest on conscientiousness, but the males and females scored high on different Internet motives. This means that conscientious Hungarian males obtained higher scores for the companionship motive, while the conscientious Hungarian females scored high on the Internet motive of pass time. Internet affinity significantly correlated with extraversion and neuroticism for the Israeli sample but not for the Hungarian sample. Our results suggest that personality characteristics have important effects on Internet uses.

1 General Internet Use

The history of the Internet goes back to the mid 1960s when the US Defense Department took the initiative to develop a distributed network of computers. This network of computers originally began as a way to share only data and the original intention of the Internet, which was called Arpanet at that time, was to provide links between the computers and not between people. Interestingly the e-mail was developed at an early stage by the users of the Arpanet to be able to use it for person-to-person, instead of for computer-to-computer, communication. The World Wide Web developed rapidly in the early 1990s and the web browsers were commercially released in 1993-1994. With these two important changes the Internet began to expand rapidly and it started to attract an increasing number of commercial organizations and private users. Since then, the Internet has been an ever-growing technology for everybody from professionals to laypersons (Joinson, 2002).

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Anyone who uses a computer regularly knows how valuable these 20th century machines can be (Bellamy & Hanewicz, 1998). The vast majority of people online hold a high opinion of the Internet as a place to conduct everyday tasks and pursue the everyday pleasures of life, for instance such as communicating with friends and family. People who use the Internet frequently (i.e., people who go online several times a day) are more likely to be better educated and 49% of them are college graduates (Fallows, 2004).

The average Israeli is, according to a recently published study, spending more time surfing than anyone else around the globe. The Global Internet Information Provider called comScore (Source: http://www.comScore.com, 2007), which claims to be the first true estimate of global Internet traffic, indicated that Israelis spend on average of 57.5 hours every month online. That figure is more than double the average time per month that American users spend online. The list of top users was led by Israel and followed by Finland, South Korea, Netherlands and Taiwan. Surprisingly, the American users did not reach the 15 top-list. The study found that out of 694 million users worldwide, the Internet is used by about 14% of the world population who are over the age of 15, and nearly 25% come from East Asia such as from China, Japan, India and Korea (Jpost, 2006). The Internet is used on a daily basis by 51% of Israelis over the age of 18. Internet services such as e-mailing, surfing or online shopping are used at any frequency and from any location such as from home, office or school. The most common use of the Internet is to seek information and 96% of Internet users are surfing the Internet for this purpose. Most Internet uses are rising and the fastest growing uses for instance are chat rooms (Source: http://www.globes.co.il, 2003)

In 2001, when the first research was conducted by the Hungarian TARKI Research Institute, the Internet belonged to a few privileged: only 17% of the population had Internet access at this time. Nowadays, 40% of Hungarian population aged 14 and above is using a personal computer more or less frequently. PC users reported a relatively high intensity of computer usage and 62% of them use it daily while 89% use it at least once a week. In 2004, fourteen percent of Hungarian households had Internet access. In the same year, 29% of the population over 14 years used the Internet, but the number of those who used it at least once a week, is only 21% (TARKI Research Institute, 2004). Using the Internet at home is gaining more and more place. The most popular online activities with 96% are sending and receiving e-mails during one week and searching for general information, which makes up 91% during one week. There is no significant division among Internet users according to gender: the index of women's Internet access and use almost equals the average (Mediainfo, 2005).

2 Brief review of the Big 5

Researchers and practitioners in personality psychology have always been looking for a taxonomy that would allow them to study specific domains of personality instead of examining separately all the meticulous attributes that make human beings unique. The field is approaching consent on a general classification of personality traits or the "Big Five" personality dimensions after many decades of research. These dimensions do not stand for a specific theoretical viewpoint but are resulting from analyses of natural vocabulary that people use to express about themselves and others. The Big Five taxonomy is not replacing previous classifications but provides an integrative purpose by representing a range of different personality systems in a general framework (John, Donahue, & Kentle, 1991).

In order to understand the birth of the "Big Five", we need to look at the very early works of Allport & Odbert (1936), and Cattell (1943). Allport and Odbert (1936) carried out an influential lexical study of personality-related vocabulary with a full-length English dictionary. They included all words that could be used to differentiate the behavior of one individual from another (Allport & Odbert, 1936). Their complete list amounted to almost 18,000 terms. Allport and Odbert's (1936) taxonomy offered the first structure for the personality dictionary. The main idea was that such a taxonomy would offer an organized outline for distinctive personality differences, behaviors and experiences (John, 1989). Cattell (1943) tried to achieve such a taxonomy by using Allport and Odbert (op.cit.) list and by doing so he developed his own multi-dimensional model of personality structure. After making numerous factor analyses Cattell (1943) concluded that he had found 12 personality factors. This classification is today known as the 16 Personality Factors (16PF; Cattell, Eber, & Tatsuoka, 1970). This pioneer work of Cattell (1943) and the accessibility of such a brief list of variables has inspired other researchers to study the dimensional trait structure. Other researchers were also involved in the Big Five revisions. First, Fiske (1949) created an easier and shortened report from Cattell's (op.cit.) 22 variables. These factors were further re-analyzed by Tupes and Christal (1961) and they concluded that there are five strong and recurring factors. Norman (1963), Borgatta (1964), as well as Digman and Takemoto-Chock (1981) have replicated such a five-factor structure from Cattel's (op.cit.) list of 35 variables. The factors were initially labeled:

(I) Extraversion or Surgency (talkative, assertive, energetic)

(II) Agreeableness (good-natured, cooperative, trustful)

(III) Conscientiousness (orderly, responsible, dependable)

(IV) Emotional Stability versus Neuroticism (calm, not neurotic, not easily upset)

(V) Culture (intellectual, polished, independent-minded)

(Source: University of Oregon website)

These factors are today known as the Big Five (Goldberg, 1981). It is important to point out that the Big Five structure does not mean that personality differences can be abridged to only five traits. To a certain extent, these five dimensions characterize people's personality at the broadest conceptual level, and each dimension represents a large number of personality uniqueness.

Continued research on the Big Five has increased dramatically since the mid-1980's. Around this time, researchers again became interested in studying the ways in which personality traits combine into coherent patterns within individuals and in identifying types of individuals that share the same basic personality profile. Various factor structures were identified, which are similar to the set of the Big Five (e.g. Botwin & Buss, 1989; Conley, 1985; DeRaad, Mulder, Kloosterman, & Hostee, 1988; Digman & Inouye, 1986; Field & Millsap, 1991; Goldberg, 1981, 1990; John, 1990; McCrae & Costa, 1985, 1987; Peabody & Goldberg, 1989; Saucier & Goldberg, 1996).

To test the generality of the Big Five, Goldberg (1990) created a list of 1,710 trait adjectives. This list could be used by the participants to rate their own personality. The first five factors in this research characterized the Big Five factors. These factors were replicated with diverse methods of factor analysis and factor rotation. Furthermore, Goldberg (op.cit.) confirmed that these five factors remained stable, especially when more than five factors were rotated. Goldberg's (1992) scale, called Trait Descriptive Adjectives (TDA), has 100-single adjective items and is the most frequently used measure.

As research in the field of the Big Five continued, the need for an integrative framework became more urgent among personality researchers using questionnaire scales. Questionnaires were developed by different researchers using joint factor analyses, and the conclusion was that two wide dimensions, Extraversion and Neuroticism, appear in almost every personality inventory. Nevertheless, beyond these "Big Two" dimensions (Wiggins, 1968), there is no real consent among the models. In the early 1980s, the situation started to change through Costa and McCrae, who constructed the NEO Personality Inventory (which was published in 1985). This inventory measures three broad personality dimensions: Extraversion, Neuroticism, and Openness to experience. Costa and McCrae published in 1992 the revised 240-items NEO Personality Inventory (NEO PI-R; Costa & McCrae, 1992), which allows the separation of each Big Five dimension into six specific factors (Costa & McCrae, 1995). In order to provide a briefer measure, Costa and McCrae (1992) developed the 60-items NEO Five Factor Inventory (NEO-FFI). This shorter version is based on the factor analysis of the NEO PI version (Costa & McCrae, 1985). The 12-item FFI scale includes items that "loaded most highly on each of the five factors in that analysis" (John & Srivastava, 1999: p.17).

In 1990, Oliver John and colleagues tried to create a shorter version of the existing NEO-FFI and TDA. The aim was to construct a short inventory permitting flexible and efficient evaluation of the 5 dimensions. This 44-item Big Five Inventory (BFI) scale was developed by John, Donahue, and Kentle (1991). "The BFI uses short phrases based on the trait adjectives known to be **prototypical markers** of the Big Five" (John & Srivastava, 1999: p.22). "The BFI is used frequently in research where the time of the participants is limited and its short-phrase item format provides more context than Goldberg's TDA single adjective items but less complexity than the sentence format used by the Costa & McCrae's NEO questionnaires" (John & Srivastava, 1999: p.23).

The BFI (John & Srivastava, 1999) includes five broad factors or dimensions of personality types and they are:

- Extraversion (also called surgency), which is characterized by specific traits such as talkative, energetic and assertive.

- Neuroticism (can be sometimes reversed and called Emotional Stability), which is characterized by traits like tension, moodiness, and anxiousness.

- Agreeableness is characterized by traits like being sympathetic, kind, and affectionate.

- Conscientiousness describes people high on this trait to be organized, thorough, and plan life.

- Openness to Experience (also called Intellect or Intellect/Imagination). This dimension includes having wide interests, and being imaginative and insightful.

For instance, people who are lower in neuroticism are more relaxed, secure, and unworried while extroverted individuals are described as more outgoing, sociable, talkative, and less shy or reserved (John, 1989, 1990). In general, neurotic people tend to experience more negative moods, whereas extroverted people tend to experience more positive emotions (Costa & McCrae, 1980).

"The results reviewed so far suggest that the Big Five structure provides a replicable representation of the major dimensions of trait description in English. The five-factor structure seems to generalize reliably across different types of samples, raters, and methodological variations when comprehensive sets of variables are factored" (John & Srivastava, 1999: p.9).

Cross-cultural studies show that culturally particular dimensions are important and any differences on such a dimension might be distinctively significant for the social context within that culture (Yang & Bond, 1990). A key factor for assessing personality classifications is the generalizability across languages and societies (John, Goldberg, & Angleitner, 1984). Szirmak and De Raad (1994) looked at **Hungarian** personality descriptions and discovered that the first four Big Five factors were strongly represented, but there was no fifth Big Five factor. As an alternative, the Agreeableness factor divided into two factors and a so-called Intellect/Openness factor appeared but only when six factors were rotated. "Conclusions about factor similarity are often made by "eyeballing" the item content of the factors in the indigenous language to the typical factor definitions in English. That leaves much leeway to the investigators in "seeing" a factor that another investigator might not see. For example, the **Hebrew** factor defined primarily by sophisticated, sharp, knowledgeable, articulate, and impressive would lead some researchers to see a clear Intellect factor" (John & Srivastava, 1999: p.13). Other researchers have termed this Positive Valence (Almagor, Tellegen & Waller, 1995).

"Most generally, factors similar to the Big Five have been found in many other languages but often, more than five factors needed to be rotated and sometimes two indigenous factors corresponded to one of the Big Five. Overall, the evidence is least compelling for the fifth factor" (John & Srivastava, 1999: p.14), which is also the weakest replicable factor (John et al., 1991).

As sum, we can conclude that the structure of the Big Five "has not been accepted as a taxonomic superstructure" (John & Srivastava, 1999: p.17) by many professionals and they argue that the Big Five does not provide a complete theory of personality (e.g., Eysenck, 1992, 1997; McAdams, 1992; Pervin, 1994; Block, 1995).

3   Big Five and Internet Use

The way people are behaving when using the Internet and the choices they are making then, is very much determined by their individual characteristics. However, when it comes to research in this area between personality and the Internet, and choices made by people while on the Internet, it is still in the very early stages (Amichai-Hamburger, 2005).

The theoretical basis for predicting a relationship between Internet use and personality such as the Big Five can be traced back to the uses and gratifications model and the social network theory. According to the uses and gratifications model, different media types should be viewed as sources of gratifying needs (Blumler & Katz, 1974; Weiser, 2002; Weiss, 1971). The needs potentially gratifying the uses of a medium such as the Internet must be first identified in order to discover the impact of a medium on individuals. The needs most clearly associated with Internet use are information, communication, entertainment and escape (Jansen, Spink, Bateman & Saracevic, 1998; Katz & Aspden, 1997; Kraut et al., 2002; UCLA Internet Report, 2000, 2001). People use the Internet mainly to satisfy information and communication needs, followed by entertainment and escape needs (Kraut et al., 2002; UCLA Internet Report, 2000, 2001). Therefore, one way to predict a relationship between Internet use and personality is the connection between personality and these needs. Extraverted people have stronger communication needs and they should be more likely to use the communication tools of the Internet. According to the social network theory, personality influences motivation and behavior during social interaction (Levin & Stokes, 1986; Stokes, 1985). Especially, extraverted people are more likely to initiate social interaction and to experience successful social interactions. Neurotic people tend to be more anxious, overly emotional, and overly reactive to social stimuli and are more likely to have unsuccessful social interactions compared to stable individuals (Hojat, 1982). Therefore, a second way to predict a relationship between Interne usage and personality is the connection between personality and the quality of social interactions (Jackson et al, 2003).

At a broad level, the Big Five structure captures common personality descriptions of existing systems as well as providing an integrative framework for personality research (John & Srivastava, 1999).

The Big Five taxonomy was never intended as a comprehensive personality theory; it was developed to account for the structural relations among personality traits (Goldberg, 1993). Thus, like most structural models it provides an account of personality that is primarily descriptive rather than explanatory, emphasizes habitual behavioral

aspects and focuses on variables rather than on individuals or types of individuals (John & Robins, 1993, 1998).

The findings suggest that the Big Five may facilitate our developmental, social and theoretical understanding of significant life outcomes (John & Srivastava, 1999). The links between the Big Five and important life outcomes point to behavioral domains that people can target for personal development and change; for example, people can improve how conscientiously they adhere to a diet, exercise regimen, or medical treatment plan (Friedman et al., 1994).

Note that the Big Five provide a model of personality structure that represents the correlation among person-ality traits across individuals. However, personality structure can also refer to the organization of traits within the individual (Allport, 1958). Person-centered research focuses on the particular configuration, patterning, and dynamic organization of the individual's total set of characteristics (York & John, 1992), that is, how multiple variables are organized within the individual and how this organization defines particular types, or categories, of people. According to Angelman (2000), some individuals enjoy playing games on the Internet (entertainment), and others like to visit chat rooms (inclusion). Both types of users are in fact motivated to use the Internet in order to pass time, which is a typical media motivator). On the other hand, the usage of the same media by differ-ent individuals often originates from entirely different needs. Some chat users may be motivated by the need for companionship, while other chatters may visit the chat room because they feel more secure to communicate with people this way. Others may go to chat rooms because they would like to escape or find entertainment.

The two personality traits, which are considered to have the most important impact on social aspects of the Internet, are extroversion and neuroticism (Eysenck & Eysenck, 1975). The main reason for this is because these two traits focus on social aspects from one side and on a loneliness aspect from the other side (Hamburger & Ben-Artzi, 2000). The extroverted person is a friendly person who is looking for company, wants excitement, is taking risks, and is impulsive. On the other hand, the neurotic person is anxious, very emotional and strongly reacting to every stimuli (Eysenck & Eysenck, 1975).

According to Hall (2005) people who are considered high on neuroticism are more likely to be anxious, tense, and have feelings of guilt, than those who are low on this trait. Connected to this it can therefore be assumed that those who are high on neuroticism may be especially prone to use the Internet for it to provide relief from nervousness and anxiety. Weaver (2000) found for example that people who are predominantly neurotics are more likely to use certain types of media for passing time and relaxation motives.

On the other hand, according to Hall (2005) people who score high on extraversion are less likely to use the media as a substitute for interpersonal communication. This idea suggests that extraversion would be negatively associated to media motives, which are a replacement for interpersonal interaction. The concept of extraversion would then suggest that this trait would instead be associated with media motives, which have an interactional characteristic such as the social utility motive. Media motives would be interesting for people who are high on extraversion, because different motives for media may provide a means by which a person can communicate with other people or give information which can increase personal relationships. Hall (2005) also found that people high on extraversion and people with more social support were the ones who benefited the most from Internet use.

If we look at the literature, it can clearly be seen that there exists different motives and usages of the Internet, for different personality types (Amiel, 2006). There have been encouraging results of previous traditional and new media studies but limited research has been done in the field of Internet use and personality. According to Flaherty, Pearce & Rubin (1998), extraverted people are more likely to look upon the Internet as a sort of expansion and not as a substitute for social communication, since extraverted people are more sociable and more externally oriented. On the other hand, Hamburger & Ben-Artzi (2000), conducted a research looking at the relationship between extraversion, neuroticism and different kinds of Internet usage in a sample of Israeli college students. They proposed that neuroticism is characterized by anxiety and rejection of social interaction, and they suggested it to be associated with a need to use the Internet for social activities, such as chat, e-mail, and other interpersonal communication tools. Furthermore, Hamburger & Ben-Artzi (op.cit.) also anticipated neurotics using the Internet less for information seeking purposes. The above mentioned authors found that extraverted men used the Internet for different leisure time activities (e.g., visiting sex web-sites, casual surfing) and neurotic men used the Internet for information seeking purposes (e.g., looking for information related to work or studies). For extraverted women, there was a negative relationship between their personality type and Internet usage, and for neurotic women there was a positive relationship between their personality type and using the Internet for social purposes (e.g., chatting, discussion groups). These results are interesting because they confirm earlier studies which have shown that women have higher self-awareness and are more likely to use the social network for support (Leana & Feldman, 1991; Ptacek et al., 1994). However, it is suggested that neurotic males also come to realize that the Internet's social services can fulfill their social needs because the protected atmosphere of the Internet allows them to express themselves unreservedly. This preference of the Internet as a social tool is not likely to be found among extraverted males and females and non-neurotic Internet users, because they do not have problems in their social interactions

(Hamburger & Ben-Artzi, 2000).

A different pattern of results was found in another investigation of college students' self-reported Internet use. Tuten and Bosnjak (2001) found that only two personality factors from the Big Five Inventory (John, 1990), namely openness to experience and neuroticism, were related to Internet use. Openness to experience and Internet usages like entertainment and information seeking purposes were positively related to each other, on the other hand there was a negative relationship between general Internet usage and neuroticism. Landers & Lounsbury (2006) found a relationship between the remaining factors of the BFI and Internet usage for 117 undergraduate students. Results indicated that total Internet usage was negatively related to three of the Big Five traits such as Agreeableness, Conscientiousness, and Extraversion.

The field of personality and Internet motives is in its kindergarten shoes and a limited amount of research has been done in this field. Opposite of what has been mentioned so far also negative relationship between the Internet use and personality has been reported. Engelberg & Sjöberg (2004) made a study about the Big Five personality dimensions and Internet use but they did not find a link between personality and Internet usage.

4   Motives for Internet Use

Papacharissi and Rubin (2000) explained Internet motives as broad characteristics which are influencing people's behavior so that they can accomplish something they need or desire. In our study, one of the main areas of interest is motives for Internet usage. The reasons why we are using the Internet differ to a great extent for different people and the motives are covering different needs or desires. The motives behind the exchange and receiving of data can vary just as much (Newhagen & Rafaeli, 1996). Research can be difficult because of the number of motivators and their complex relation to each other. Needs often overlap and interact with each other by forming complex networks (Suler, 1999). Yet, these networks may be the key to understand how and why people use the Internet and its social and psychological effects.

According to Fallows (2004) research has shown different Internet motives for different people, where a majority of people stated that the Internet is used for getting information (92%), many people also stated that the Internet is used for communicating or interacting with other people (85%), and lastly people declared that they use the Internet for entertainment purposes (69%). There is however a difference between the different motives, where it is shown that people as using the Internet less for entertainment than for information and communication purposes. When it comes to the habit motive, it is shown that when people have started to use the Internet for their everyday needs they might make Internet usage a habit. Individuals who use the Internet for their everyday activities are going online in a way that suggests that they are incorporating Internet use into their lives in a more regular, predictable, habitual way. Kayany and Yelsma (2000) made estimations where 42% of the American people (i.e., 84 million American adults) are using the Internet. Of these 84 million, 37 million hook up daily from their homes. Their research reflects a time displacement effect, in which users experiences a reduction in time spent on other activities, including family interaction and domestic conversations (Angelman, 2000).

Motivations connected to the use of the Internet have been well-researched (Joines, et al., 2003; Parker and Plank, 2000; Stafford, et al., 2004). Earlier uses and gratifications (U&G) studies mainly provided a typology of use motivations by extending the uses and gratifications framework to study emerging new media (Kaye, 1998; Lin, 2004; Morris and Ogan, 1996; Parker and Plank, 2000; Stafford, et al., 2004).

The uses and gratification (U & G) model asks how people are using the media, with the underlying idea that people are motivated by a desire to fulfill, or gratify certain needs. The U & G model is looking at how people are gratifying their needs by using the Internet (McQuail, 1990). If we look at the research areas down within this field then the majority of the research has been done in relation to recognizing which gratifications are satisfied by the specific media we are using (Rubin, 1994; 2002; Swanson, 1992). The most recognized gratification is the information-seeking gratification or the surveillance gratification (e.g., Greenberg, 1974; Katz et al., 1973; Rubin, 1984; Wenner, 1986). The research connected to the U & G model started in the 1940's and became popular again in the 1970's and 1980's. It represents the use of media in terms of the gratification of social or psychological needs of the individual (Blumler & Katz 1974). There is little doubt that the Internet has become a significant global medium (Seongcheol, 1998). It has been shown in the line of history that new gratifications have been created by the uprising of new media types, and it can therefore be pointed out that the U & G model would be a relevant model to use for our kind of Internet research (Angelman, 2000). The new media such as the Internet competes with other sources of gratification, but gratifications can be obtained from a medium's content (e.g. doing specific online activities), from familiarity with a genre within the medium (e.g. online information-seeking), from general exposure to the medium (e.g. surfing online), and from the social context in which it is used (e.g., e-mailing, chatting). U & G researchers have pointed out that the way people use and react to a medium is

influenced by people's needs (Gauntlett, 2000). Therefore, social and psychological factors need to interact with communication in order to produce the motives for communication (Rosengren, 1974).

The Internet is a media which uniquely is incorporating many different cultures, belief systems, and different means of communication. Since we know that people's choice of media are influenced by the person's need for information and stimulation (Krcmar & Greene, 1999), it is very important to take into consideration the psychological and social/cultural needs which are influencing people's choice of media (Katz, Blumler & Gurevitch, 1974). The Internet's potential is so large; it may ultimately define the culture its use produces (Heim, 1992).

Six main motives for interpersonal communication were recommended, in 1988: pleasure, affection, inclusion, escapism, relaxation and control (Rubin, Pearce & Barbato, 1988). Flaherty, Pearce and Rubin (1998) showed that people are using computers to gratify three key needs: interpersonal needs (inclusion, affection, relaxation and control); traditional needs associated with media (social interaction, passing time, information, habit, entertainment); and new media needs (time shifting, meeting other individuals). Recently, Papacharissi and Rubin (2000) showed that three other factors are having an influence on people's Internet usage: contextual age; unwillingness to communicate; and media perceptions. The authors also say that personality and the social environment of a person is influencing different needs and choices that people are having or making. Perceptions, socialization, psychological characteristics and attitudes have been found to influence behaviors and motives. According to Eighmey (1997), and Papacharissi & Rubin (2000), it is entertainment and information seeking purposes which are the main motives for Internet usage. Cultures today are generally very entertainment-oriented (Vorderer, 2001). The GVU's 10th WWW User Survey showed that 35% of Internet users surf the Internet to have fun and explore something (GVU, 1998). Lee (2001) have also shown that it is the entertainment motive and not the information seeking motive which is the stronger predictor of how much a person is using the Internet. Ducoffe (1996) made a study about openness to the Internet in which it was shown that people regarded the Internet as a good resource for getting up-to-date information, for being useful, and being entertaining.

Ferguson and Perse (2000) also studied the World Wide Web, and found that five main factors in regard to Internet motives: entertainment, passing time, relaxation/escape and social information. Entertainment motive was the strongest predictor for visiting the Internet accounting for 42.1 percent of the respondents' answers, passing time accounted for 8.6 percent, relaxation/escape accounting for 6.6 percent and social information accounted for 5.3 percent. Papacharissi & Rubin (2000) showed that the entertainment motive was just as important as the information seeking motive when using the Internet. The two motives being least important for using the Internet were passing time and interpersonal utility. The study of Perse & Dunn (1998) showed that the motives for adults for going online, was related to Internet access. The more people used the Internet, the more they used it for entertainment and passing time.

In 2005, 15% of the Hungarian households had Internet access. This means that out of 4 million Hungarian households, 600 000 had Internet access from home. 22% (1.9 million) of the Hungarian Internet users are regularly surfing on the Internet, i.e. at least once a week. 92% of the Hungarian surfers are searching for information (TARKI Research Institute, 2005). E-mailing is the mainly used activity, in Hungary, and this is shown by the fact that about one-fifth of the people in Hungary are using the e-mail every day or more than one time per day. Another typical Internet motive is looking for and collecting information for either work or studies. About one-quarter of the people who are using the Internet regularly or at least one time per week are using it for pleasure motives, and the same numbers are true for the people using the Internet for entertainment purposes. 14% of people are using chat rooms at least once a week (TARKI Research Institute, 2001). There are no real gender differences in Internet usage for Hungarian men and women, i.e. 39% of the men and 35% of the women are using the Internet. 37% of Hungarian men are using the Internet for downloading games, music and pictures whole only 11% of Hungarian women are doing the same online activities. 30% of women are more interested in looking for health-related information while only 17% of men are searching for this kind of information. 58% of the total population thinks that the Internet is making the world a better place (TARKI Research Institute, 2005).

In Israel, 75% of the people are using the Internet for information seeking purposes, 73% of the people are using it to e-mail (Nua Internet Surveys, 2001). These numbers were still valid in 2006 when information-seeking and e-mailing were ranked as the highest Internet activities Also in 2006, it was shown that reading news, downloading videos, buying products and playing online games were the most popular Internet activities. 95% of the Israeli surfers are accessing the Internet from home and more Israeli men (55%) than women (45%) are using the Internet (Ynet, 2006). Another Israeli survey conducted in 2004 by Business Data Israel Ltd. shows that the Israeli population is high in Internet use. According to this online article of Ynetnews.com, Israelis are surfing more than Europeans or Americans. More than 50% of the 940,000 Israeli households have ADSL connections in comparison to European households with 10% and American homes with 22% (Ynetnews, 2005). The fastest growing uses are chat rooms (Source: http://www.globes.co.il, 2003).

5   Internet Affinity

Motives and attitudes such as affinity have been related to different patterns of Internet usage (Papacharissi & Rubin, 2000). The theory of Internet affinity is explained as the amount of how much people feel that they are attached to the Internet and also the level of importance they attain form Internet as a media. It has been shown that Internet affinity can influence on how much a person is using the Internet and it can also have an effect on a person's choice of a media type. Internet affinity has been shown to have a positive relationship with interpersonal motives for Internet usage. In general, it has been shown in research connected to attitudes towards computes, that the attitudes are connected to different computer-related results (Anderson, 2005). According to Valkenburg & Soeters (2001), there were three important motives for Internet usage, where the most important one was the affinity for computers, and this was followed by information seeking and entertainment.

Furthermore, Internet affinity is a measure of the individual's dependency on the Internet. Internet affinity characterizes the level of importance the Internet as a technology represents for the user (Papacharissi & Rubin, 2000). Since the Internet is contributing to new ways of communication and interaction we must consider new ways of measuring it, and abandon the standard and old indicators of social resources. The Internet together with affinity for this type of media is making it necessary for us to reevaluate what social resources really are, and we must establish new ways of measuring it (Wellman, 2002).

The Internet together with its affinity, has contributed to a change in the way family members are dealing with each other and how they feel about the way they communicate with each other. There are three possibilities of how the Internet can influence and change the community:

1) **The Internet reduces the community**: The entertainment and information qualities of the Internet are separating people from their family and friends. Also, by making communication and involvement more easy and accessible, the Internet is making people less interested in their local community and its politics (Nie, 2001; Nie, Hillygus, Erbring, 2002).

2) **The Internet changes the community**: The Internet is making it possible for less expensive and more convenient communications, with communities who are sharing same interest far away. Since the Internet is affordable for most people and they can be on-line at the same time, it is increasing communication between family and friends, especially communication with those people who are far away (Barlow et al, 1995; Wellman, 2001).

3) **The Internet complement the community**: The Internet is another way of communication which makes it easier to stay in touch with existing social relationships, to stay engaged in your community, and increases socialization. The Internet is blended into people's everyday life. People will make use of the Internet as a way to stay in touch with already existing social relationships, by adding electronic Internet contacts to telephone, mobile, and face-to-face contacts. Also, people can continue developing and maintaining their hobbies and political engagements online (Wellman, 2002).

6   Internet Communication Satisfaction

"Glocalization" can be used as a terminology for Internet communication, and it explains how people are staying connected with each other globally and locally. Thus, it is connecting friends and family living far away at the same time as it is connecting people who are living close to each other. Especially e-mail is used for contacting distant friends and relatives. Research has shown that e-mailing is a popular tool used by people to stay in touch with those who are living nearby. Communication technologies such as mobiles, e-mail, and Instant Messaging are playing an important role for people to stay in touch with family and friends. 25% of e-mail users send weekly messages to significant others, while 14% of instant message users exchange weekly Instant Messages with significant others (Boase et al., 2006).

It has been shown that the Internet is not making people becoming anti-social and it is not interfering with social relationships to diminish them. Instead, the Internet is making it possible for people to maintain social relationships that they already have, many times to make them stronger, and sometimes to make new social relationships. It is said that the time most of the people are spending online lessens the time they would spend on unsocial activities such as watching TV or sleeping. Also, the social relationships sustained by being online are seldom with completely new people who live far away. Instead, the communication which is mainly taking place online is with a group of the same friends and family, who are also spoken to over the phone and met in person. This is especially true for socially close relationships (Boase et al., 2006.) It is well establishes for people to use

the Internet to communicate with family and friends (Katz & Aspden, 1997; Kraut, Mukhopadhyay, Szczypula, Kiesler, & Scherlis, (1998a). Research on general Internet users shows that some people can suffer from psychological problems (social isolation, depression, loneliness etc) from the way they use the Internet (Brenner, 1997; Kraut, Patterson, Lundmark, Kiesler, Mukophadhyay, & Scherlis, 1998b; Young, 1996).

The way the Internet is balancing between strong and weak network ties a person has, will determine if social uses of the Internet will have positive or negative outcomes. Qualities associated with strong ties are for example frequent contact, and deep feelings of affection, while qualities associated with weak ties are for example infrequent contact, and relationships with superficial bonds. Both strong and weak ties offer people social support (Constant, Sproull, & Kiesler, 1996; Cohen & Willis, 1985; Krackhardt, 1994; Granovetter, 1973; Wellman & Wortley, 1990).

Men and women communicate online differently. People in general look upon the Internet as a positive tool for communication, with about 85% of men and women stating that Internet is a good way to communicate with other people. But similarities end there, since men and women are communicating in different ways online, they are communicating about different things online, and they value their online communications in different ways (Fallows, 2005).

The difference between men and women when it comes to online activities is that women use e-mailing and are sending e-cards to a higher extent than men, women also sending greetings and invitations more often than men, and finally women are using Instant Messaging more than men. On the other hand, men are participating more often in online chats or discussion groups. When it comes to Internet as a tool for communication, women are more positive online communicators and they are using the e-mail for many different things. It is more usual for women to send and receive e-mail, and the women use the e-mail in a more broad and dynamic way. Women are e-mailing their friends and family about many different things, like for example sharing news, worries, planning events, forwarding jokes and funny stories. Both men and women value the e-mail as an effective and convenient tool, however women are more satisfied with the role the e-mail is fulfilling in their lives, like for example nurturing social relationships (Fallows, 2005). These theories show that the Internet does not have an isolating consequence for the women and the men using it (Rainie & Kohut, 2000).

Hungarian Internet users are generally satisfied with the Internet, and their opinion has become more and more positive in the course of time. The number of people totally satisfied with the internet is constantly growing. People using the Internet say that they attain more satisfaction from the opportunity the Internet is giving them with communication. Further on, Internet may also be used for cultivating already existing friendships and to keep in touch with them via the Internet. Nevertheless, the general opinion of users is that Internet is not a particularly efficient way of building and cultivating relationships (TARKI Research Institute, 2001).

7   Gender Differences

When it comes to communication, Sproull & Kiesler (1991) state that people of the same sex, ethnicity, and age are communicating and exchanging information in a more inhibited way, but should those variables differ then the communication is made more difficult.

By the year of 2000 and today, there is an equal division in Internet usage generally between men and women, however men used to dominate the Internet usage after its arrival. Also, the percentage of women being online is almost are high as the percentage of online men, but women are more positive about e-mailing friends and family and find it more useful and valuable than men in general do (Fallows, 2005). Men are more likely than women to perceive the Internet as a good way to do some things online. A majority of men consider Internet being a good tool for attaining entertainment (72%) compared to women (66%). When it comes to people who are engaged in a variety of activities online, men use the Internet for a couple of things like for example information seeking and entertainment (Fallows, 2004). When it comes to being online for entertainment purposes, men are more likely to use the Internet as a tool for recreation (Fallows, 2005).

The way Internet is blended into their daily routines is also an area where men and women differ. In their online activities, men are more prone to do their online activities regularly and frequently. When it comes to activities people are most likely to do on a daily basis, men are doing those more frequently, however women tend to be more deeply engaged in using the Internet as a communication tool with family and friends. The importance among women and their social relationships shows that 64% of those women who communicate with their friends and family on the Internet are doing so at least several times a week. This number can be compared to 59% of the men doing so (Fallows, 2004).

Hypotheses:

The **purpose** of this study is to find out the relationship between Internet uses and the **Big Five**. We would like to see the connections between the subscales of the Big Five (extraversion, agreeableness, conscientiousness,

neuroticism, openness) and the **motives of Internet usage** (habit, pass time, relaxation, entertainment, arousal, companionship, information-seeking, escape, social interaction). We also hope to find significant **nation-based** and **gender differences**, especially when it comes to the relationship between the Big Five and the motives for Internet use.

1. **Across the sample, extraverted students will score higher on entertainment**.

2. **There will be nation-based differences between the Big 5 and Internet affinity**.

3. **There will be nation- and gendered-based differences in the relationship between the Big 5 and the motives for Internet uses**.

Method
Subjects and Procedure:
This study is a nation- and gendered-based comparison of Hungarian and Israeli medical students. We chose this population because as the literature mentions (Fallows, 2004), people who are frequent Internet users are mainly young adults such as college and university graduates. The data collection was done at Semmelweis University of Medicine (SOTE) in Budapest. This University is divided into different sections with lectures being given in different places all over Budapest. We used several sites of the SOTE University such as the NET building, and the Anatomy building for our data collection. First, second and third year medical students were used for both the Hungarian and the Israeli samples. This was done in order to keep the populations as similar as possible, and for us to be able to make comparisons between them more confidently.

Hungarian population

We looked at the schedule of the medical students on the Internet (http://ora/sote.hu) and we chose the available lectures for distributing our questionnaire. The students were asked to fill out the questionnaire before the chosen lectures. Taken together, 150 Hungarian medical students filled out the questionnaires, 75 males and 75 females. The students were aged between 18-36 years, with the mean age of 20.89 years (SD = 2.97). The mean age of the males was 20.88 years (SD = 2.70) and the mean age of the females was 20.89 (SD = 3.24).

Israeli population

The first step in the Israeli data collection was to contact the Head of the Israeli medical student organization. He helped us by giving information about the medical student's schedule and the amount of Israeli medical students currently studying in Budapest. The method for collecting the subjects was the same as for the Hungarian sample. Altogether, 150 Israeli medical students filled out the questionnaires, 75 males and 75 females. The students were aged between 19-34 years, with the mean age of 24.98 years (SD = 3.10). The mean age of the males was 25.63 years (SD = 3.46) and the mean age of the females was 24.33 (SD = 2.56).

Instruments:
The same questionnaires were used for the Israeli and the Hungarian population. The questionnaires were originally in English and for the Hungarian population they had to be translated into Hungarian. A translator with a diploma specializing in Psychology terminology was contacted at the University of Eötvös Lórand (ELTE) in Budapest. She translated all the questionnaires for us and before distributing them; two impartial Hungarian English teachers checked them. They made some corrections to the questionnaires and after agreeing with them about the changes the questionnaires were considered to be ready for distribution. Before distributing to the whole Hungarian population, a small sample of students filled it out. After receiving those questionnaires, minor adjustments had to be made re-considering some of the fine aspects of the Hungarian language. After those alterations had been made, we distributed the questionnaires.

In the first part of the questionnaire, there was a demographical part where the students had to fill in demographical background about themselves such as:

- Age

- Gender

- Level of education (Grammar, Middle School; High School; College Graduate (BA); Master Degree (MA)).

- With whom they are living together (alone; at home with parents or relatives; with my partner; with my own family; with my child(ren); with friends; with other person(s)).

- If they are working besides their studies.

In part of this section of the questionnaire, the students also had to indicate their answers connected to general Internet use:

- How many hours they approximately spend on the Internet any given day (less than 1 hour; 1-2 hours; 2-3 hours; 3-4 hours; 4-5 hours; 5-6 hours; More than 6 hours).

- How many times they approximately check they e-mails during one day (Never; Once a week; Every 2-3 day; Once a day; 2-3 times/day; 3-4 times/day; 4-5 times/day; 5-6 times/day; More than 6 times/day).

- How many times they usually write e-mails during one day (Never; Once a month; Every 2-3 week; Every week; Every 2-3 day; Everyday).

- If / when they use chat rooms (I never use chat rooms; I am depressed; I am stressed out; I am happy; I am lonely; I am nervous; I am bored; I am angry; I am sad).

1) The Internet Affinity Scale (Papacharissi & Rubin, 2000) was used to measure students' perceptions of the importance of the Internet in their lives. Internet affinity is looked upon as a measure of an individual's Internet dependency. More than this, it represents a global affective attitude towards the Internet as a distinct medium of communication and the degree to which the Internet has become an essential technology for people using it. Internet affinity is thus a measure of a person's dependence on the Internet and it reflects the individual's felt importance of the Internet. The Internet Affinity Scale is a 5-item instrument with a 1-5 number scale, where the number 1 indicates a strong disagreement with an item and the number 5 indicates a strong agreement with a given item. The Cronbach alpha reliability for this scale has been reported to be 0.84. (Papacharissi & Rubin, op.cit.), and in other studies the Cronbach alpha reliability has ranged from 0.79 to 0.93 (Ferguson & Perse, 2000).

2) Motives for Internet Use Scale (Papacharissi & Rubin, 2000; Ferguson & Perse, 2000) was used to look at the student's different motives for using the Internet. This 27-item scale reflects reasons why people are using the internet. The students had to show their own feelings as to why they use the Internet on a 1-5 number scale, where the number 1 represents strong disagreement and the number 5 represents strong agreement with an item. When summarizing the answers of the items they can be grouped into 9 different clusters of Internet motives: entertainment, relaxation, companionship, pass time, habit, arousal, escape, social utility, and information- seeking. Each of the motivational subscales of the Motives for Internet Use Scale has a documented reliability ranging from 0.68 to 0.87.

3) The Big Five Inventory (John, 1990) was used to look at the medical students personality traits according to the Big 5 dimensions: Extraversion, Agreeableness, Conscientiousness, Neuroticism, and Openness. One of the advantages of the BFI is its efficiency because it only takes five minute to fill out, compared with about 15 minutes for the NEO-FFI and the TDA. Moreover, the BFI items are shorter and easier to understand than the NEO-FFI items (Benet-Martinez & John, 1998). The 44-item BFI offers a measure of the core attributes of the Big Five, with a 1-5 number scale where the number 1 presents strongly disagree and the number 5 represents strongly agree with a personality item. In U.S. and Canadian samples, the alpha reliabilities of the BFI scales typically range from 0.75 to 0.90 and average above 0.80; three-month test-retest reliabilities range from 0.80 to 0.90, with a mean of 0.85. Validity evidence includes substantial convergent and divergent relations with other Big Five instruments as well as with peer ratings. Together the findings show that the Big Five are fairly independent dimensions that can be measured with convergent and discriminant validity.

Results:

Cronbach alpha coefficients were calculated to analyze the internal consistency of the scales. The Cronbach alpha coefficients for the BFI ranged between 0.72 and 0.76, indicating adequate internal consistency. Normality of the distribution for continuous variables was analyzed to determine whether parametrical tests can be applied. Groups were compared on the basis of gender and nationality by means of T-tests for independent samples.

Pearson correlation coefficients were calculated to determine the association between personality factors and motives for Internet use. Multi-adjusted linear regression models were performed to examine the association between demographical variables and personality factors, as well as demographical variables and motives for Internet usage.

A threshold of $p = 0.05$ was established in order to consider a significant association. Statistical analyses were conducted using SPSS 10.0 for Windows.

1. **Across the sample, extraverted students will score higher on entertainment**. 50.1% of the Israeli students stated to be extraverted (N = 150; Mean = 3.39; SD = 0.35), while only 49.9% of the Hungarian students mentioned to be extraverted (N = 150; Mean = 3.38: SD = 0.33). Although the differences between the two samples on extraversion was not that big, 54.7% of the Israeli students scored higher on the entertainment motive (N = 150; Mean = 3.78; SD = 0.86) compared to 45.3% of the Hungarian students (N = 150; Mean = 3.13; SD = 0.98). The relationship between extraversion and entertainment was determined by means of the Pearson correlation coefficients since all of the variables were normally distributed. There was no relationship between extraversion and entertainment ($r = 0.11$, $p = 0.06$) in our sample.

2. **There will be nation-based differences between the Big 5 and Internet affinity**. The nation-based differences for the Big 5 and Internet affinity showed, as it can be seen in Table 1, that the Israeli students scored higher on the affinity scale (Mean = 3.19; SD = 0.598) than the Hungarian students (Mean = 2.85; SD = 0.662). The Independent Samples T-test showed that the Israeli students scored significantly higher on the affinity scale (t (298) = 4.54; p < 0.001).
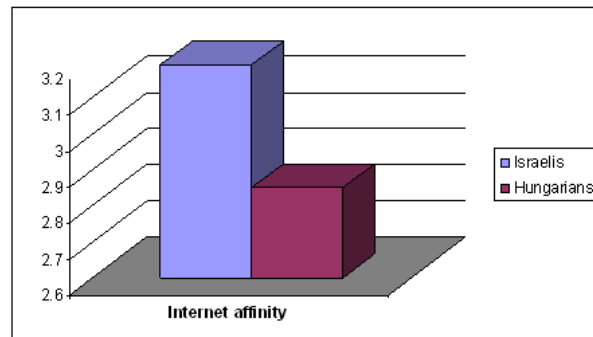

Table 1: Group Statistics for Hungarian and Israeli sample

The ANOVA calculations showed significant variances between nationality, extraversion, and affinity (F = 2.110; p < 0.01) as well as for nationality, neuroticism and affinity (F = 1.957; p < 0.05). Multivariate statistics was used to determine whether nationality and personality factors are associated with Internet affinity. Linear regression was performed, with adjustment for age, gender and nationality. The indicator of interest was the standardized Beta coefficient and p-value corresponding to the personality factor investigated. There was a positive relationship between extraversion scores and affinity (ß = 0.13; p = 0.02), independently of age, gender and nationality. In the Israeli sample (ß = 0.169, p = 0.014), there was a positive relationship between Internet affinity and neuroticism (ß = 0.224; p < 0.001), indicating that a high score on neuroticism would predict Internet dependency (see Table 2).

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3,516	,115		30,532	,000
	NATIONALITY	-,331	,073	-,254	-4,540	,000
2	(Constant)	1,161	,626		1,854	,065
	NATIONALITY	-,219	,088	,169	-2,482	,014
	AGE	,021	,012	,116	1,726	,085
	GENDER	,137	,073	,105	1,881	,061
	EXTRAVERSION	,219	,128	,116	1,719	,087
	AGREEABLENESS	-,145	,112	-,086	-1,296	,196
	CONSCIENTIOUSNESS	-,011	,109	-,006	-,097	,922
	NEUROTICISM	,370	,099	,224	3,734	,000
	OPENNESS	,039	,099	,026	,391	,696

(a) Dependent Variable: AFFINITY

Table 2: Coefficients (a)

There will be nation- and gendered-based differences in the relationship between the Big 5 and the motives for Internet uses. In this case we calculated the Pearson correlation coefficients for the four subgroups (Israeli males and Israeli females as well as for the Hungarian males and Hungarian females).

3.1. Associations between personality factors and Internet motives in male Israeli students: The linear regression model showed a positive association for the Israeli male students between extroversion and more frequent Internet use as habit (ß = 0.15; p = 0.005). This finding was also confirmed with the 2-tailed Pearson correlation calculation in which extraversion was positively correlating with habit (r = 0.378; p = 0.001) and this was significant at 0.01 level.

The 2-tailed Pearson calculations showed further significant correlations for the male Israeli students between Agreeableness and habit (r = 0.289; p = 0.012) at 0.05 level; while conscientiousness, neuroticism and openness was not associated with any of the variables related to motives for Internet usage.

High neuroticism score was significantly associated at 0.05 level with high arousal (r = 0.290; p = 0.012) and with companionship scores (r = 0.270; p = 0.019). These values were generally modest and usually between 0.3-0.5.

3.2. Associations between personality factors and Internet motives in female Israeli students: The 2-tailed Pearson calculations showed that in female Israeli students, the Internet motive of habit was positively associated

at 0.01 level with Agreeableness (r = 0.401; p ¡ 0.001) as well as neuroticism (r = 0.412; p ¡ 0.001). In addition, the Internet motive of entertainment was positively associated at 0.05 level with Conscientiousness (r = 0.285; p = 0.013) and Neuroticism (r = 0.234; p = 0.043). On the other hand, the personality factor of neuroticism was positively associated with the Internet motives of companionship (r = 0.231; p = 0.046), and information-seeking (r = 0.255; p = 0.027) at 0.05 level as well as with escape (r = 0.367; p = 0.001) at 0.01 significance level.

   3.3. Associations between personality factors and Internet motives in male Hungarian students: The personality factor of Neuroticism was positively associated with pass time (r = 0.342; p = 0.003) and escape (r = 0.311; p = 0.007) at 0.01 level. Conscientiousness (r = 0.234; p = 0.043) was positively associated at 0.05 level with the Internet motive of companionship. Openness was positively significant at 0.05 level for the Internet motives of companionship (r = 0.244; p = 0.035) and escape (r = 0.269; p = 0.020).

   3.4. Associations between personality factors and Internet motives in female Hungarian students: The Big Five factor of Agreeableness was positively associated with pass time (r = 0.320; p = 0.005) at 0.01 level and social interaction (r = 0.228; p = 0.049) at 0.05 level. Furthermore, Conscientiousness was positively associated with pass time (r = 0.236; p = 0.042) at 0.05 significance level. Neuroticism was positively associated with information-seeking (r = 0.227; p = 0.050) at 0.05 significance level.

   <u>Discussion</u>:

   1. Across the sample, extraverted students will score higher on entertainment.

   This hypothesis is not supported. Extraverted people are said to have a high sociability and external orientation and because of this extraverts may probably view the Internet more as a kind of extension than substitute for their social interaction (Flaherty, Pearce & Rubin, 1998). We found that entertainment was not connected to extraversion in our sample. It seems that the Hungarian and Israeli medical students are both high on extraversion, yet they are not using the Internet mainly for entertainment purposes. Nowadays, the cultures are generally very entertainment-oriented (Vorderer, 2001), which means that people are looking to be entertained. Being a medical student is a tough job, which requires a lot of energy, motivation, and discipline. Therefore, the Hungarian and Israeli students in their spare time might want to rest and to get a break from their studies by using the Internet for many different motives but not mainly as an entertainment tool. Although prior research has found that extraversion was positively related to using the Internet for leisure services such as for casual surfing or sexual websites (Hamburger & Ben-Artzi, 2000).

   2. There will be nation-based differences between the Big 5 and Internet affinity.

   The hypothesis was supported because extraversion and neuroticism correlated significantly with Internet affinity for the Israeli sample. This suggests that the Israeli students, who are more extroverted or neurotic, might have a more positive orientation toward the Internet and may be more open to the Internet (Anderson, 2005). The definition of Internet affinity includes that this terminology is a dependency measure and how much a person might enjoy the media usage (Papacharissi & Rubin, 2000). Since there is a connection between Internet affinity and extraversion, this might mean that the Israeli students who are extroverted see the Internet as an extension tool. Thus, that they are enjoying to use the Internet for different motives. But there was also a connection between neuroticism and Internet affinity for the Israeli students. This is somewhat contradictory to the first result because neuroticism is the opposite trait of extraversion. Yet, affinity can also be related to neuroticism since Internet affinity can also show a measure of dependency. Thus, the Israeli students high on neuroticism are probably using the Internet as a dependency tool.

   3. There will be nation- and gendered-based differences in the relationship between the Big 5 and the motives for Internet uses.

   The hypothesis was confirmed because there were significant gender differences between the Big Five and Internet motives. The results show that the Israeli males and females were both high on agreeableness and the Internet motive of habit. According to Engelberg & Sjöberg (2004) there is no relationship between personality and Internet usage. However we found a positive association between agreeableness and habit and with this we are contradicting available literature. With our new findings, we have hopefully contributed to existing literature but further studies in this field are needed. The second interesting finding was that the Israeli students scoring high on the personality factor of neuroticism also scored high on the Internet motive of companionship. According to Hojat (1982), neurotic people tend to be more anxious, overly emotional and reactive to social stimuli and are more likely to have unsuccessful social interactions. We might assume that the Israeli medical students in our sample, who scored high on neuroticism, are reserved in their social interaction by living in a foreign country and therefore are using the Internet more as a companionship tool. Thus, companionship for the Israeli students is a passive way of social interaction and this is how it can be related to neuroticism. Further explanations to this finding might be that the Israeli students living here in Hungary and scoring high on neuroticism are high on the companionship motive because for them using the Internet is a way to stay in contact with family, friends and relatives. Staying in contact with family and friends at home might give them a feeling of security, closeness, and relatedness (i.e.

companionship).

The hypothesis was also supported for the Hungarian sample. However, for the Hungarian sample there was no match between one personality trait and the same Internet motive for males and females. According to the results in our hypothesis one, Hungarian students scored highest on conscientiousness but the males and females scored high on different Internet motives for the personality trait of conscientiousness. The conscientious Hungarian males obtained higher scores for the companionship motive, while the conscientious Hungarian females scored high on the Internet motive of pass time. According to John (1990), conscientious people are organized and planning ahead while according to Cattel (1943) conscientiousness means to be orderly and responsible. By looking at the description mentioned above for conscientiousness, we might assume that conscientious people would use the Internet more for information-seeking motive since they would like to search for any kind of information on the Internet that would make their lives organized, planned, and ordered. However, our results were interesting because they revealed unexpected outcomes such as pass time and companionship being related to conscientiousness. This result might be unexpected because companionship might maybe fit better with openness to experience because open people are more sociable and outgoing and looking for companionship. On the other hand, pass time might fit better with neuroticism because neurotic people are more anxious and less sociable, which is why they might choose more frequently to pass time in front of the computer.

"The availability of so many different instruments to measure the Big Five makes clear that there is no single instrument that represents the gold standard" (John & Srivastava, 1999: p.23), which might explain why we sometimes got different results than prior researchers or why some didn't find any link between personality and motives for the Internet (Engelberg & Sjöberg, 2004). This is why it would be crucial to conduct more research in the filed of personality and the Internet.

Limitations

Limitations might be found in our small sample size (N = 300), thus generalization cannot be made upon the whole Hungarian and Israeli medical student population.

Since not much research has been done in the area of Instant Messaging, it could have been interesting to look into the fast growing fields of chatting, forums, and Internet dating in connection to Internet motives and personality factors. For instance, it could have been interesting to see which personality trait might be related to the use of chat-rooms. In general, not much research has been done in the field of Internet motives and Big Five personality traits. This made it difficult for us to find supporting or contradicting prior research. Especially when it comes to combined research about Internet motives, Internet affinity, and the Big Five, the American as well as the European literature is very limited.

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