INSTANT MESSAGING USE AMONG UNIVERSITY STUDENTS

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ABSTRACT

Instant Messaging (IM) has taken place in our lives as a result of the recent developments in the new communication technologies. The popularity of similar communication techniques is increasing particularly among young internet users. The aim of this study is to explore predictors of IM use among university students. The data of this study was obtained from a survey on a purposive selected sample of 547 students of The Selcuk University. The results revealed 4 motives that were effective on the use of IM. These motivations are, in order of importance: (1) interpersonal interaction and utility, (2) convenience, (3) relaxation and entertainment, and (4) information seeking. Especially interpersonal interaction and utility motivation is the most important predictor of IM use. Female students are spending longer time a day by IM and a longer per session time than male students. A positive meaningful relation has been found between the daily spent IM time and the IM use motivations. Participants who were using IM more for romantic communication with their boy/girl friends have been found as longer instant messaging each day.

Keywords: Internet, instant messaging(IM), university students, uses and gratifications, motivation

ÜNİVERSİTE ÖĞRENCİLERİ ARASINDA ANINDA MESAJLAŞMA KULLANIMI

ÖZET

Anında mesajlaşma son yıllarda yeni iletişim teknolojilerinde yaşanan gelişmelerin bir sonucu olarak güncel hayatta yer almaya başlayan bir olgudur. Özellikle genç kullanıcılar arasında bu tür iletişim yöntemlerinin kullanımı gittikçe popülerleşmektedir. Bu çalışma üniversite öğrencileri arasında anında mesajlaşmanın belirleyici değişkenlerinin neler olduğunu tespit etmeyi amaçlamaktadır. Çalışmanın verileri, Selçuk Üniversitesi'nden amaçlı örneklem yoluyla seçilen 547 öğrenci üzerinde yapılan saha araştırmasından elde edilmiştir. Araştırma sonuçlarına göre, üniversite öğrencilerinin anında mesajlaşmalarında etkili olan 4 motivasyon belirlenmiştir. Bu motivasyonlar "(1) kişilerarası etkileşim ve fayda, (2) kolaylık, (3) rahatlama ve eğlence, (4) bilgi arama" şeklindedir. Özellikle kişilerarası etkileşim ve fayda motivasyonu, anında mesajlaşmanın en temel belirleyicisi konumundadır. Bayan öğrenciler, erkek kullanıcılara göre günlük daha uzun süre anında mesajlaşmakta ve bir oturumda daha uzun süre anında mesajlaşma servislerini kullanmaktadırlar. Üniversite öğrencilerinin günlük anında mesajlaşma süreleri ile anında mesajlaşma motivasyonları arasında anlamlı pozitif ilişki bulunmaktadır. Anında mesajlaşma servislerini kız/erkek arkadaşlarıyla romantik iletişim kurmak için daha çok kullanan denekler, günlük daha uzun süre anında mesajlaşmaktadırlar.

Anahtar sözcükler: İnternet, anında mesajlaşma, üniversite öğrencileri, kullanımlar ve doyumlar, motivasyon

INTRODUCTION

The recent developments in information and communication technologies have resulted in radical changes in the communication and expression methods of individuals and organizations alike. Nowadays, these results have clearly deepened the effects of the internet. The basic attributes of the internet being defined as low cost, difficult to censor, anonymous, synchronous, integrated, plural and free (Atabek 2003: 63-71) are important parameters that are used by the social constructs in their self expression styles and communication ways. Thus, IM is a communication method that entered our lives as a result of these changes.

IM technology has many of the characteristics of informal communication (Snoddy 2007: 5). The roots instant messaging go back to the chat

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systems of the 1980's. The concept of IM was pioneered in 1996 by four Israeli computer programmers who started a company named "Mirablis". They realized that millions of people were connected to one huge worldwide network, the internet, but these users were not interconnected with one another. They called this technology ICQ (I Seek You) and released it in November of 1996 (Hwang 2005: 11). Since then, instant messaging has seen growth in a massive scale with millions of users using one or more of the leading free-consumer-grade IM systems (Gutierraz 2004: 9, Lewis & Fabos 2005: 473). Today there are many free public domain instant messaging services. The most popular are AOL Instant Messenger (AIM), ICQ, MSN Messenger (Windows Messenger in XP or Vista) and Yahoo! Instant Messenger (YIM) (Mannan & Oorschot 2004: 69, Mannan 2005: 2).

Instant messaging (IM) represents a communication technology that allow employees to send and receive short text-based messages in real time and to see who else 'online' and currently available to receive messages (Cameron & Webster 2005: 86, Oliva 2003: 49). Each user defines a list of people that he or she wishes to interact with: IM users can send messages to any of the people included in this predefined list (buddy list or contact list) as long as that person is online. Typically, the instant messaging system alerts you whenever somebody on your private list is online. Sending a message opens up a small window where the interlocutors can type in message that all of them can see (Riva 2002: 591).

IM has many unique capabilities not available in other CMC (Computer-Mediated Communication) applications. First, current IM applications provide near-synchronous one-to-one communication and near-immediate confirmation of exchanged messages, making the transaction almost like a telephone conversation, except that it is text-based (Nardi et al. 2000: 80). IM allow longer delays between exchanges, so users do not to give it their full attention. Thus, users can conduct other businesses simultaneously with using IM. Second, IM offers users the ability to instantly create a private chat room. IM also allows sharing of images, music files, documents, or even streaming content such as stock quotes or game scores. Third, IM provides presence awareness by notifying users when their buddies are online or ready to chat (Huang & Yen 2003: 65).

Historically, the diffusion of text sassed CMC is linked to the low bandwith available to many internet users. However, the increasing availability of fast internet connection (e.g., ISDN, ADSL, and Cable) is pushing software developers to integrate new communication tools in standard IM clients. The first step in this trend was the inclusion of audio communication: Second generation IM clients allow talking with users anywhere in the world using the computer microphone and speakers. Other typical features of second-generation IM clients is real time file sharing and e-mail support. A further step in this trend is the creation of video instant messaging, which also allows both video chat live, and the video messages recording/sending to the users who are in the chat rooms (Riva 2002: 591-592).

This phenomenon is rising drastically among young people, and it is beginning to replace the telephone as a means of communicating. This is what creates what might be called "copious conversations." Copious conversations may be defined as speaking to numerous individuals simultaneously (Pawlak 2002: 6). Estimates suggest that, approximately 30% IM users are between the ages of 18 and 29, as a result of widespread Internet access and typically strong adopters of innovative technologies among this age group (Flanagin 2005: 176). Thus people of typical university age constitute a considerable and important population of IM users. This study addresses by exploring the potential predictors of IM use within university students in Turkey. The goal of this study is to increase our understanding of how and why people use new media. Therefore, the uses and gratifications approach is adopted as the logical starting basis to understand the motivations for and benefits of IM use.

1. LITERATURE REVIEW

1.1. Uses and Gratifications Approach

One influential tradition in media research is referred to as the "uses and gratifications" approach. The uses and gratifications approach is fundamentally different than another tradi-

tional approach known by its concern for "media effects". The "media effects" tradition concerns itself with "what media to do people". In contrast, uses and gratifications can be seen as part of a broader trend among media researchers that is more concerned with "what people do with media" an approach that allows for a variety of responses and interpretations (Park 2004: 25-26). Uses and gratifications is a tradition of media research that focuses on the needs of individuals which they seek to gratify through media use (Flanagin 2005: 177).

In the classic article, Katz, Blumler & Gurevitch (1974: 510) also stated the primary concerns of this approach as: (1) the social and psychological origins of (2) needs, which generate (3) expectations of (4) the mass media or other sources which leads to (5) differential patterns of media exposure (or engagement in other activities), resulting in (6) need gratifications and (7) other consequences, perhaps mostly unintended ones. Thus the social and psychological characteristics of people influence their motivations for using media sources (Charney 1996: 6).

Uses and gratifications researchers assume that audience members actively search out media messages to satisfy certain needs, a change from earlier assumptions that audience members were an undifferentiated mass that passively receives media messages. Specifically, the uses and gratifications approach assumes that (a) the audience is active, (b) media use is goal directed, (c) media consumption can fill a wide range of needs, (d) people have enough self-awareness to know and articulate their reasons for using the media, and (e) gratifications have their origins in media content, exposure, and the social context within which the exposure takes place (McLeod & Becker 1981, quoted, Kaye & Johnson 2002: 55).

Previous studies of the uses and gratifications paradigm has examined gratifications associated with the use of newspaper (Erdoğan 1977), television (Rubin 1979, Rubin 1981, Rubin 1983), VCRs (Rubin & Bantz 1987), cable television (Abelman 1988), radio (Cox 1981, Rubin & Step 2000), telephones (O'Keefe & Sulanowski 1995), internet (Korgaonkar & Wolin 1999, Papacharissi & Rubin 2000) and electronic mail (Dimmick et al. 2000). Other studies in gratifications or benefits of computer-mediated technologies such as cellular phones (Leung & Wei 2000, Özcan & Koçak 2003), pagers (Leung & Wei 1999), ICQ (Leung 2001), IM (Hwang 2005, Flanagin 2005), and SMS mobile messaging (Leung 2006) suggested broad motivations which included information viewing, conversation and socializing, entertainment, information and education, social escape, diversion, fashion and status, affection, inclusion, mobility, immediate access, reassurance, coordination, utility, convenience, relaxation, and communication medium appeals. Recent studies are derived from the uses and gratifications perspective, which assert that social psychological motivations may cause people to turn mass media for companion and other gratifications.

1.2. Instant Messaging

Some additional form two-way communications are chat rooms and instant messaging (IM). Technologies like chat rooms and instant messaging, which enable users to communicate on the internet with others in real time, have been used for over a decade (Grinter & Palen 2002: 21). Some chat rooms are built in to websites while other are located via a search for a common theme or internet. A slight variation of chat rooms is called "instant messaging" (Pawlak 2002: 6).

Instant Messaging (IM) is increasingly becoming part of our daily lives. It is primarily used for social communication and entertainment and is mainly centered on having fun and building of community (Zhao 2004: 3). IM has established a popular mode of communication for people with access to the internet. IM is a type of communications service over the internet that enables individuals to exchange text message and track availability of a list of users in real-time (Hwang 2005: 1). Some people do not use it and never will, but for a rapidly growing number of people IM is a useful communication tool and for some it is a vital part of their lives (Lin et al. 2007: 418). People use IM for a variety of purposes. For example, they would use IM to talk about homework, to stay in touch with friends, to set up meetings, to share multimedia files and documents, and

so on (Lee 2007: 225). The telephone is no longer necessary for a person to be connected constantly to his or her family and friends. One can simply turn his or her computer on and log onto IM. Family and friends in long-distance relationships can maintain constant contact over the internet as long as they use the same IM application. IM allows user to hold simultaneous conversations without long distance fees (Hwang 2005: 1).

Though as instant as a phone call, it doesn't require as much attention and can be more convenient. IM allows users to find out who is available to receive an instant message, e-mail or even a phone call. IM is a very convenient way to communicate quietly without disturbing others, while maintaining privacy. It has proven that it is less intrusive than phone calls, and more efficient than e-mail. Moreover IM, unlike phone calls, is inexpensive, as users can download the software for free from the internet (Zhao 2004: 3).

One of the most important features of IM clients is the ability to provide some awareness of presence. IM clients typically provide this information by indicating whether a user is online and whether the user is currently active or idle (often referred to as the user's "Online Status"). Most IM clients also allow users to set additional indicators to signal whether they are busy or away from the computer (Avrahami & Hudson 2006: 732).

Table 1 Comparison of CMC Applications

	E- Mail	**Chat**	**IM**
Interaction	Asynchronous	Nearly synchronous	Nearly synchronous
Information storage	Client and/or server	Server	Client
Transmission route	Between client via server	Via server	Between client directly
Information recipients	Restricted target recipients	All authorized users	Restricted target recipients
Message type (in most cases)	Longer	Varied	Shorter
Communication frequency (in most cases)	Several times a day to occasional	Varied	Frequently within a time Period
Message delay	Several second to minutes	Instant to seconds	Instant to seconds
Typical users	All users	Recreational, customer service, and technical support, etc.	Recreational, some business users
Media capability	Text, documents	Text	Text, voice, documents

IM refers to a type of software program that uses an internet connection to send and receive short text messages with another computer. IM is thus a hybrid of e-mail and chat. Similar to chat, IM allows real-time communication, yet is typically conducted on one-on-one basis like e-mail. Messages are transmitted and stored on users' computers instead of on servers, and the server merely provides network routing information to help initiate the exchange. Unlike chat rooms where almost anyone can join the discussion, or can request to join, and can talk to anyone who is present, IM users need to "call" first. In other words, a negotiation-of-availability process must take place before the actual exchange can begin. Table 1 is comparison summary of the three applications (Huang & Yen 2003: 64).

On the other hand, IM presents important advantages to users in working life (Flynn 2004: 11):

- *Instant Real-Time Communication*: IM users can communicate instantaneously with colleagues, clients, and other third parties.

- *Enhanced Customer Service*: Delayed responses are a thing of the past as your colleagues can get immediate responses to clients' questions and request-right now, in real time.
- *Improved Employee Productivity*: With IM, managers can check to see who is online at the office at any given time. The need to wander the halls checking on employee productivity is eliminated-as is phone tag.
- *Multitasking Made Easy*: IM is less intrusive than dropping everything to make o phone call. With IM, employees can talk on the phone; hold face-to-face conversations, e-mail, and chat simultaneously.
- *Greater Accountability for Off-Site Employees*: Using presence detection capabilities, managers can check to see if off-site employees, telecommuters, past time workers, or subcontractors are online and available for chat.
- *Comprehensive Features*: IM can do anything e-mail can do, including transmit text, images, and files. Other features and capabilities include chat rooms, Web conferencing, screen sharing, whiteboards, video, and broadcasts.
- *Sending and Receiving Messages to and from Cell Phones, Pagers, Telephones, and Fax Machines*: Additionally, IM delivers voice-over-IP technology, so you can use your computer like a telephone.
- *Cost Saving on Long Distance and Travel*: With IM, several people can join in on a real-time conversation. The cost of airfare, hotels, and telephone conference call is eliminated.
- *No More Phone Tag*: As long as your IM buddy is online and open to chat, you can communicate instantly.
- *Access to Content*: IM users can access news updates, stock information, sports, weather, and other information instantly.

1.3. Research on Instant Messaging

Research specifically on instant messaging is just beginning to emerge. One of the first studies examining instantaneous written communication was Beach and Lundell (1998). In "Early Adolescents' Use of Computer-Mediated Communication in Reading and Writing", the researchers discovered that through participation in computer-mediated communication (CMC) which is much like instant messaging, as it is synchronous in nature-students were transformed in reading and writing by "providing environments for active engagement in writing and reading activities (Beach and Lundell 1998: 93, quoted, Adams 2005: 29).

Lewis and Fabos (2000: 4) examined instant messaging specifically when researching the social practices of adolescent girl online. The researchers utilized the case study format for two adolescent girls who instant messaging how they "(1) Negotiate the language of Instant Messaging; (2) Negotiate Social Networks; and (3) Monitor the Instant Messaging Landscape". Authors note that the girls used different styles, tones and subjects in all of their numerous conversations (some of which were going on at the same time). Additionally, the girls believe that this activity is fostering their social network in the academic environment because there is less opportunity for awkwardness and because they're keeping in contact with friends, thus supporting their popularity with peers (quoted, Adams 2005: 30-31).

A study by Bradner (2001: 79) also found IM to be an "expressive" communication tool. He interviewed 25 people and observed real time IM exchanges in workplaces. The results show people "using IM for short questions and clarifications, coordination and scheduling arranging impromptu social meeting, and keeping in touch with friends and family. Researcher report that two things are striking about all these interactions. First is the *flexibility* of IM in terms of the work that is supports. It is used here for clarifications, coordination, task delegation, asking and granting social favors, and tracking others' schedules and arranging social meetings. Second, IM is *expressive*, allowing for effective communication about a work crisis, the general ambiance of the office, jokes and bantering, as well as intimate communication with friends and family".

On the other hand, teenagers' use of IM has been a recent focus of media research, suggesting that IM is used mainly for the fundamental need to interact with other (Hwang 2005: 18). For instance, Eldridge and Grinter (2001) report that teenagers use IM to arrange times to chat, confirm arrangements already made, coordinate things with friends, or just to exchange gossip. They indicate that teenagers basically had three major for choosing text messaging over other media: it is quicker; it is cheaper; and it is easier or more convenient. Researchers found it quicker to text message for two major reasons: first they have grown very accustomed to the user interface on the phone and have adapted it to their needs; and second, they can avoid long, sometimes awkward phone conversations.

In order to find characteristic patterns of IM use in the workplace, Isaacs et al. (2002: 11) observed users' behavior throughout the conversation. Contrary to prior research, they found that the primary use of workplace IM was for complex work discussions. Only 28% of conversations were simple, single-purpose interactions and only 31% were about scheduling or coordination. Moreover, people rarely switched from IM to another medium when the conversation got complex. They found evidence of two distinct styles of use. Heavy IM users and frequent IM partners mainly used it to *work together*: to discuss a broad range of topics via many short turn and much threading and multitasking. Light users and infrequent pair mainly used IM to *coordinate*: for scheduling, via fewer conversations per day that were shorter, slower-paced with less threading and multitasking.

Segerstad and Ljungstrand (2002: 147) investigated how awareness of a person's presence and location affect the content of instant messaging among college students who use the IM service called "WebWho." Their participants were divided into three groups. The first group consisted of students who were within the same computer lab in the school. The second group consisted of students who were distributed in different lab room. The last group consisted of students who were outside the university computer lab (e.g., home). Results showed that awareness of both physical and virtual presence affects the content of the messages, and that these factors affect the text differently. Sender status, the nature of the computer-mediated medium, and written mode shape the messages as well. Moreover, the students use the messaging system to support collaborative work and coordinate social activities, and extensively for playful behavior.

Many researchers have studied of college students' new media use (e.g., internet, cellular phones, pager, ICQ, SMS mobile messaging and IM) from the uses and gratifications approach. For example, Leung (2001: 483) interviewed a randomly selected sample of 576 college students in Hong Kong. The survey results revealed that 7 motivations had effects on the ICQ use of the participants. The motivations were, in order of importance: affection, entertainment, relaxation, fashion, inclusion, sociability, and escape. Researcher found that entertainment was the most powerful gratification for chatting on ICQ among college students in Hong Kong. Students who were heavy users of ICQ were motivated by fashion. Use of emails and ownership of cellular phones seem to be significant predictors of ICQ use. Results of this particular study showed that students who spent larger time on ICQ sessions also played online games more often for entertainment, lived in dormitories, had a lower household income, and did not subscribe to any ISP service at home. On the other hand, female ICQ users tended to chat longer and more frequently for reasons of sociability while males spent less time on each session for entertainment and relaxation. Leung (2001) concludes that "ICQ is a technology that facilitates social relations and is a major source of entertainment for college students.

Huang and Yen (2003: 68-72) surveyed a sample which consisted of 576 students from a large university in the United Sates Midwest. This study aimed to reveal student's IM features. Results indicated that 5 factors had effects on the "Social Usefulness IM" use of the participants. The factors were, in order of importance: (1) friendship development, (2) personalized information, (3) information volume, (4) information richness, and (5) ease of use. This study investigated the usefulness of IM for both social and work-related purposes from

young users' perspectives. The result showed that young users correlated certain features of IM with aspects of usefulness. The ability to facilitate friendship development and personalized communication was viewed as important for social use. By contrast, information richness and information volume were assumed as the most desirable features for work-related use. Besides, the researchers reported that, "ease of use is important for personal use, but not important for work-related use".

Debrand (2004: 70-72) in study within the framework of a doctorate dissertation examined gender differences concerning the use and perceived usefulness of email and instant messaging software. This study indicated that male and female college students use and perceive email and instant messaging in a similar manner. There was no supporting evidence to show a statistically significant difference between men and women perceptions of email or instant messaging usefulness and frequency of use when communicating with people who were geographically close. There was also no supporting evidence to show a statistically significant difference of usefulness perceptions between men and women when using instant messaging for communicating with people who were geographically distant.

Flanagin (2005: 179-184) examined the uses and gratifications of the IM in another research which was conducted on college students. He received answers from 271 volunteer students. The researcher performed a factor analysis, which yielded four motivations: (1) social entertainment, (2) sociability gratifications, (3) social usefulness, and (4) task accomplishment. Findings indicated that respondents exhibited a high capacity for multi-tasking in IM conversations, and results suggest displacement effects, particularly of email by IM.

Hwang (2005: IV-V), in a study conducted in the United States within the framework of a doctorate dissertation, examined 602 college students' motives for (GS: Gratifications Sought) and benefits (GO: Gratifications Obtained) from IM use. Findings of this study showed that for college students, chatting on IM is a selective behavior in which they attempt to gratify the specific need of social utility, interpersonal utility, convenience, entertainment/relaxation, and information. Once those attempts are successful (GO), the positive experience with IM reinforces the college students' perception that IM gratifies their specific needs and it turn leads to greater use of IM to fulfill the needs (GS). Besides, results obtained from this study indicated that IM use was negatively and significantly related to TV viewing and telephone use. Social presence was positively and significantly related GS and GO. According to researcher, IM users who either sought convenience and information gratifications or obtained them from IM use perceived less social presence. Using IM in order to seek social, interpersonal and entertainment/relaxation gratifications, however, were linked to a higher level of social presence. On the other hand, stepwise regression results in this study showed that the convenience motive, followed by the entertainment/ relaxation motive and the convenience benefit were the strongest predictors of IM use.

Lin et al. (2007: 417) surveyed a sample of 401 junior high school students on their patterns of IM use. Factor analysis of the satisfaction with virtual interpersonal relationship revealed four factors: building friendship, getting recognition, interaction enhancement, and being understood. The researchers concluded that (1) there is significant cause and effect on the adolescents' satisfaction with their interpersonal relationships between their real life and virtual world (via IM); and (2) adolescents may enhance their interpersonal behavior by using IM, leading to an increase in satisfaction with their interpersonal relationships in the virtual world.

At the end of the literature review, following research questions were written:

RQ1: What are the university student's IM usage motivations?

RQ2: Is there any relationship between IM usage motivations?

RQ3: What are the predictors of IM usage frequency?

RQ4: Is there any relationship between predictors of IM usage and its' frequency?

2. METHODS

This research was aimed to investigate motivations of instant messaging users among Selcuk University students. In accordance with this purpose a survey was performed in a student sample which consisted of 547 university students.

2.1. Procedure and Sample

The data for this study was collected from Selcuk University/Turkey students who are IM users. Purposive sampling technique was used in field research. The sample included five hundred and forty seven students who have been attending to 17 faculties. The survey has been conducted from March 1 to 15, 2008. The sample included 267 (48.8 %) male and 280 (51.2 %) female respondents. Fifteen (2.8 %) students have been attending prep class, one hundred and seventy seven (32.5 %) first class, one hundred and twenty six (23.2 %) second class, eighty six (15.8 %) third class, and one hundred and forty (25.7 %) fourth classes.

Participants' mean of ages is 21.62, amount of spending in one month is 404.5 Turkish Liras, time of IM using are 3.9 years, time of IM daily are 80 minutes, time spent on each instant messaging session are 49 minutes, number of the session in one day are 2.2, number of saved friends in IM account are 76.9, time of the internet usage in one day are two hours and thirteen minutes.

Frequency analysis indicated that 212 (38.8 %) students have chatted mostly with ordinary friends, 126 students (23.0 %) with girl/boy friends, 121 students (22.1 %) with classmates, and 88 students (16.1 %) have chatted mostly with their family members. Also, 228 (41.7 %) participants connected to the internet from their homes, 173 participants (31.6 %) from internet cafes, 55 participants (10.1 %) from home and school, 49 participants (9.0 %) from dormitory, and 42 participants (7.7 %) connected to the internet from schools. On the other hand analysis revealed that 187 (34.2 %) students have used internet for e-mail and IM, 180 students (32.9 %) for following news, 75 students (13.7 %) for home works, 68 (12.4 %) for hobby, and 37 (6.8 %) students have used internet for surfing the web. In total, 532 (97.3 %) participants have used MSN Messenger while only 15 (2.7 %) participants have used Yahoo Messenger service.

2.2. Measurements

The questionnaire was designed to examine motivations of IM users through 35 items. Likert type categories ranging from 1 for 'strongly disagree' and 5 for 'strongly agree' were used to measure the standing of each individual on each item. The questionnaire designed was examined and combined with the questionnaires' of the researchers Hwang (2005), Flanagin (2005), Song et al. (2004), Koçak & Özcan (2002), Leung (2001), Papacharissi & Rubin (2000), Stafford et al. (1999), Armstrong (1999).

For demonstrating questionnaires' reliability, Cronbach's alpha analysis was performed. The questionnaires' internal consistency reliability was quite high. The coefficient alphas ranged from 62.9 for the relationship maintenance dimension to 89.2 for the total instrument. Also questionnaires' validity was counted thorough K.M.O Barletts. According to this analysis validity of the questionnaire was 88.0.

2.3. Analytical Procedure

First, a principal components factor analysis with varimax rotation was conducted to determine the potential groupings of 29 gratification statements university students' associate with IM usage. Next, hierarchical regressions were run to determine the relative influence of demographics, gratifications sought from IM usage, IM using behaviors and Internet using behaviors in predicting IM usage. In this study time spent on instant messaging daily and average number of minutes spent on an instant messaging session were dependent variables.

3. RESULTS

To demonstrate motivations of IM users' factor analysis was performed. Also Pearson correlation analysis revealed inter-factor correlations. Lastly to find predictors of IM use hierarchical regression and correlation analyses was performed.

3.1. Gratifications of IM Use

To answer research questions 1 and 2, factor analysis and Pearson correlation analysis was performed. A five point scale, ranging from strongly agree (5) to strongly disagree (1) was used to measure the uses and gratifications provided by the IM use. To find motivations of IM users' principal factor analysis with varimax rotation was performed. The factor analysis yielded four factors with eigenvalue greater than 1.0, explaining 46.93 percent of the total variance. Minimum factor loadings were .45 in factor analysis. Table 2 includes factors, items' means, standard deviation and factor loadings.

Table 2 Factor loadings (Principal Components, Varimax Rotation) of 29 gratification items (N = 547)

Factors and Items	*M*	*SD*	*Load*	*Eig.*	*Var.*	*Alpha*
Factor 1: Interpersonal Interaction and Utility	**2.35**	**0.80**		**7.55**	**15.5**	**.83**
To let others know I am concerned about them	2.39	1.26	.680			
To get away from what I'm doing	2.18	1.23	.679			
To initiate romantic relationships with others	2.00	1.24	.648			
To avoid going out	1.95	1.14	.647			
To block out some people with whom I do not want to interact	2.32	1.26	.593			
To feel involved with what's going on with other people	2.38	1.18	.576			
To see what others are up to	2.65	1.28	.572			
To feel less lonely	2.56	1.29	.568			
To make new friends	2.48	1.35	.564			
To receive advice on personal matters	2.59	1.29	.522			
Factor 2: Convenience	**3.83**	**0.71**		**2.82**	**13.0**	**.80**
To save money without long distance fees	3.84	1.26	.717			
Because it's fast	4.13	0.94	.652			
Because it's convenient	4.13	0.92	.652			
Because it's easier than making a phone call	3.32	1.35	.596			
To talk to many people at the same time	3.90	1.10	.569			
Because it's like face-to-face conversation	3.59	1.31	.553			
Because it's simple and easy	3.64	1.19	.542			
To keep in touch with friends or relatives who live far away	4.22	0.92	.536			
Because it's easier than e-mail	3.71	1.18	.489			
Factor 3: Relaxation/Entertainment	**3.31**	**0.85**		**1.80**	**11.7**	**.81**
Because it's entertaining	3.52	1.20	.682			
To forget about school, work, or other things	3.18	1.32	.649			
Because it's fun	3.27	1.20	.622			
To pass the time when I am bored	3.76	1.13	.607			
To forget about other things	2.75	1.28	.603			
Because it relaxes me	3.28	1.22	.590			
Because I need someone to talk to or be with	3.39	1.25	.478			
Factor 4: Information Seeking	**3.29**	**0.97**		**1.43**	**6.5**	**.62**
To get the information I am looking for	3.35	1.30	.780			
To keep up with the news	2.92	1.37	.757			
To pass information on to other people	3.59	1.15	.613			

As have been seen on Table 2, first factor is interpersonal interaction and utility (M = 2.35, SD = 0.80) which had an eigenvalue of 7.55 and explained 15.56 percent of the total variance. First factor has ten items which are "to let others know I am concerned about them", "to get away from what I'm doing", "to initiate romantic relationships with others", "to avoid going out", "to block out some people with whom I do not want to interact", "to feel involved with what's going on with other people", "to see what others are up to", "to feel less lonely", "to make new friends", and I use IM to receive advice on personal matters. The reliability of these ten items as indicated by Cronbach's alpha was high at .83. Interpersonal interaction and utility was an important motivation for university students' use of IM.

Second factor is convenience (eigenvalue = 2.82) which explained 13.04 percent of the variance after rotation (M = 3.83, SD = 0.71, Cronbach's alpha = .80). Convenience factor,

with item loadings ranging from .489 to .717, had nine items. These items were "to save money without long distance fees", "because it's fast", "because it's convenient", "because it's easier than making o phone call", "to talk to many people at the same time", "because it's like face-to-face conversation", "because it's simple and easy", "to keep in touch with friends or relatives who live far away" and "because it's easier than email". The mean scores for these items were the highest suggesting convenience as a strong motive for uses IM.

The other factor which described motivations of IM users is "Relaxation and Entertainment" (eigenvalue = 1.80). According to factor analysis relaxation and entertainment motivation factor is third which explained 11.74 percent of the total variance (M = 3.31, SD = 0.85, Cronbach's alpha = .81). Relaxation and entertainment motivation had seven items which were "because it's entertaining", "to forget about school, work, or other things", "because it's fun", "to pass the time when I am bored", "to forget about other things", "because it relaxes me" and "because I need someone to talk to or be with".

Factor analysis indicated that fourth factor is information seeking (eigenvalue = 1.43). Information seeking factors (M = 3.29, SD = 0.97) explained 6.58 percent of the variance. This factor included three items and Cronbach's alpha at .62. These items suggested that university students used IM when had three items which were "wanted to get the information I am looking for", "to keep up with the news", and "wanted to pass information on to other people". As a whole, this study found that the use of IM by university students was motivated by instrumental reason such as interpersonal interaction and utility, convenience, relaxation and entertainment, and information seeking.

On the other hand Pearson r correlations were also computed among the different IM motives. The strongest significant correlations between interpersonal interaction/utility and relaxation/entertainment (r= .558, p< .01), convenience and relaxation/entertainment (r= .555, p< .01). On the contrary the lowest significant correlations between information seeking and convenience (r= .156, p< .01). Table 3 shows the Pearson r correlations among all IM motives.

Table 3 Pearson r correlations among IM motives

	Interpersonal Int. and Utility	**Convenience**	**Relaxation and Entertainment**	**Information Seeking**
Interpersonal Interaction and Utility	1			
Convenience	.339**	1		
Relaxation and Entertainment	.558**	.555**	1	
Information Seeking	.225**	.156**	.265**	1

Note. **Correlation is significant at p< .01 level (2-tailed).

3.2. Predictors of IM Use among University Students

To get answer to research question 2 and 3, two different multiple regression analysis were performed. Independent variable was "time spent on instant messaging daily" in the first model while "time spent on each instant messaging session" in the second model. On the other hand dependent variables were the same in both two models. Dependent variables were "time of instant messaging daily" and "time of instant messaging in one session" in two different regression models. Before regression analysis was performed, independent variables were assigned in four groups which were (1) motivations of IM use (2) variables of IM using behaviors (3) respondents' usage of internet practice and (4) respondents' demographic variables. The first group consisted of IM motivations which are "interpersonal interaction and utility", "convenience", "relaxation/entertainment", and "information seeking".

Table 4 Hierarchical regression analysis about predictors of IM using frequency (motivations of IM using, IM using behaviors, internet using behaviors, and demographic variables)

Predictors	Model 1		Model 2	
	Time Spent on Instant Messaging Daily		Time Spent on Each Instant Messaging Session	
	β	*r*	β	*r*
Block 1 : Motivations of IM Using				
Interpersonal Interaction and Utility	.081*	.252***	.010	.120**
Convenience	.047	.206***	.114*	.220***
Relaxation/Entertainment	.019	.304***	.075	.235***
Information Seeking	.049	.165***	.023	.090*
Adjusted R^2 (%)	.10		.06	
F	15.9***		9.5***	
Block 2: IM Using Behaviors				
Time of the IM using	.015	.164***	.028	.077*
Classmates[a]	-.162***	-.131**	-.113*	-.068
Ordinary friends[a]	-.062	.036	-.137**	-.076*
Family members[a]	-.065	-.105**	-.094*	-.044
Number of the session in one day	.150***	.371***	-.220***	-.075*
IM Services (MSN) Number of saved friends in IM service	-.075*	-.078*	-.016	-.014
Number of saved friends in IM account	.086*	.224***	.140**	.199***
Adjusted R^2 (%)	.24		.11	
F	15.6***		6.7***	
Block 3: Internet Using Behaviors				
At home[b]	-.003	.126**	.014	.060
From school[b]	.010	-.034	.004	-002
Home and school[b]	-.051	.004	.039	.033
From dormitory[b]	.011	.071	.026	.041
E-Mail and IM[c]	-.042	.031	-.040	.046
Surf the web[c]	-.029	-.054	-.079	-.062
Providing helping materials for homework[c]	-.004	-.070	.014	-.021
For being my hobby[c]	.070	.245***	.033	.089*
Time of the internet usage in one day	.463***	.583***	.325***	.317***
Adjusted R^2 (%)	.42		.20	
F	19.6***		7.2***	
Block 4: Demographic Variables				
Amount of spending monthly	-.031	.097*	-.098*	-.074*
Second class[d]	.091**	.126**	.068	.099*
Third class[d]	.004	.053	-.092*	-.082*
Gender (male)	-.100**	-.082*	-.096*	-.110***
Adjusted R^2 (%)	.43		.21	
F	19.3***		7.2***	
Final Adjusted R^2 (%)	.44		.21	
Final F	19.0***		7.1***	

[a]Which groups do you chat more frequently thorough IM services? (Dummy coded)
[b]Which place do you mostly connect to internet? (Dummy coded)
[c]Which purpose do you use internet? (Dummy coded)
[d]Which class are you attending? (Dummy coded)
$^{***}p< .001$, $^{**}p< .01$, $^{*}p< .05$

The second group includes these variables: "how long have you been using IM?", "Which groups do you chat more frequently thorough IM services?" (this variable was transformed as dummy variable), "how many sessions do you connect in an ordinary day?", "which IM service do you use most frequently?" (this variable were transformed as dummy variable), "how many friends do you have in your IM service list?

The third independent variables group includes these variables: "from which place do you mostly connect to the internet?" (this variable was transformed as dummy variable), "for which purpose do you use the internet?" (this variable was transformed as dummy variable), "how many hours (and minutes) do you use internet in one day?".

The last and fourth group includes demographic variables which were "which class are you attending?", "amount of spending monthly", and "gender of respondents".

Table 4 showed that independent variables which consisted of motivations of IM using explained 10 percent ($F = 15.9$, $p< .001$) variance of IM using frequency. Results indicated that the motivation of "interpersonal interaction and utility" ($\beta = .081$, $p< .05$) was the only one that significantly and positively contributed to IM using frequency. This result indicated that respondents who have this motivation more frequently use IM. Also analysis revealed that all motivations which were interpersonal interaction and utility ($r = .25$, $p< .001$), convenience ($r = .20$, $p< .001$), relaxation/entertainment ($r = .30$, $p< .001$), and information seeking ($r = .16$, $p< .001$) positively and significantly correlated with IM using frequency. Results indicated that the highest correlation with IM frequency was relaxation/entertainment while the lowest correlation with IM frequency was information seeking.

The second independent variables group which were the IM using behaviors explained (with first group) 24 percent ($F = 15.6$, $p< .001$) variance of IM using frequency. According to results classmates ($\beta = -.162$, $p< .001$), and MSN Messenger ($\beta = -.075$, $p< .05$) significantly and negatively contributed to IM using frequency. These results showed that respondents who chatted mostly with girl/boy friend more frequently use IM than those who chatted mostly with classmates (because group of girl/boy friend was taken as reference). This result is very normal because students can talk with classmates easily by face to face in classrooms. The other result is Yahoo Messenger users more frequently use IM than MSN Messenger users (because MSN was taken as reference). Also analysis indicated that classmates ($r = -.13$, $p< .01$), family members ($r = -.10$, $p< .01$), and MSN Messenger ($r = -.07$, $p< .05$) significantly and negatively correlated with IM frequency. On the other hand variables of number of the session in one day ($\beta = .150$, $p< .001$), and number of saved friends in IM account ($\beta = .086$, $p< .05$) positively and significantly predicted IM frequency. Also these variables positively and significantly correlated with IM frequency ($r = .37$, $p< .001$; $r = .22$, $p< .001$). Additionally time of the IM using positively and significantly correlated with IM frequency ($r = .16$, $p< .001$). This result showed that older IM users use more frequently IM than new IM users.

Table 4 showed that the third independent variables group of internet using behaviors explained (with first two groups) 42 percent ($F = 19.6$, $p< .001$) variance of IM using frequency. Results indicated that "time of the internet usage in one day" ($\beta = .463$, $p< .001$) was the only variable that significantly and positively contributed to IM using frequency. Also this predictor significantly and positively correlated with IM frequency ($r = .58$, $p< .001$). Correlation analysis revealed that variables of "at home" ($r = .12$, $p< .01$) and "for being my

hobby" (r = .24, p< .001) positively and significantly correlated with IM frequency.

The last block which includes respondents' demographic variables explained (with three blocks) 43 percent (F = 19.3, p< .001) variance of IM using frequency. Results showed that second class (β = .091, p< .01) significantly and positively predicted IM using frequency. Also this predictor significantly and positively correlated with IM frequency (r = .12, p< .001). This means that students who attend second class use more frequently IM than attending fourth class students. On the other hand gender (male) significantly and negatively predicted to IM frequency (β = -.100, p< .01). Also gender (male) significantly and negatively correlated with IM frequency (r = -.08, p< .05). This result indicated that female students use more frequently IM than male students.

Model 2 revealed similar results like model 1. Results showed that convenience motive (β = .114, p< .05), number of saved friends in IM account (β = .140, p< .01), and time of the internet usage in one day (β = .325, p< .001) significantly and positively predicted to "time spent on each instant messaging session". On the other hand classmates (r = -.11, p< .05), ordinary friends (r = -.13, p< .01), family members (r = -.09, p< .05), number of the session in one day (r = -.22, p< .001), amount of spending monthly (r = -.09, p< .05), third class (r = -.09, p< .05), gender (male) (r = -.09, p< .05), significantly and negatively predicted "time spent on each instant messaging session".

CONCLUSION AND DISCUSSION

This exploratory study showed that university students' motives of IM using were (in sequence of importance) (1) interpersonal interaction and utility, (2) convenience, (3) relaxation/entertainment, and (4) information seeking. Students' first ranking IM motives was interpersonal interaction and utility while the last ranking was information seeking. Inter-factor correlation analysis revealed that the highest correlation was between interpersonal interaction and utility factor and relaxation/entertainment factor while the lowest was information seeking. It means that, as the students were communicating to each other, at the same time they were entertaining themselves instead of information seeking. As a result of these findings IM is a medium of interaction and relaxation/entertainment instead of information seeking for Selcuk University students. Also the interpersonal interaction and utility motive was the only one positively and significantly predictor of IM using frequency among the other motives. The additional first two factors have the highest positively and significantly correlations between IM using frequency. This result has confirmed the thesis which supposed IM is a medium of interaction and relaxation/entertainment instead of information seeking for Selcuk University students.

On the other hand IM is a medium which facilitates romantic relationships between students because analysis indicated that respondents have chatted more frequently with their girl/boy friends. Also results of analysis showed that the number of friends saved in IM account positively and significantly contributed to IM using frequency. In fact these results are consistent with the first two IM motivations because respondents have used IM with motivations of "interpersonal interaction and utility" and "relaxation/entertainment", these motivations can be associated with romantic relationships. Also number of saved friends in IM account can be associated with the motive of interpersonal interaction and utility. Both two variables positively and significantly contributed to IM using frequency.

Finally, the research indicated that female students more frequently use IM than males. This result can be taken as an indication that females feel more at ease on IM than face to face communication compared to males.

Instant Messaging has been very popular especially among university students, therefore more specific studies should be conducted by researchers. This study explored motivations of instant messaging; other studies should investigate different dimensions of instant messaging. For example the relationship between instant messaging and interpersonal communication satisfaction can be examined. Also the relationship between instant messaging use and per-

sonnel characteristics (loneliness, self-expression) can be investigated.

On the other hand cultural characteristics and IM use also can be studied. A comparison can be done between foreign and Turkish students by a cross-cultural study. Also IM use among different social groups can be investigated. Researchers used survey in this study; other researchers can use different methods like close observation, and focus group in this kind of studies. These methods can provide more specific findings about the nature of IM use. IM and SMS are used intermingled therefore the relationship between IM and different new media - like SMS and mobile phone – use should be studied by researchers.

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