EXAMINING THE SOCIAL INFLUENCE ON COLLEGE STUDENTS FOR PLAYING ONLINE GAME: GENDER DIFFERENCES AND IMPLICATIONS

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ABSTRACT
Online games represent a burgeoning market sector of increasing economic importance. However, most previous studies have focused on the utilitarian perspectives of the technology. In other words, there is limited the investigation to social influence on college students' attitude. The aims of this study is to understand the effect of social influence on college students' attitude in playing online game and to discuss gender effect of social influence on college students' attitude of playing online game. Focus group interview and survey of the mix research method were conducted. The authors find: (a) the effect of social influence affects college students' attitudes to online game. Female students are much easier to be affected than male ones, (b) Males tend to be more interested in playing online game than females, and (c) Gender difference might be caused by involvement and benefit while they play online game.
Key words: online game, social influence, focus group interview, social marketing

INTRODUCTION

The increasing use of the Internet at work and home has gained increasing popularity of online games among people of all ages (Griffiths et al., 2003). In 2003, the value of the global online games market was US$670 million, and online game revenues will reach US$9.8 billion by 2009 (Hsu and Lu, 2007). Online game market continues grows, a number of problems it brings to the teenagers deserve our notice. However, despite this huge increase in usage and the obvious market value, there has been limited research on consumer behavior with respect to online games.

Koo et al. (2007) discussed different factors to engagement with an online game: (i) concentration; (ii) enjoyment; (iii) escape; (iv) epistemic curiosity; and (v) social affiliation. Young (1996) posited that high-volume users of online chat rooms tend to suffer from increasing weak real-world interactions with their friends, families, and social activities (e.g., clubs and social organizations). Griffiths et al. (2004) found online game is essentially played for leisure and pleasure. Babin et al. (1994) indicated that hedonic values reflect the potential entertainment value and enjoyment that shoppers perceive in the experience of shopping. Hsu and Lu (2004) have implied that the extrinsic dimensions might not reflect the salient motives of players. In addition, the psychology of players are more inclined to be addicted to online games, such us low agreeableness, high loneliness and shyness and low self-esteem (Bianchi & Phillips, 2005). Hsu and Lu (2004; 2007) also concerned the cognitive and perceptual factors affecting attitude and behavior with online game users. Kraut et al. (1998) used statistical methods to show a negative correlation between Internet usage and communication with relatives and friends. Morahan-Martin and Schumacher (2000) found that, in the USA, pathological Internet undergraduate users were more likely to play online games.

Despite the rise of online games as a leisure phenomenon, there has been relatively little research into this area. Most of the research to date has tended to concentrate on the more negative aspects such as excessive play and addiction (Phillips et al., 1995), the effects of playing aggressive games (Griffiths, 2000), and the medical and psychosocial consequences (Griffiths, 1993). Thus, the image of a typical gamer (and the pastime of computer gaming) is seen as socially negative and remains firmly within a youth subculture.

A significant percentage of teenage online game enthusiasts spend so much time in virtual environments that they suffer from a number of serious social problems. Some spend more time in cyber cafeteria than they do in school or on school-related activities. Others imitate the violent or destructive behaviors that they observe in online games; extreme examples include murder and suicide. In Taiwan, a recent study showed that heavy users of online games have less fulfilling interpersonal relationships and higher levels of social anxiety than individuals who spend very little or no time playing online games (Shao et al., 2005). Tsai and Lin (2003) found

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that being addicted to the web and online game will cause a series of problems toward teenagers on their school grade, health, family, financial affairs and time management. Therefore, being addicted to play online games has become a serious social problem to most teenagers. Accruing evidence concerning the social influence of emotions in on-line game also currently lives in conceptual isolation: missing is an investigation into online game player's attitude.

In this study, we adopt the theoretical lens of Deutsch and Gerard's (1955) Dual-Process theory to determine the informational and normative factors that affected college students' attitude of playing online game. Moreover, the gender effect was also tested in the study. The main objectives of this research are as follows.
(1) Whether social influence can affect college students' attitude toward playing online games or not.
(2) Discussed gender effect of social influence on college students' attitude of playing online games.
(3) Explored the inconsistency between female college students' social influence and attitude through focus group discussion.

LITERATURE REVIEW

Social influence has long been an object of popular fascination and scientific research in such fields as social psychology structural and network analysis, sociology administrative science, organization theory, and distributed artificial intelligence. Social influence in group membership has important implications for understanding group decision-making. Ashforth and Mael (1989) through group action developed a perception of membership in a group. This social identification is an important component of group formation. A norm is considered to influence an individual's behavior. Empirical studies have found that social norms positively affect an individual's behavior (Teo & Pok, 2003; Venkatesh et al., 2003). Theoretically, individuals' perceptions of norms consist of two influences: informational and normative (Deutsch & Gerard, 1955). Even though normative and informational influence research has established a need to understand when normative versus informational influence will command discussion. Group members shift because of the opinions of others. Isenberg (1986) reports that both types of processes are necessary to account for the choice shift. In the body of normative and informational influence research it is important to apply a theoretical perspective that can account for both types of processes rather than only normative or informational influence.

Studies have demonstrated that different types of conformity operate depending on the extremity of the norm which differentiates between normative and informational manifestations of conformity. Deutsch and Gerard (1955) have identified three forms of social influence - informational, normative and value expressive. Social influence involves two facets: One is the subjective norms which refers to individual's perception of the expectations from significant others (Ajzen & Fishbein, 1977); the other is descriptive norms which refers to the perceptions of attitudes possessed by or behaviors of significant others (Rivis & Sheeran, 2003). Additionally, Kaplan (1989) defined normative influence as influence based on a desire to maintain group harmony or to elicit positive evaluations from others, and informational influence which is defined as influence based on a desire to make high quality decisions.

Classical research in social influence has shown that people's behavior is affected by perceptions of others' responses (Crutchfield, 1955). While extant literature establishes the existence and some characteristics of normative and informational social influence, more research is needed. Kiesler and Kiesler (1969) stated that conformity is a change in behavior or belief toward a group as a result of real or imagined group pressure, where group pressure is defined as a psychological force operating on a person to fulfill other's expectations of him or her. Harton and Latane (1997) found that social influence will affect adolescents' lifestyle attitudes such as holding after-school jobs, smoking and dating. Hsu and Lu (2004) have found that social norm is a critical factor and positively influences an individual's online game usage. Many studies also verified the effect of norms on intention to use Internet-related service (Hung & Chang, 2005; Luarn & Lin, 2005). These show that the social norm stems from the influence of reference groups. From a strategic perspective, the effective management of social influence requires an understanding of the type of social influence likely to prevail under different behavior of playing online games and the identification of individuals best positioned to exert such affection. Research is thus needed to establish the distinctive antecedents of the two types of social influence and differences between them with respect to the nature of the relationship between affection wielders and recipients. Addition to, there are few research discussed gender effect in playing online game.

CONCEPTUAL DEVELOPMENT

The relationship between informational social influence and attitude

Social information can signal the direction of an attitudinal norm (Fishbein & Ajzen, 1975). Informational influence refers to the provision of credible evidence of reality (Burnkrant & Cousineau, 1975). While consumers felt the need to make informed choices, they perceive the opinions or usage of products by those who

are seen as credible as proof of a product's quality or characteristics. Frey and Meier (2004) used a mail fundraising campaign run by their university to show that social information increased participation rates. Shang and Croson (2005) provided complementary results and showed that social information can also increased the amount of charitable donations in college students and in the general population, respectively.

As Silverstein et al. (1986) found that information from the media and other sources has the power to affect attitudes about body shape and weight as well as the nature of appropriate eating behavior. Salancik and Pfeffer (1978) argued that informational social influence affects attitudes and behaviors. Accordingly, it is hypothesized that

H_1: Informational social influence will significantly affect college students' attitude to play online game.

The relationship between normative social influence and attitude
Cialdini et al. (1990) described these perceptions as descriptive norms, which specify what is typically done in a given setting (what most people do), and differentiate these from injunctive norms, which specify what behaviors garner approval in society (what people ought to do). Many studies have demonstrated the affection of descriptive and injunctive norms on subsequent behavior in varying situations. For example, norms have been shown to affect the choice of exercising during leisure time (Okun et al., 2002; Okun et al., 2003; Rhodes & Courneya, 2003), communication styles during wedding ceremonies (Strano, 2006), team-based innovations in the workplace (Caldwell & O'Reilly, 2003). If the norm is extreme and the subjects conform, the respective subjects are more likely to yield to normative, rather than informational influence. However, the norm is moderate and the subjects conform, then the respective are more likely to yield to informational influence (Lascu et al., 1995). Additionally, the relationship between social norms and behavior has also been shown for specific sub-populations like breakfast food choice among children (Berg et al., 2000), alcohol misuse among college students (Walters & Neighbors, 2005), and condom use among drug users (Van Empelen et al., 2001). Therefore, hypothesis 2 tests the effects of social influence from external others on college students' attitude of playing online game.

H_2: Normative social influence will significantly affect college students' attitude to play online game.

Gender Effect
A popular conceptualization of reference group influence views that form of social influence as being most pervasive for public as opposed to private goods (Bearden & Etzel, 1982), but does not differentiate between informational and normative influence. What appears in large measure to discriminate between public and private goods is their level of conspicuousness, a factor which would appear to be more relevant to the motives identified earlier as being associated with normative than with informational influence. While the relevance of conspicuousness to normative considerations has already been demonstrated (Fisher & Price, 1992), an objective of this study is to establish whether it differs between informational and normative influence situations.

Since most people have considerable experience in using the Internet and playing online game, the extent to which the usage of a product or service is seen by others does not relate directly to the functional benefits it delivers to the user, but may elicit judgments on the part of social observers. An American survey research by Lohr (1995) found that 67% of the Internet users are male. Another survey showed that 65% of the Internet users are wealthy males (McLeod, 1995). Tsai and Lin (2004) suggested that males tended to highlight the value of using the Internet as well as to display their ability to use it. In Taiwan, online game users are dominated by men at a ratio of 8:2. In other words, male has a higher percent in the percentage of gender to use the Internet than female. Conspicuousness, it expected to be associated more with normative than with informational social influence.

H3: Male college students' attitude to play online game are significantly better than Female.
H4: Female college students' attitude in normative social influence is higher than male.
H5: Female college students' attitude in information social influence is higher than male.

METHOD
This study used the mixed method of qualitative and quantitative research design, survey research and focus group discussion are conducted. The first task asked respondents to complete a self-attitude and self-behavior questionnaire about playing online game. A total of 280 (140 male, 140 female) college students who are major in business management in Taiwan is the research sample.

The social influence scale consisted of 12 five-point agree/disagree items (e.g., the opinions of my departmental

faculty colleagues are important to me), half is about informational social influence, and another half is about normative social influence. Students' social influence was counted to get an average. When participant scored higher than the average, he/she got high social influence.

The attitude scale consisted of 3 five-point agree/disagree items based on the study of Hsu and Lu (2004). Average score and Cronbach's alpha for each variable were presented on Table 1. A higher-than-average score means positive attitude of playing online game; in contrast, a lower-than-average score means negative attitude of playing online game. Next, we assessed the internal consistency reliability by computing Cronbach's alpha, and the reliability test was well accepted. The SPSS statistics program was employed as the data analysis tool.

Table 1 Mean and Cronbach's α of the measurement

Variable	Mean	Cronbach's α
Informational social influence	3.60	0.87
Normative social influence	3.46	0.85
Attitude	3.16	0.86

In the second part, the researcher performed the qualitative study aimed at identifying key driver of social influence in our framework. We invited some players to involve the focus group discussion through online collection. The selection of participants was considered as been interested in playing online games. By doing so, we can gather their depth and rich data among various players. Because we relied on key informants, it was critical to select players who have playing experiences. Our qualitative sample consisted of an automated moderator and 10 voluntary participants (5 male and 5 female) with more than one year playing experiences and gave a participant NT500 (about $17 dollars) payment. Participants discussed via Skype and no more than 2 hours to complete all topics. Discussion appeared in windows on-screen with the participant assigned to the last speaker order (see Table 2).

Table 2 Focus group interview

The aims of the research	The topics to interview
To identify the participants is quality and open the participants' mind.	1. Could you describe your history of playing online game?
To identify what and why the player have fun with online game and involvement status	2. Do you enjoy the online game? 3. Would you like and keep playing online game? And Why? 4. Do you have any special game experiences? Please provide some examples?
To identify what and how social influence affect the players' attitude	5. Did you change the frequency and time when you get negative information from mass media? 6. What is your attitude about online game negative information from mass media? 7. Did you change the frequency and time when you are restrained by your social network like family, classmates, or friends? 8. What is your attitude when your family, friends, or other players provide negative information about online game?

The researcher was the moderator of the group discussion, and each participant was given an instruction leaflet before the interview. In the beginning of interview, the researcher asked the participant to describe yourself and your background of playing online game. The topics to interview ensured from the aim of this study were listed in the leaflet for the group discussion. Each participant was given a code name ranked from MA to ME for 5 male and FA to FF for 5 female.

RESULTS

The study sent out 280 questionnaires and gave a gift for respondents, the samples selected included 140 as male and 140 as female, each degree of college samples 70 respondents. A total of 209 valid questionnaires are obtained according to college students' experiences of playing online game. There are 149 participants who have been played online game, 12 of them are male and 51 of them are female. Near 71 % of the participants are online game players. The gender respondents of female to male with experience of playing online game is 1:5. The study used Chi-square test to test gender differences in social influence including informational social influence (Chi-square is 4.76, p-value is 0.029) and normative social influence (Chi-square is 19.89, p-value is 0.000). The results found that gender has a significant affection on social influence.

Table 3 Gender differences in social influence

	Informational Social Influence		Respondents
Gender	High	Low	
Male	45(39.1% within male)	70(60.9% within male)	115
Female	51(54.3% within female)	43(45.7% within female)	94
	Normative Social Influence		
Gender	High	Low	Respondents
Male	40(34.8% within male)	75(65.2% within male)	115
Female	61(64.9% within female)	33(35.1% within female)	94

Analysis the effect of attitude

The study used t-test to measure the impact of social influence on college students' attitude and behavior of playing online game. This analysis showed a significant result. Informational social influence has a significant impact on college students' attitude ($t = 2.31$, $p < 0.05$), and normative social influence has a significant impact on college students' attitude ($t = 3.88$, $p < 0.001$). Thus, hypothesis 1 and 2 were supported by the results.

Analysis the effect of gender

The results of analysis shown female college students' scores of attitude toward playing online game are lower than male college students'. Gender difference in college students' attitude ($t = 3.71$, $p < 0.001$) was significant. Two-ways ANOVA analysis was used to deal with the interactive impact of social influence and gender on college students' attitude of playing online game. The results indicate that informational social influence and gender have a significant interactive impact on college students' attitude of playing online game ($F = 8.98$, $p < 0.001$), and normative social influence and gender also have a significant interactive impact on college students' attitude of playing online game ($F= 12.31$, $p < 0.001$). Thus, hypothesis 3 was supported by this result.

Furthermore, the study used t-test to measure the effect of social influence on each group's attitude. It was found male has a higher percent in the percentage of gender to use the Internet than female, but female college students are much easier to be affected than male college students. Additionally, the result showed that informational social influence have a significant impact on female college students' attitude of playing online game ($t = 2.55$, $p < 0.05$), and normative social influence also have a significant impact on female college students' attitude of playing online game ($t= 2.76$, $p < 0.01$). Female has a higher social influence that male (see table 3). Thus, hypothesis 4 and hypothesis 5 were supported by this result. For the purpose of exploring the reasons for this result, this research used online focus group discussion as the research tool.

Focus group interview

Next, the study used focus group discussion to exploring the reasons for this result. This discussion considered two issues: 1. what and why the players have fun with online game? 2. what and how social influence affect the players' attitude? Two researchers encoded the interview messages independently to judge participants are positive vs. negative attitude and high vs. low social influence. In the focus group discussion, students' responses to each topic are encoded in the study (see Table 4).

Table 4 Results of the interview topics

	Quality test	Attitude evaluation			Social influence evaluation			
Participants	Topic 1	Topic 2	Topic 3	Topic 4	Topic 5	Topic 6	Topic 7	Topic 8
MA	○	+	+	+	-	-	-	-
MB	○	+	△	+	+	△	+	+
MC	○	+	+	+	-	-	-	-
MD	○	+	-	□	+	+	+	+
ME	○	+	+	□	-	-	+	+
FA	○	+	+	+	□	-	-	+
FB	○	+	+	□	+	□	+	+
FC	○	+	-	-	+	+	+	+
FD	○	+	-	□	+	+	+	+

FE	○	+	+	+	-	-	+	+

Note: + means positive attitude or high social influence, - means negative attitude or low social influence, ○ quality participant, □ two researchers coded inconsistency or can not judge

Attitude evaluation

Topic 1 is designed to identify the participants is quality and open the participants' mind. Topic 2, 3, 4 are designed to test participants' attitude which would be concluded to be positive or negative according to their responses to each topic. All participants agreed for topic 2 and 70% participants agreed for topic 3, were supposed to be having positive attitude. Others (MD, FC, FD) were supposed to be having negative attitude, FC changed positive to negative attitude, because she been affect cheated by friend of online game for topic 4. There are 6 participants agreed that the positive attitude were coming from the sense of achievement and entertainment while playing online games.

Social influence evaluation

According to the participants' responses to topic 5, 6, 7 and 8, the study attempted to understand their social influence. Their responses to the topics were concluded to be high or low social influence. Participants high agreed for topic 5 (MB, MD, FB, FC, FD), topic 6 (MD, FC, FD) and topic 7 (MB, MD, ME, FB, FC, FD, FE), and 80% for topic 8 which were supposed to be having high social influence. Others (MA, MC) were supposed to be having low social influence. Female college students would be more influenced by their boyfriends on the attitude to play online games which can be positive or negative. For participants with higher sense of isolation from reality, the sense of accomplishment and belonging will cause participants addicted to the online games.

Synergy effect

Participant MA, MC, FA and FE have positive attitude. Students with positive attitude considered that playing online game is not certainly improper behavior (MA-3, MC-3, FA-3 and FE-3). Addition to, they could obtain the sense of achievement from playing online games and commit their soul to it (MA-2, MC-3, FA-2). They also mentioned that they invested a lot of time and energy into playing online games, including obtainment of weapons and development of user levels (MA-2, MD-4, FA-2). On the other side, student ME and FE have low informational and high normative social influence. Participants with inconsistency between attitude and social influence, such as student MD and FB would reduce their frequency and time of playing online game because they were afraid of being scolded or losing solicitude from their parent or mate (MB-7, FB-8, FE-7).

Participant MA, MC and FA both have low informational and normative social influence. While students with low or positive informational social influence thought that information from mass media (MA-4, MC-6). However, students with low normative social influence thought that college student should have independent ideas (MA-1), and considered that online game is very attractive (MA-2, MC-2).

Participant MD, FC and FD have negative attitude. Often negative attitude towards online games implies a waste of time (FD-2) and engaged in other affairs such as attending school activities or going to cram school (FD-3), preparing for the exams and doing part-time job (MD-3, FD-3). Addition to, student MD and FD also have high informational and normative social influence.

CONCLUSION

Based on the above results of data analysis and focus group discussion, the study found conclusions as follows. The effect of social influence could significantly affect college students' attitude of playing online game. The effect of social influence (informational and normative social influence) could significantly affect college students' attitudes and behavior in playing online games. Female college students are much easier to be affected than male college students. Gender differences could significantly affect college students' attitudes in playing online games. Male college students tend to be more interested in playing online games than female college students.

A flow state is related to a person's motivation to do something. A person must see that there is something worthwhile to do and that he/she has the ability to do it (Csikszentmihalyi, 1990). College students see online game playing as a positive behavior (e.g. to ease their pressure; to while away their extra-time); and could earn psychological benefit from playing online game (e.g. the sense of achievement). Especially when mass information is broadcasting positive reports on online games, such as college students won international online game competition and earned money from selling treasures used for online games. This will improve the positive image and attitude of online games and promote the participation of college students

There are four participants have been addicted to online games and all of them have shown to have significant failure in real life. They are not aware of the situation until received warning from parents and teachers (two have low grades in classes and two have relationship problem). Therefore, social norms and interaction between friends would prevent being addictive to online games. Government should have regulation on teenager playing online games in internet café and work with college to do social marketing commutation. Social marketing forces to influence social behaviors not to benefit the company, but to benefit the target audience and the general society. Additionally, teachers and parents should pay more attention to students and maintain good level of interaction with them. This will help students to spend less time on online games and addict to it. With proper guidance, online games can be correctly used and developed.

REFERENCES

Ajzen, I., & Fishbein, M. (1977). Attitude-Behavior Relations: A theoretical Analysis and Review of Empirical Research. Psychological Bulletin, 84 (5), 888-918.

Ashforth, B. E., & Mael, F. A. (1989). Social Identity Theory and the Organization. Academy of Management Review, 14 (1), 20-39.

Babin, B., Darden, W. R., & Griffin, M. (1994). Work and/or Fun: Measuring Hedonic and Utilitarian Shopping Value. Journal of Consumer Research, 20, 644-656.

Bearden, W. O., & Michael J. E. (1982), Reference Group Influence on Product and Brand Decisions, Journal of Consumer Research, 9, 183-194.

Berg, C., Jonsson, I., & Conner, M. (2000). Understanding Choice of Milk and Bread for Breakfast among Swedish Children Aged 11-15 Years: An Application of the Theory of Planned Behavior. Appetite, 34, 5-19.

Bianchi, A., & Phillips, J. G. (2005). Psychological Predictors of Problem Mobile Phone Use. Cyber Psychology and Behavior, 8(1), 39-51.

Burnkrant, R. E., & Alain C. (1975), Informational and Normative Social Influence in Buyer Behavior, Journal of Consumer Research, 2, 206-215.

Caldwell D. F., & O'Reilly C. A. (2003). The Determinants of Team-based Innovation in Organizations the Role of Social Influence. Small Group Research, 34(4), 497-517.

Cialdini, R. B., Reno, R. R., & Kallgren, C. A. (1990). A Focus Theory of Normative Conduct: Recycling the Concept of Norms to Reduce Littering in Public Places. Journal of Personality and Social Psychology, 58(6), 1015-1026.

Crutchfield, R. S. (1955) Conformity and Character. American Psychologist, 10, 191-198.

Csikszentmihalyi, M. (1990). *Flow: The Psychology of Optimal Experience.* New York: Harper Perennial Press.

Deutsch, M., & Gerard, H. (1955). A Study of Normative and Informational Social Influence upon Individual Judgment. Journal of Abnormal and Social Psychology, 51, 629-636.

Fishbein, M., & Ajzen, I. (1975). Belief, Attitude, Intention and Behavior: *An Introduction to Theory and Research.* Reading: Addison-Wesley.

Fisher, Robert J., & Linda L. P. (1992). An Investigation into the Social Context of Early Adoption Behavior, Journal of Consumer Research, 19, 477-486.

Frey, B. S., & Meier, S. (2004). Social Comparisons and Pro-social Behavior: Testing Conditional Cooperation in a Field Experiment. American Economic Review, 94 (5), 1717-1722.

Griffiths, M. D. (1993). Are Computer Games Bad for Children? The Psychologist: Bulletin of the British Psychological Society, 6, 401-407.

Griffiths, M. D. (2000). Video Game Violence and Aggression: Comments on Video Game Playing and its Relations with Aggressive and Pro social Behavior by O. Weigman and E.G.M. van Schie. British Journal of Social Psychology, 39(1), 147-149.

Griffiths, M. D., Davies, N. O., & Chappell, D. (2004). Online Computer Gaming: A Comparison of Adolescent and Adult Gamers. Journal of Adolescence, 27, 87-96.

Griffiths, Mark D., Davies, Mark N.O., & Chappell, D. (2003). Breaking the Stereotype: The Case of Online Game. Cyber Psychology and Behavior, 6(1), 81-91.

Hamilton, K., & Kalb, C. (1995). They Log on But They Can't Log Off. Newsweek, December, 18, 60-61.

Harton, H. C., & Latane, B. (1997). Social Influence and Adolescent Lifestyle Attitudes. Journal of Research on Adolescence, 7 (2), 197-220.

Hsu, C., & Lu, H. (2004). Why Do People Play On-line Games? An Extended TAM with Social Influences and Flow Experience. Information & Management, 41(7), 835-868.

Hsu, C., & Lu, H. (2007). Consumer Behavior in Online Game Community: A Motivational Factor Perspective. Computers in Human Behavior, 23(3), 1642-1659.

Hung, S. Y., & Chang, C. M. (2005). User acceptance of WAP services: Test of Competing Theories. Computer Standards & Interface, 27, 359-370.

Isenberg, D. J. (1986). Group polarization: A Critical Review and Meta-Analysis. Journal of Personality and

Social Psychology, 50, 1141-1151.
Kaplan, M. F. (1989). *Task, Situational, And Personal Determinants of Influence Processes In Group Decision Making.* In E. J. Lawler (Ed.), Advances in group processes, Greenwich, CT: JAI Press, 6, 87-105.
Kiesler, C. A., & Kiesler, S. B. (1969). Conformity. MA: Addison-Wesley, 7.
Koo, D. M., Lee, S. H., & Chang H. S. (2007). Experiential Motives for Playing Online Games. Journal of Convergence Information Technology, 2 (2), 37-48.
Kraut, P., Patterson, M., & Lundmark, V. (1998). Internet Paradox: A Social Technology that Reduces Social Involvement and Psychological Well-Being. American Psychology, 53, 1017-1031.
Lascu, D. N., William, O. B., & Randall L. R. (1995). Norm Extremity and Interpersonal Influences on Consumer Conformity. Journal of Business Research, 32 (3), 201-212.
Lohr, S. (1995). Inquiry Into Microsoft Plan Grows. New York Times, Business Day, C1, C3, Thursday, June 22.
Luarn, P., & Lin, P. H. H. (2005). Toward an Understanding of the Behavioral to Use Mobile Banking. Computers in Human Behavior, 21, 873-891.
McLeod, J. (1995). Taiwan tempts high-tech firms. Electronics.
Morahan, M. J., & Schumacher, P. (2000). Incidence and Correlates of Pathological Internet Use among College Students. Computers in Human Behavior, 16(1), 13-29.
Okun, M. A., Karoly, P., & Lutz, R. (2002). Clarifying the Contribution of Subjective Norm or Predicting Leisure-Time Exercise. American Journal of Health Behavior, 26(4), 296-305.
Okun, M. A., Ruehlman, L., Karoly, P., Lutz, R., Fairholme, C., & Schaub, R. (2003). Social Support and Social Norms: Do Both Contribute to Predicting Leisure-Time Exercise? American Journal of Health Behavior, 27(5), 493-507.
Phillips, C. A., Rolls, S., Rouse, A., & Griffits, M. (1995). Home Video Game Playing in Schoolchildren: A Study of Incidence and Pattern of Play. Journal of Adolescence, 18, 687-691.
Rhodes, R. E., & Courneya, K. S. (2003), Relationships between Personality, An Extended Theory of Planned Behavior Model, and Exercise Behavior. British Journal of Health Psychology, 8, 19-36.
Rivis, A., & Sheeran, P. (2003). Descriptive Norms as an Additional Predictor in the Theory of Planned Behavior: A Meta-Analysis. Current Psychology, 22 (3), 218-233.
Salancik, G. R., & Pfeffer, J. (1978). A Social Information Processing Approach to Job Attitudes and Task Design. Administrative Science Quarterly, 23 (2), 224.
Shang, J., & Croson, R. (2005). Field Experiments in Charitable Contribution: The Impact of Social Influence on the Voluntary Provision of Public Goods. Working Paper, University of Pennsylvania.
Shao, K. L., Chih, C. W., & Wenchang F. (2005). Physical Interpersonal Relationships and Social Anxiety among Online Game Players. Cyber Psychology and Behavior, 8(1), 15-20.
Silverstein, B., Perdue, L., Peterson, B., & Kelly, E. (1986). The Role of the Mass Media in Promoting a Thin Standard of Bodily Attractiveness for Women. Sex Roles, 9/10, 519-532.
Strano, M. M. (2006). Ritualized Transmission of Social Norms through Wedding Photographs. Communication Theory, 16, 31-46.
Teo, T. S. H., & Pok S.H. (2003), Adoption of WAP-Enabled Mobile Phones Among Internet Users. 31, 483-498.
Tsai, C. C., & Lin, C. C. (2004). Taiwanese Adolescents' Perceptions and Attitudes Regarding the Internet Exploring Gender Differences. Adolescence, 39(156), 725-734.
Tsai, C. C., & Lin, S. S. J. (2003). Internet Addiction of Adolescents in Taiwan: An Interview Study. Cyber Psychology and Behavior, 6, 649-652.
Van Empelen, P., Kok, G., Jansen, M. W. J., & Hoebe, C. J. P. A. (2001). The Additional Value of Anticipated Regret and Psychopathology in Explaining Intended Condom Use among Drug Users. AIDS Care, 13(3), 309-318.
Venkatesh, V., Morris, M. G., Davis, G. B., Davis, F. D. (2003). User Acceptance of Information Technology: Toward a Unified Riew. MIS Quarterly, 27(3), 425-478.
Walters, S. T., & Neighbors, C. (2005). Feedback Interventions for College Alcohol Misuse: What, why and for Whom? Addictive Behaviors, 30, 1168-1182.
Young, K. S. (1996). Psychology of computer use: XL. Addictive Use of the Internet: A Case that Breaks the Stereotype. Psychological Reports, 79, 899-902.