

**Effects of Motives for Internet Use, Aloneness, and Age Identity
Gratifications on Online Social Behaviors and
Social Support among Adolescents**

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ABSTRACT

Past research has focused on the ways in which individuals use the Internet for social communication and support. However, how personality traits, such as perception of *aloneness* and *age identity gratifications*, together with *motives for Internet use* impact Internet habits and perceived social support are much-neglected areas of research. This study investigates how differences in these constructs among adolescents and children influence their online social behavior (such as use of instant messaging, online games, and participating in forums).

Key words: Motives for Internet use, aloneness, age identity gratification, social support, online social behaviors, and adolescents and children

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INTRODUCTION

The advent of new media technologies, such as e-mail, blogs, MSN, online games, mobile phones, iPods, MP3, PS3, NDS, Wii, video on demand (VOD), and DVDs, to name a few, has dramatically changed both the nature and number of *social compensation* and *mood management* devices available to most youngsters. Although previous research has examined how the Internet has become an important resource for information and entertainment, little research has focused on the ways in which individuals use the Internet for social communication and support. Online social network sites such as Facebook, Friendster, and MySpace allow individuals to present themselves, and establish and maintain relationships with others (Raacke & Bonds-Raacke, 2008). How personality traits, such as perception of *aloneness* and *age identity gratifications*, together with *motives for Internet use* impact Internet habits and social support are, however, much-neglected areas of research. In this chapter we will examine how the Internet plays a role in influencing mediated social support and how these psychological variables motivate online social communication and behavior.

BACKGROUND

Motives for Internet Use

With the introduction of e-mail, instant texting technologies (such as ICQ, MSN, Messenger, Google Talk, and Net Meeting), the Internet and other computer-mediated communication (CMC) technologies seem to ideally fulfill social deficiency needs. Increasingly, the Internet serves interpersonal utility functions (such as relationship building, social maintenance, and social recognition) as much as entertainment and information utility

functions. Motivations for Internet use (such as for interpersonal utility, social bonding, social identity, and showing affection)—as found in studies into the motives for Internet use (e.g., Papacharissi & Rubin, 2000; Leung, 2003; Stafford & Gonier, 2004)—can also be collectively identified as motives for *social compensation* – similar to the motivations for television viewing.

As the Internet is becoming more and more like television, a second dimension of Internet motives can be conceptualized from the theoretical discussion on the role of arousal in television viewing behavior (Donohew, Finn, & Christ, 1988; Zillmann, 1985; Zillmann, 1988a, 1988b). These authors propose that the traditional motives of relaxation, entertainment, arousal, and information seeking in television viewing compose a cluster of viewing motives on the basis of *human stimulation* needs. Grounded in Blumler's (1979; 1985) uses and gratifications framework, recent research into motivations for Internet use has found similar motives, (e.g., entertainment, surveillance, to pass time, and escape). In fact, the psychological basis for human stimulation needs is well documented and provides the grounding for high level elaboration in theorizing stimulus, arousal, human needs, and well-being (Berlyne, 1971; LaRose, Mastro, & Eastin, 2001). Because today's Internet has been transformed and possesses many functions that are similar to television, we could also use Zillmann's term, *mood management*, to describe the concept of arousal-oriented motivations for Internet use, including entertainment, information seeking, diversion, and relaxation.

To understand the relationship between the motives for Internet use and online social communication behavior, mood management theory can be applied to describe how individuals with different personality traits might use the Internet in a similar manner to television, to block anxious thoughts and replace dysphoric moods. Knobloch (2003) argued that the aim of mood management is to alter disagreeable moods, enhance mediocre feelings and to maintain pleasant moods. With the ubiquitous nature and a wide assortment of

entertainment available on the Internet, its mood-regulating content is becoming more and more accessible and convenient. Such content affects human behavior such as thinking and memory (Ellis & Moore, 1999), perceptions of others and of the self (Forgas & Bower, 1987), and feelings about one's environment; therefore, the use of the Internet (such as online games, ICQ, chatrooms, or web searches) and its influence on mood and how mood affects Internet use is an important area of study. Past research has established current mood state to be a key factor for selective exposure to media, especially for entertainment choices (Knobloch & Zillmann, 2002; Zillmann, Schweitzer, & Mundorf, 1994). However, few of the available published studies have examined the perceptions of *need for aloneness* and *age identity gratifications* in relation to media consumption habits. This chapter investigates the generality of social compensation and mood management concepts by examining the relationship between these motives for Internet use and personality differences.

Aloneness

Many people use aloneness and loneliness interchangeably (Pierce, Wilkinson & Anderson, 2003); however, individuals can feel alone, but not in the sense of being lonely (Parsons, 1997). According to the American Heritage Dictionary of the English Language (1992), aloneness does not necessarily imply feelings of unhappiness. Instead, aloneness can be viewed as being self-reliant, hopeful, and resourceful and as having self-determination and being able to engage in self-reflection (Pierce, Wilkinson & Anderson, 2003).

People are born with the need both to be alone and to be connected with others (Buchholz & Chinlund, 1994). Aloneness, like attachment, is regarded as necessary for human growth, with loneliness being aloneness' negative extreme (Buchholz & Catton, 1999). By examining the perceptions of adolescents, they found that adolescents are able to distinguish between the state of loneliness and the need to be alone (Galanaki, 2004). They

recommend that future research explore more positive dimensions of aloneness, including when adolescents choose to be alone, what they do while alone, and how they feel after being alone (Buchholz & Catton, 1999). For adolescents who concentrate on identity formation (Blos, 1962; Erikson, 1968), aloneness needs and abilities may be especially important. 'Leave me alone' is probably among adolescents' most used phrases. Larson (1990) has conducted extensive research on the time adolescents spend alone, and sees aloneness as a time of reflection, rest, and self-renewal. Along with Larson's work, there is a growing body of literature on aloneness that focuses on the positive effects of solitude (Griffin, 2001; Griffin & Kent, 1998; Moustakas, 1989; Storr, 1988). Buchholz and colleagues have explored aloneness as a developmental need, essential for all phases of personal growth (Buchholz & Chinlund, 1994; Buchholz & Tomasi, 1994; Galanaki, 2005; Memling & Buchholz, 1994). Winnicott (1965) shares the belief with Buchholz and his associates that the capacity to be alone is part of a healthy maturation process and is learned, similar to attachment, wherein individuals have to learn how to relate.

The Internet has some unique qualities: it is mediated, it is not face-to-face, it is interactive, and can be anonymous (e.g., blogs, forums, chat rooms, and instant messaging). Adolescents and children who want to be alone may, therefore, choose the Internet as their preferred means to explore the social world. They may have different social compensation and mood management needs that motivate their Internet use. Based on these literatures, this research hypothesizes in H₁ that the more adolescents and children express their desire to be alone, the more their motivations for using the Internet will be allied to (a) social compensation and (b) mood management.

Age Identity Gratifications

Age identity plays a significant role in young adults' mass, interpersonal,

intergenerational, and intercultural communication (McCann, Kellermann, Giles, Gallois & Viladot, 2004). Age identity seems to act as a 'pre-interactional' tendency whereby a strong sense of identification with a particular group (e.g., young adults) influences communication with outgroup members (e.g., older people). Social age identity involves the importance of a person's age group to his/her self-concept, that is, the valuing, liking, and being proud of one's age group; one's age group membership being important and central to who a person is; and the sense of attachment, inclusion, and belonging with one's age group (Gartska et al., 1997; Harwood, 1999; Westerhof & Barrett, 2005). Social age identity is the importance of a person's age group to his/her sense of self. Beginning with Hall (1905), psychologists have described adolescence as a time of change, involving interpersonal relationships, more time spent with peers, and less with family members.

Harwood (1999) contends that age identity is associated with television viewing choices, especially for mood regulating contents. Lin, Hummert, and Harwood (2004) examine how age identities are presented in an online discussion forum. Online messages were examined using discourse and content analyses. Evidence of a tension between positive and negative age identities emerged in the analysis. Despite this, little social scientific work has examined the ways in which age identities may be related to Internet use. Previous researches have demonstrated that the Internet is the preferred medium for the Net-generation to socialize or to compensate social deficiency, to get information, and to manage their moods or be entertained (Leung, 2003). Thus, this chapter tries to shed light on the following hypothesis in H₂: the more adolescents and children show strong age identification, the more their motivations for using the Internet will be allied to (a) social compensation and (b) mood management.

Social Support

In a review of social indicators research, Cobb (1976) defined social support primarily as information leading the subject to believe that he or she is cared for and loved, that he/she is esteemed and valued, and he/she belongs to a network of communication and mutual obligation. Other scholars have defined social support as interpersonal transactions involving affect, affirmation, aid, encouragement, and validation of feelings (Abbey, 1993; Hlebec, Manfreda, Vehovar, 2006; Kahn & Antonucci, 1980). House (1986) gave a third definition in which social support involves the flow between people of emotional concern, instrumental aid, information, or appraisal.

Existing measures of social support are rather varied because of the different definitions of social support and the lack of a clear conceptualization of the construct (Cohen & Syme, 1985; Donald & Ware, 1984). Recent research, however, has generally attempted to measure the *functional components* of social support because functional support is most important and can be of various types providing: (1) *emotional* support which involves caring, love, and sympathy, (2) *instrumental* support which provides material aid or behavioral assistance and is referred to by many as tangible support, (3) *information* support which offers guidance, advice, information, or feedback that can provide a solution to a problem, (4) *affectionate* support which involves expressions of love and affection, and (5) *social companionship* (also called *positive social interaction*) which involves spending time with others in leisure and recreational activities (Sherbourne & Stewart, 1991).

Past research found that Internet-based support groups – including newsgroups, message boards, and listservs for specific medical conditions, have been successful in improving some intermediate patient outcomes in clinical trials involving caregivers to Alzheimer patients and for patients with AIDS (Brennan, Moore, & Smyth, 1995; Brennan, Ripich, & Moore, 1991; Gallienne, Moore, & Brennan, 1993). Heavy users of Internet-based peer support groups for people suffering from depression that offered information and support

were more likely to have resolution of depression during follow-up than less frequent users (Houston, Cooper, & Ford, 2002). Similarly, past research has demonstrated that frequent and increasing use of the community computer network and the Internet significantly influences social capital formation (Kavanagh & Patterson, 2001).

Taking particular care in considering the theoretical constructs of motivations for Internet use (such as mood management and social compensation), need for aloneness, age identity gratifications, and social support into this research, this chapter investigates how differences in these constructs among adolescents and children influence their online social behavior (such as use of instant messaging, online games, and participating in forums). We expect that the use of the Internet for social compensation and mood management motives and the effect of aloneness and age identity are potent variables that can influence online social communication behavior and the perception of social support. Therefore, this research posed in H₃ that the more adolescents and children exhibit a high level of perceived social support (from online and offline sources), the more their motivations for using the Internet will be allied to social maintenance and mood management.

Offline Social Activities

In this chapter, we seek to add more understanding of the dynamics involved by analyzing a number of indicators, in addition to demographics, motives for Internet use, and personality variables, in their relationships as to how online social behaviors as well as offline social activities (such as communicating face-to-face with family/relative, friends, and schoolmates and frequency of going to movies, going on picnics or to BBQs, window shopping, and going to parties or karaoke in their leisure time) can influence perception of social support. As a result, we posed two research questions:

1. To what extent can demographics, motives for Internet use, personality traits (i.e., aloneness and age identity), online social behaviors, and offline social activities predict perceived social support?
2. In what ways can demographics, motives for Internet use, personality traits (i.e., aloneness and age identity), and offline social activities predict online social behaviors?

DESCRIPTION OF DATA AND RESEARCH METHOD

Data were gathered from a probability sample of 717 adolescents and children ranging in age from 8 to 18 who responded to a telephone survey in February 2005. Telephone numbers were drawn from the most recent edition of the territory telephone directory in Hong Kong by first randomly selecting a page, then randomly selecting a column within the page, and finally randomly selecting a name with a phone number in the column. Non-eligible respondents (i.e., younger than 8 and older than 18), numbers that were unobtainable, and numbers that were not answered after five attempts were excluded. In addition, eligible respondents had to be PC users with access to the Internet at home. The survey instrument was pilot tested before the actual fieldwork was conducted. The response rate was 57.8 percent.

Measurements

Motivations for Internet Use. Initially, motivation items used in previous Internet research were included in the survey questionnaire. Additional items were gathered by a focus group of 26 students to refine the unique motives associated with Internet use for this age group. A pilot study on motives for Internet use with 23 items was carried out for 51 respondents to eliminate bad items and to solicit new ones. The final questionnaire consisted of 17 motivation statements. Respondents were asked: How satisfied are you with the Internet in

helping you do the following things? A 5-point Likert scale where 1 = not at all satisfied and 5 = very satisfied was used. A principal components factor analysis (with Varimax rotation) grouped these items into four motivation dimensions with an eigenvalue greater than 1.0, explaining 50.78 percent of the variance. The four-factor solutions were labeled “entertainment,” “relationship maintenance,” “recognition gaining,” and “information seeking.” Cronbach’s alpha values were .79 for entertainment (five items); .70 for relationship maintenance (five items); .71 for recognition gaining (four items); and .65 for information seeking (three items). Similar to Blumler’s (1985) and Zillmann’s (1988a, 1988b) characterization, entertainment and information seeking were regarded as mood management, and relationship maintenance and social recognition were treated as motives for Internet use for social compensation.

(*Insert Table 1 About Here*)

Aloneness. To assess aloneness, the 9-item need for aloneness measure was used. The scale items (e.g., “Being able to use the Internet in solitude helps me explore my private self; chatting on the Internet can be a coping strategy for dealing with stress; and aloneness is an opportunity for me to self-regulate my emotions”) were used on a 5-point scale ranging from “strongly disagree” (1) to “strongly agree” (5), with high scores indicating higher need for aloneness. The factor structure of aloneness was examined and the results indicated the existence of a single factor with a high internal consistency reliability of .74. Evidence of the construct validity of the scale was provided by a significant positive relationship with social compensation ($r = .36, p < .001$) and mood management motives ($r = .28, p < .001$).

Age Identity Gratifications. Although single-item indicators of age identity gratification have been commonly used, this chapter used three items to assess the age identity gratifications

construct. Three scale items including: “I am satisfied with the way I use the Internet to connect with people with whom I can identify; to share with people in similar situations to those I experience; to enjoy chatting with people who are like me,” were used on a 5-point scale ranging from “strongly disagree” (1) to “strongly agree” (5). Cronbach’s alpha was acceptable at .70.

Social Support. To assess social support, a battery of 19 items within four subscales developed by The Rand and Medical Outcome Study (MOS) teams was adopted with slight modifications. The five original dimensions of social support were reduced to four as emotional support and informational support were merged because they were highly correlated and overlapped considerably. As a result, the four subscales were “tangible,” “affectionate,” “social companionship,” and “emotional or informational” supports. It was recommended that the subscale scores rather than the total score be used. Moreover, items from the tangible support subscale were excluded because tangible support mainly refers to medical or health-related assistance from friends or close relatives rather than being affective or emotionally related. Respondents were asked how often each of the support items measured in the remaining three dimensions was available to them if needed either online or offline. A 5-point scale was used where; 1 = none of the time, 2 = a little of the time, 3 = some of the time, 4 = most of the time, and 5 = all of the time. A principal components factor analysis extracted three factors and explained 71.8% of the variance. The three factors were “social companionship” with alpha = .80, “affectionate” (alpha = .81), and “emotional and informational” support (alpha = .75).

(*Insert Table 2 About Here*)

Online Social Behavior. Online social behavior was measured by asking adolescents and

children how often they used the three most popular Internet activities, namely use of instant messaging (e.g., MSN, ICQ, QQ, and chat rooms), online games, and forums. Specifically, they were asked how much time *last week* they spent online on these Internet activities using a 7-point scale where 1 = never, 2 = less than an hour, 3 = about an hour, 4 = more than one but less than two hours, 5 = two to less than three hours, 6 = three to less than four hours, and 7 = four or more hours.

Offline Social Activities. To assess offline social activities, respondents were asked to estimate (1) how many minutes the previous day they had spent face-to-face with (a) family/relative, (b) friends, and (c) schoolmates engaging in a conversation which lasted three minutes or more (casual 'hi and bye' interactions were not included) and (2) how often they (a) went to movies, (b) went on picnics or to BBQs, (c) went window shopping, and (d) went to parties or karaoke at in their leisure time on a 5-point Likert scale with 1 = not often and 5 = very often. Responses to these items were first standardized and then combined to yield a composite score reflecting the level of social activities respondents engaged in offline.

Relationships between aloneness, age identity, social support and Internet motives

H₁ predicted that the more adolescents and children express the desire to be alone, the more their motivations for using the Internet will be allied to (a) social compensation and (b) mood management. Regression results in Table 3 show that both relationship maintenance ($\beta=.14$, $p<.001$) and social recognition ($\beta=.27$, $p<.001$) were significantly linked to aloneness. This indicates that the more adolescents and children have the need for aloneness, the more *social compensation* will motivate Internet use. In contrast, aloneness was predictive only for entertainment and escape ($\beta=.24$, $p<.001$). Such a result supports the notion that the more adolescents and children want to be alone, the more they will use the Internet to relax, have

fun, forget about problems, feel less tense and lonely, meet new people, show encouragement, stay in touch, and care about others. No significant link was found between the aloneness and information seeking motive. As a result, H₁ was largely supported.

(*Insert Table 3 About Here*)

Likewise, H₂ proposed that the more adolescents and children exhibit strong age identity gratification, the more their motivations for using the Internet will be allied to (a) mood management and (b) social compensation. As shown in Table 3, age identity gratification was a significant predictor of both social compensation motives (such as relationship maintenance ($\beta=.74$, $p<.001$) and social recognition ($\beta=.4$, $p<.001$)) and mood management motives (such as entertainment and escape ($\beta=.54$, $p<.001$) and information seeking ($\beta=.51$, $p<.001$)) when using the Internet. Therefore, H₂ was fully supported.

As a whole, aloneness and age identity significantly predicted social compensation and mood management motives in adolescents' and children's Internet use in four separate regression analyses with variance explained ranging from 26 to 60 percent. As indicated in Table 3, the younger the respondent, the more he/she was motivated by social recognition, entertainment/escape, and information seeking motives.

H₃ predicted that the more adolescents and children exhibit a high level of perceived social support (from both online and offline sources), the more their motivations for using the Internet will be allied to (a) social maintenance and (b) mood management. Regression results in Table 4 show that relationship maintenance was predictive of affectionate ($\beta=.12$, $p<.05$) and emotional/information ($\beta=.19$, $p<.01$). Similarly, the information-seeking motive was also significantly linked to social companionship ($\beta=.15$, $p<.01$), affectionate ($\beta=.20$, $p<.001$), and emotional/information ($\beta=.20$, $p<.001$) dimensions of social support. But

entertainment/escape and social recognition motives were not significant. This suggests that adolescents and children with a high motivation to use the Internet for mood management or social compensation tend to perceive that they can obtain all three levels of social support when they need them. Thus, H₃ was partially supported.

(*Insert Table 4 About Here*)

Predicting Social Support

To determine what factors predict social support, multiple regressions were run (as shown in Table 4). Results show that offline social activities ($\beta=.16$, $p<.001$) were the strongest predictors of social companionship in social support, followed by information seeking motive ($\beta=.15$, $p<.01$), gender ($\beta=-.14$, $p<.01$), age ($\beta=-.12$, $p<.01$), and playing online games ($\beta=-.11$, $p<.05$). When affectionate was used as the dependent variable, being female ($\beta=-.24$, $p<.001$), information seeking ($\beta=.20$, $p<.001$), offline social activities ($\beta=.19$, $p<.001$), relationship maintenance ($\beta=.12$, $p<.05$), being young ($\beta=-.09$, $p<.05$), and online games ($\beta=-.08$, $p<.05$) were significant predictors. As for the emotional/information dimension of social support, information seeking ($\beta=.20$, $p<.001$) and relationship maintenance ($\beta=.19$, $p<.001$) were the strongest predictors, followed by offline social activities ($\beta=.14$, $p<.01$) and aloneness ($\beta=-.11$, $p<.05$). Interestingly, age identity gratification, instant messaging, and forums were not significant in any of the regression analyses. Altogether, the predictors included in the regression equations explained 10 to 19 percent of the variance.

Predicting Online Social Behavior

To assess what predicted online social behavior, three parallel regression equations were analyzed using instant messaging, online games, and forums as dependent variables. Results in Table 5 show that being older ($\beta=.35, p<.001$), active in offline activities ($\beta=.30, p<.001$), and strongly motivated by relationship maintenance ($\beta=.16, p<.01$) were predictive of instant messaging use on the Internet. Playing online games as a social and entertainment online activity was significantly predicted by being male ($\beta=.21, p<.001$), motivated by entertainment/escape ($\beta=.15, p<.01$) and relationship maintenance ($\beta=.15, p<.01$) motives, but less for information seeking needs ($\beta=-.12, p<.05$), having a lower family income ($\beta=-.12, p<.01$), and wanting to be alone less ($\beta=-.09, p<.05$). These three equations explained 10 to 29 percent of the variance.

(*Insert Table 5 About Here*)

CONCLUSIONS

Effects of Personality Traits

The results of this study showed that personality traits (such as the need for aloneness and age identity gratifications) significantly predicted motives for Internet use for social compensation (i.e., recognition gaining and relationship building) and mood management (i.e., entertainment and information seeking). This indicates that it is much more desirable when adolescents and children experience bad moods and the desire to be alone is strong to be entertained, find companionship, and be socially recognized through a non-face-to-face channel in solitude and in isolation. This supports the notion that being alone provides the opportunity to self-reflect and get away from others (Pierce, Wilkinson & Anderson, 2003). In fact, being able to use the Internet in solitude may help adolescents and children explore the private self and find a partner with whom they can converse who helps them cope with

stress. With the Internet being mediated, non-face-to-face, interactive, and sometimes anonymous, adolescents and children who want to be alone may prefer it as a means to explore the social world (Leung, 2001).

The current analysis also demonstrates that age identity gratification predicts Internet motives, especially for social compensation and mood management, which most adolescents and children of similar ages tend to seek frequently on the Internet. The predictive ability of age identity gratification is exceptionally strong (with beta weight ranging from .44 to .74). This indicates a strong influence of age identity gratifications (i.e., youngsters in the same age groups who greatly desire to use the Internet to connect with people they can identify with, share with people in similar situations to those they experience, and enjoy chatting with people who are like them) on Internet motives. On one level it may seem self-evident that respondents will seek to connect with individuals online who have similar characteristics to themselves (Atkin, 1985; Hoffer & Cantor, 1991); however, it is interesting that increased age identity gratification did not seem to affect either perceived social support or translate into *action* in the choice of online social behavior. This could be because there is more than a single universal desire among adolescents and children to engage in certain online social behaviors despite the fact that the three online activities we chose were the most common. Similarly, the desire varies with individual variations in the endorsement of age identity gratification measure.

Internet Motives and Perceived Social Support

As hypothesized, the motivations for Internet use of individuals who are better able to access different types of social support are characteristically more allied to mood management and social maintenance. In particular, those who perceived that they had strong affectionate and emotional/information social support tended to be those who were strongly

motivated by relationship maintenance needs (Wright, 2000). This makes sense as the more adolescents and children can obtain more relationship maintenance gratifications online, the more they will perceive that their affectionate and emotional/information social supports are always available to them. The same explains why information seeking gratifications can predict perceived social companionship, affectionate, and emotional/information social support because information seeking online may mean seeking information through personal blogs, e-mails, participating in chat rooms, and even socializing through Facebook. Through these activities, adolescents can get information to help understand a situation, receive advice, or get suggestions about how to deal with a personal problem.

Online Social Behavior and Social Support

When actual online social behaviors were used as predictors, perceived social support was linked only to online games: instant messaging and forums were not significant. This may be due to the fact that the online social behaviors chosen for the analyses (i.e., instant messaging, online game, and forums) were not the normal channels through which adolescents and children receive social support (e.g., in getting advice, suggestions, and sharing private worries and problems). Instant messaging (e.g., MSN, ICQ, or chat rooms) is generally used to pass time and exchange gossip (Leung, 2001), while online games are for entertainment, diversion, and escape, and forums are for in-depth discussion on specific topics. Channels such as personal blogs and e-mail may be better online environments for showing love and affection, caring for others, giving encouragement, and comforting others when they are in need. Furthermore, online games were significantly related to social companionship and affectionate dimensions of social support but the relationship was negative. According to Kraut, Patterson, Lundmark, Kiesler, Mukopadhyay, and Scherlis (1998), this may be because online game, which is computer-mediated, is a less adequate

medium for social communication than the telephone or face-to-face interactions it displaces. Online friends are superficial and bonds are easily broken, with many of the social relationships people maintain online through online games being less substantial and sustaining than relationships that people have in other areas of life (Leung & Lee, 2005). In fact, strong social ties are relationships that generally buffer people from life's stresses. More online time may take away from more valuable offline social contact. Heavy online game players, as a result, tend to perceive that they have difficulties getting social companionship and affectionate social support either online or offline, which may be why online social behaviors exhibit little or no effect on perceived social support for adolescents and children.

Offline Social Activities and Online Social Behavior

It is also worth noting that the more *offline* social activities adolescents and children participate in (such as face-to-face conversation with family and friends, going to movies, picnics, BBQs, and parties), the more *online* social behaviors they will have (especially instant messaging and participating in forums). This suggests that offline social activities, in some way, *activate* or *complement* online social behaviors or help enlarge social networks (Rosengren & Windahl, 1989). Similarly, offline social activities also had a strong effect on social support. This effect seems to be the dominant factor influencing perceived social support as compared to personality and online social behavior. The data, however, further reflects that social support has not been transferred from offline social activities to online social behaviors, despite the Internet increasingly becoming the preferred social medium for adolescents and children.

Although the conceptual relationships in this research are based on sound theoretical assumptions and are empirically supported, the present results should be interpreted in light

of the methodological limitations of the study. It is important to note that some concepts in the questionnaire, such as aloneness, age identity gratifications, and social support (e.g., being alone gives solitary time to self-reflect, being able to use the Internet in solitude helps you explore your private self, and the Internet allows you to connect with people you can identify) may have been difficult for respondents, particularly 8- to 10-year olds, to understand, or they may not have been applicable to them. As a result the overall result may have been affected.

FUTURE TRENDS

Spending time with friends face-to-face may be considered a normal developmental step among adolescents and important for their identity development. The heavy use of online social communication technologies may also, in fact, be a natural developmental behavior for adolescents and children as demonstrated in this research. Future research should widen the scope of this study by comparing results for different age groups. Although the findings are consistent with the predictions of theories revealed, they do not demonstrate a cause and effect relationship. Use of quasi-experimental and longitudinal designs would improve the strength of the findings. The ability to acknowledge beneficial aloneness, or solitude, seems to be a developmental aim that had not yet been reached; the majority of 7- to 10-year-old children may have great difficulty in perceiving the positive functions of aloneness or recognizing the fact that aloneness can be beneficial, especially if restriction and isolation within one's room have been used as a punishment for bad behavior. Therefore, future research might examine the consequences of age identity gratification-driven online social behaviors. To what extent will we be able to identify specific positive or negative outcomes associated with socializing online that are associated with these age identity gratifications?

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Table 1: Motives for Internet Use

How satisfied are you with the Internet in helping you to do the following things?	Mean	SD	Factors			
			1	2	3	4
Entertainment/Escape						
1. To make me feel less tense GO6	3.39	1.04	.79			
2. To relax GO8	3.50	1.09	.73			
3. To have fun or a good time GO4	3.52	1.04	.68			
4. To forget about my problems GO10	2.91	1.17	.67			
5. To feel less lonely GO12	3.38	1.17	.58			
Relationship Maintenance						
6. To let others know I care about their feelings GO18	2.79	1.10		.68		
7. To stay in touch with people I don't see very often GO13	3.65	1.18		.63		
8. To show others encouragement GO14	3.00	1.11		.62		
9. To feel involved with what's going on with other people GO17	3.12	1.14		.61		
10. To meet new people GO15	3.12	1.24		.50		
Social Recognition						
11. To feel important GO26	2.34	1.04			.80	
12. To impress people GO29	2.00	.97			.73	
13. To gain status GO27	2.44	1.10			.68	
14. To improve my identity in the world GO31	2.81	1.14			.54	
Information Seeking						
15. Found things I need to know about daily life GO1	3.94	1.03				.82
16. Helped me keep up with news that isn't available elsewhere GO3	3.79	1.05				.73
17. Gave me immediate knowledge of big news events GO2	3.74	1.09				.64
Eigenvalues			5.08	1.96	1.32	.91
Variance explained (%)			29.86	11.52	7.78	5.35
Cronbach's Alpha			.79	.70	.71	.65

Scale used: 1 = Very dissatisfied and 5 = Very satisfied

Table 2. Factor Analysis of Social Support

How often is each of the following kinds of support available to you if you need it via either online or offline?	Mean	SD	Factors		
			1	2	3
Social companionship					
1. someone you can count on to listen to you when you need to talk	3.86	1.07	.73		
2. someone to do things with to help you get your mind off things	3.29	1.25	.66		
3. someone to share your most private worries and fears with	3.67	1.13	.62		
4. someone who understands your problems	3.55	1.11	.61		
5. someone to confide in or talk to about yourself or your problems	3.83	1.08	.59		
Affectionate					
6. someone to have a good time with	3.94	1.02		.75	
7. someone who comforts you sincerely	3.71	1.12		.71	
8. someone to love and make you feel wanted	3.79	1.07		.65	
9. someone who shows you love and affection	3.62	1.13	.43	.65	
Emotional/information					
10. someone to give you information to help you understand a situation	3.46	1.12			.85
11. someone whose advice you really want	3.69	1.10			.68
12. someone to turn to for suggestions about how to deal with a personal problem	3.67	1.06			.64
Eigenvalues			5.81	.84	.72
Variance explained (%)			48.44	7.01	5.96
Cronbach's Alpha			.80	.81	.75

Scale used: 1=none of the time, 2=a little of the time, 3=some of the time, 4=most of the time, and 5=all of the time; N = 717

Table 3: Regression of Demographics, and Personality on Motives for Internet Use

Predictors	Social Compensation Motives		Mood Management Motives	
	Relationship Maintenance	Social Recognition	Entertainment and Escape	Information Seeking
	β	β	β	β
<i>Demographics</i>				
Gender (male=1)	.04	-.02	.05	.01
Age	-.05	-.10**	-.09**	-.08*
Family income	-.02	.01	.01	-.06
<i>Personality</i>				
Aloneness	.14***	.27***	.24***	.02
Age identification gratifications	.74***	.44***	.54***	.51***
R^2	.60	.32	.39	.27
Final adjusted R^2	.60	.32	.39	.26
N =	655	659	667	661

Notes: Figures are standardized beta coefficients.

* $p \leq .05$; ** $p \leq .01$; *** $p \leq .001$

Table 4: Regression of Demographics, Motives for Internet Use, Personality, Online Social Behavior, and Offline Social Activities on Social Support

Predictors	Social Support		
	Social Companionship	Affectionate	Emotional/Information
	β	β	β
<i>Demographics</i>			
Gender (male=1)	-.14**	-.24***	-.07
Age	-.12**	-.09*	-.01
Family Income	-.04	.03	.06
<i>Motives for Internet Use</i>			
Entertainment and Escape	-.05	-.01	-.03
Relationship Maintenance	.11	.12*	.19**
Social Recognition	-.01	-.06	-.03
Information Seeking	.15**	.20***	.20***
<i>Personality</i>			
Aloneness	-.02	-.04	-.11*
Age Identity Gratification	.00	.02	-.02
<i>Online Social Behavior</i>			
Instant Messaging	-.01	-.02	-.08
Online Game	-.11*	-.08*	-.02
Forum	.00	-.09	-.08
<i>Offline Social Activities</i>			
	.16***	.19***	.14**
R^2	.12	.21	.14
Final adjusted R^2	.10	.19	.12
N =	585	585	587

Notes: Figures are standardized beta coefficients.

* $p \leq .05$; ** $p \leq .01$; *** $p \leq .001$

Table 5: Regression of Demographics, Motives for Internet Use, Personality, Offline Social Activities on Online Social Behavior

Predictors	Online Social Behavior		
	Instant Messaging	Online Game	Forum
	β	β	β
<i>Demographics</i>			
Gender (male=1)	-.01	.21***	-.03
Age	.35***	-.01	.33***
Family Income	.02	-.12**	-.10*
<i>Motives for Internet Use</i>			
Entertainment and Escape	.05	.15**	.08
Relationship Maintenance	.16**	.15**	.04
Social Recognition	-.06	.08	.05
Information Seeking	-.05	-.12*	-.09*
<i>Personality</i>			
Aloneness	-.06	-.09*	.02
Age Identity Gratification	.02	-.11	.00
<i>Offline Social Activities</i>			
	.30***	.08	.15***
R^2	.30	.11	.20
Final adjusted R^2	.29	.10	.19
N =	612	598	595

Notes: Figures are standardized beta coefficients.

* $p \leq .05$; ** $p \leq .01$; *** $p \leq .001$