

# Stressful Life Events, Motives for Internet Use, and Social Support Among Digital Kids

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## ABSTRACT

This study presents the interrelationships between stressful life events, motives for Internet use, social support, and the use of the Internet among a sample of adolescents and children aged 8 to 18 (N = 717). The results show that stressful life events are significantly associated with the consumption of the Internet for mood management (such as entertainment and information seeking) and social compensation (such as recognition gaining and relationship maintenance) motives. Secondly, the more children and adolescents exhibit high levels of social support, either online or offline, the less they find stressful life events upsetting. Thirdly, as individuals exhibit greater ability to personally access different types of social support to meet their needs, their motivations for Internet use are characteristically more allied to mood-management and social-compensation. This study reasserts that the mental and physical impact of stressful life events are in fact buffered by one's degree of social support and Internet use, particular examples of which are entertainment and relationship maintenance, and positive coping strategies, which temporarily reduce stress and anxiety.

## INTRODUCTION

ADOLESCENCE can be a particularly vulnerable period in terms of life changes and stress.<sup>1</sup> Ideally, childhood is a time of wonder, growth, and learning—trips to the park, playtime, and bedtime stories. But complicated family dynamics, academic pressure, and the hectic pace of daily life can add up to stress for adolescents and children. Even good things, like the birth of a new sibling, can cause a child to feel stress. A child may also react in his or her own “childlike” way to the death of a family member, a change in caregiver or teacher, or illness. When this happens, what activities would adolescents and children engage in that might reduce or terminate such unhappy or stressful experiences?

Past research has investigated the relationship between stressful life events and substance abuse

among children and adolescents.<sup>2,3</sup> These researchers have suggested that some adolescents turn to cigarettes, alcohol, and/or drugs as a means of coping with a variety of stressors that arise within the family, school, and peer groups. Few studies, however, have focused on the relationship between stressful life events and Internet use. The advent of new media technologies, such as the Internet, online games, mobile phones, iPods, MP3 players, videos on-demand (VOD), and DVDs, to name a few, has dramatically changed both the nature and number of mood-management devices, making the number of entertainment choices available to most youngsters abundant. Although the Internet has become an important resource for information and entertainment, little is known about the ways in which individuals use information and communication technologies (ICTs) for social support. How children's perception of stressful events impact on

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media habits is a much-neglected area of research. The purpose of this study is to examine how Internet plays a role in influencing mediated social support and how stressful life events motivate Internet use.

### *Theoretical frameworks*

*Defining stressful life events.* In conceptualizing stress-related events, Yamamoto conceptually clustered the events children perceive to be the most upsetting into two.<sup>4</sup> The first is the child's sense of security in relation to the threat of events such as the loss of a parent (through death, divorce, separation, neglect, and so on), loss of sight, parental discord, sickness, surgery, scary dreams, displacement (e.g., getting physically lost), and the like. Another cluster has to do with the threat or injury to the child's sense of dignity and respectability. Such an experience is revealed in events like being caught thieving, not being promoted to the next grade, being suspected or accused of lying, receiving a bad report card, being sent to the headmaster to be disciplined, or being publicly ridiculed. Like everyone else, children fear and detest being shamed and embarrassed. Some researchers have suggested that life stressors may affect adolescents in similar ways to adults.<sup>5,6</sup> This is particularly evident in the areas of self-esteem<sup>7</sup> and psychosocial functioning.<sup>8</sup>

*Stress and media use.* Past research has investigated the relationships between stress and television use.<sup>9,10</sup> A common hypothesis is that viewers use television to relieve stress.<sup>11</sup> Zillmann proposed that television can temporarily alleviate the negative affects of stress by displacing anxious thoughts and by substituting negative affect with positive affect.<sup>9</sup> The social withdrawal afforded by television might allow negative feelings to return to baseline level, reducing the likelihood of stress-induced conflict with family members.<sup>12-15</sup> Zillmann and Bryant also predicted that people under stress will gravitate toward television programs that incorporate comedy, variety entertainment, or games that predominantly contain positive affect.<sup>10</sup> They will reduce their viewing of programs with potentially dysphoric content such as news and documentary programs because these might have content related to the stressful events in the viewers' lives. Furthermore, non-violent drama or drama with horror as the theme was also found to be on the increase because such drama engages cognition, allowing thought displacement.

Inspired by this line of research, the present study investigates how individual differences in stress, motivations for Internet use, and social support received

from both online and offline sources affect the levels of Internet use by adolescents and children.

*Motives for internet use.* In a re-conceptualization of eight traditional viewing motives (i.e., companionship, passing time, escape, habit, relaxation, arousal, entertainment, and information), Finn and Gorr proposed a typology for television viewing motivations characterized by two distinctive dimensions.<sup>16</sup> Both are based on human needs—one is the need to fulfill social deficiency in the viewer's social environment, and the other is a psychological need to regulate human stimulation. Similarly, Rubin found that compensatory uses of television could alleviate feelings of isolation or even stress for people with mild to serious levels of social deprivation.<sup>17</sup> With the advent of e-mail, instant texting technologies (such as ICQ, SMS, and Net Meeting), the Internet, mobile phones, and other computer-mediated communication technologies seem ideally to 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 interpersonal utility, social bonding, social identity, and showing affection), as found in other studies into the motives for Internet use,<sup>18,19</sup> can also be collectively identified as motives for social compensation—just like the collection for viewing motives.

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.<sup>9,20-23</sup> These authors propose that the traditional motives of relaxation, entertainment, arousal, and information seeking compose a cluster of viewing motives on the basis of human stimulation needs. Grounded in uses and gratifications framework, recent research into motivations for Internet use also found similar motives, such as entertainment, surveillance, pass time, and escape.<sup>18,19</sup> 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.<sup>24</sup> Early theorists, such as Hebb<sup>25</sup> and Yerkes and Dodson,<sup>26</sup> invoked the classic inverted-U to describe the relationships between arousal and sense of well-being. At the high point of the inverted-U, individuals enjoy the optimal level of well-being when an ideal level of arousal is achieved. Sense of well-being drops sharply when the amount of arousal becomes more intense or

weakens. Low levels of arousal mean individuals are experiencing boredom, and will seek entertainment and stimulating activities or contentment from media. Similarly, high levels of arousal mean individuals are being bombarded with excitement, anxiety, and stress, which need to be alleviated through relaxation or entertainment from media. Based on the individual's drive to achieve a satisfactory level of arousal, past research has provided much empirical research to support a model of selective exposure to television.<sup>10,22,23,27</sup> Today, as the Internet has been transformed and possesses more and more 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.<sup>9</sup>

To understand the relationship between the motives for Internet use and stressful life events, mood management theory can be applied to describe how individuals experiencing stress might use the Internet in a similar manner to television, to block anxious thoughts and replace dysphoric moods. Knobloch argued that the aim of mood management is to alter disagreeable moods, enhance mediocre feelings, and maintain pleasant moods.<sup>28</sup> With the ubiquitous nature of many new media technologies and a wide assortment of entertainment available on the Internet via mobile devices, this mood-regulating content is becoming more and more accessible and convenient. Morris called moods the "frame of mind."<sup>29</sup> They affect human behavior such as thinking and memory,<sup>30</sup> perceptions of others and of the self,<sup>31</sup> and feelings about one's environment. Therefore, the use of media (such as the Internet, video games, ICQ, and mobile phones) and their influence on mood and vice versa is an important area of study. Past research has established current mood state as a key factor for selective exposure to media especially for entertainment choices.<sup>32,33</sup> However, few of the available published studies on children's perception of stressful life events have examined perceptions of negative life events in relation to media consumption habits. This study investigates the generality of social compensation and mood management concepts by examining the relationship between these motives for Internet use and the upsetting experience of stressful life events. As a result, we hypothesize:

**H1:** *The more adolescents and children find stressful life events upsetting, the more their motivations for using the Internet will be allied to social-compensation and mood-management.*

*Social support.* In a review of social indicators research, Cobb primarily defined social support 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."<sup>34</sup> Other scholars have defined social support as "interpersonal transactions involving affect, affirmation, aid, encouragement, and validation of their feelings."<sup>35</sup> House gave a third definition in which social support involves "the flow between people of emotional concern, instrumental aid, information, or appraisal."<sup>36</sup>

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.<sup>37,38</sup> Recent research, however, has generally attempted to measure the functional components of social support because functional support is the 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.<sup>39</sup>

Recent 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 Alzheimer's caregivers and for patients with AIDS.<sup>40-42</sup> 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.<sup>43</sup> Similarly, one study also investigated computer-mediated social support for able-bodied people and found that older adult Internet users reported higher satisfaction with Internet providers of social support and that greater involvement with an online community was predictive of lower perceived life stress.<sup>44</sup> Social relationships and social support are potent variables that can reduce exposure to stress, promote health, and buffer the impact of stress on health, thus contributing to increases in both the quality and length of life.

Furthermore, past research has demonstrated that frequent and increasing use of the community

computer network and the Internet significantly influences social capital formation.<sup>45</sup> Cohen and Wills, using a public health model, assert that the mental and physical impact of stressful life events is in fact buffered by one's degree of social support.<sup>46</sup> Along the same line of reasoning, as individuals exhibit greater success at meeting affiliation, esteem, and self-actualization needs, their motivations for Internet use will be more characteristically allied to mood-management and social-compensation motives. Therefore, we expect that:

**H2:** *The more adolescents and children exhibit a high level of social support (from online and offline sources), the less they will find stressful life events upsetting.*

**H3:** *The more adolescents and children exhibit a high level of social support (from online and offline sources), the more their motivations for using the Internet will be allied to social-compensation and mood-management.*

Taking particular care in considering the theoretical constructs of stressful life events, motivations for Internet use (such as mood management and social compensation), and social support into this study, we intend to investigate how individual differences in terms of level of perceived stress experienced by adolescents and children, motives for Internet use, social support, and how their usage pattern online predicts the use of the Internet (such as ICQ, web surfing, and online games). Therefore, two research questions were asked:

**RQ:** *How can motives for Internet use, stressful life events, social support, new media use, and online patterns predict Internet use?*

## METHODS

### *Sample and sampling procedure*

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%.

### *Measurements*

**Motivation for Internet use.** Initially, motivation items used in previous Internet research<sup>18,19</sup> and ICQ<sup>47</sup> were included in the survey questionnaire. Additional items were gathered through 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 five-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% of the variance. The four-factor solution was labeled "entertainment," "relationship maintenance," "recognition gaining," and "information seeking." Cronbach's alpha values were 0.79 for entertainment (five items); 0.70 for relationship maintenance (five items); 0.71 for recognition gaining (four items); and 0.65 for information seeking (three items). Similar to Blumler's and Zillmann's 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.<sup>9,17</sup>

**Stressful life events.** A list of 21 stressful life events and circumstances was adopted from past research on stress.<sup>48-51</sup> Some items were dropped because they were considered to be too delicate or redundant (e.g., criminal behavior of family members, child abuse, and domestic violence). The remaining 19 items were pilot tested on a small group of adolescents to judge the clarity of the items and how meaningful they were for this age group. The list included items known to be highly stressful (death of a parent, parent separation, or divorce) as well as ones that are more neutral (birth of a sibling and getting a poor mark on a test). Respondents were asked whether they had experienced any of these events in the past six months. If this was so, they were then asked to judge how upsetting they thought each listed event had been for them on a five-point Likert scale (with 1 = the least upsetting and 5 = the

most upsetting). According to Yamamoto, stressful life events can be factored into four groups: (1) parental problems, (2) a new addition to the family, (3) illness/death/separation, and (4) school-related problems.<sup>4</sup> Cronbach's reliability alphas ranged from 0.74 to 0.60 (0.84 overall).

*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," "positive social interaction," and "emotional or informational" supports. It was recommended that the subscale scores, rather than the total score, be used.<sup>52</sup> 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 five-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 "positive social interaction" (with alpha = 0.80), "affectionate" (alpha = 0.81), and "emotional and informational" support (alpha = 0.75).

*Internet use.* Internet usage was measured by asking respondents how often they used the three most popular Internet activities among adolescents and children, namely chatting through ICQ online, surfing the web, and playing online games. Specifically, they were asked how much time in a typical day they spent online on these Internet activities using a seven-point scale, where 1 = never, 2 = less than 1 h, 3 = about 1 h, 4 = more than 1 but less than 2 h, 5 = 2 to less than 3 h, 6 = 3 to less than 4 h, and 7 = 4 or more h.

*Online patterns.* Online patterns were measured by asking respondents (1) where they primarily go on-line (bedroom = 1, elsewhere = 0); (2) what time of the day they usually went online (evening = 1; other = 0); and (3) whether they currently subscribed to a broadband service (yes = 1).

## RESULTS

### *Sample characteristics*

The sample consisted of 48.8% male, with an average age of 12.75 years (SD = 2.01). Over half of all respondents (51.2%) had a mean monthly household income of approximately US\$6,410. About 15.8% were in junior high, 46.7% were in high school, and 27% were in pre-college programs. The average number of stressful life events reported by this cohort, aged 8–18, was 3.33 (ranging from 0 to 19). Since the distribution of reported stressful life events was highly skewed, stressful life events were subjected to a log (n + 1) transformation for analysis. The mean for accessing the Internet at home was 2.22 h per day (SD = 1.86).

### *Hypotheses testing*

Hypothesis H<sub>1</sub> predicted that the more adolescents and children find stressful life events upsetting, the more their motivations for Internet use will be allied to social-compensation and mood-management motives. The results of the correlation analyses showed that overall stress was significantly related to all motives for Internet use except information seeking, i.e., entertainment, relationship maintenance, and social recognition. The additional correlational analyses in Table 1 also indicate that mood management motives such as entertainment are significantly linked to specific types of stressful life events such as parental problems, a new addition to the family, illness/death/separation, and school related problems. Furthermore, another mood management motive (i.e., information seeking) was also shown to be significantly related to illness/death/separation. Surfing the Internet for social compensation motives was also correlated with the experience of stressful life events. Specifically, relationship maintenance was related to parental problems, a new addition to the family, illness/death/separation, and school related problems; and social recognition was associated with illness/death/separation and school related problems. Therefore, H<sub>1</sub> was largely supported.

Hypothesis H<sub>2</sub> proposed that the more children and adolescents exhibit a high level of social support (from online and offline sources), the less they will find stressful life events upsetting. The data in Table 1 shows that, with the exception of illness/death/separation, all other types of stressful life events such as parental problems, a new addition to the family, and school related problems, were significantly and negatively linked to various dimensions of social support. These

TABLE 1. PEARSON CORRELATION MATRIX: INTERNET MOTIVES, STRESSFUL LIFE EVENTS, AND SOCIAL SUPPORT

	2	3	4	5	6	7	8	9	10	11
Internet use motives <sup>a</sup>										
1. Entertainment/escape	0.53***	0.43***	0.34***	0.09*	0.10*	0.13**	0.10**	0.09*	0.15***	0.16***
2. Relationship maintenance		0.47***	0.42***	0.08*	0.08*	0.16***	0.09*	0.12**	0.18***	0.21***
3. Social recognition			0.08*			0.10**	0.09*			
4. Information seeking						0.09*				
Stressful life events <sup>b</sup>										
5. Parental problem					0.30***	0.32***	0.45***	-0.11**	-0.13**	-0.10**
6. New addition to the family						0.37***	0.39***			-0.10**
7. Illness/death/separation							0.38***			
8. School-related problem								-0.12**	-0.11**	
Social support <sup>c</sup>										
9. Positive social interaction									0.74***	0.67***
10. Affectionate										0.64***
11. Emotional/information										

<sup>a</sup>A total of 17 gratification items were used to assess the four dimensions of motives of Internet use. Respondents were asked: How satisfied were they with the Internet in helping them to do the following things? (using a scale with 1 = very dissatisfied, and 5 = very satisfied).

<sup>b</sup>A total of 19 items were used to measure the four dimensions of stressful life events on digital kids. Respondents were asked: Have you experienced the following events in the last 6 months or more than 6 months ago and how had the event had an impact on you? (using a scale with 0 = not upsetting at all, and 5 = the most upsetting).

<sup>c</sup>People sometimes look to others for companionship, assistance, or other types of support. How often is each of the following kinds of support available to you if you need it? 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.

<sup>#</sup> $p < 0.1$ ; \* $p < 0.05$ ; \*\* $p < 0.01$ ; \*\*\* $p < 0.001$ ; N 654–703.

negative relationships strongly support  $H_2$ . This indicates that those who are active in connecting with people and those who can identify with and enjoy the time they can share with others who are suffering similar problems experience lower levels of stress.

Hypothesis  $H_3$  hypothesized that the more adolescents and children exhibit a high level of social support (from online and offline sources), the more their motivations for Internet use will be allied to social-compensation (such as recognition gaining and relationship maintenance) and mood-management (such as entertainment and information seeking) motives. Again, the results shown in Table 1 seem to confirm this hypothesis as, with the exception of social recognition, both mood management and

social compensation motives for Internet use were significantly and positively related to different dimensions of social support. Therefore,  $H_3$  is largely supported.

#### Regression analyses

*Stress and Internet use.* The strongest predictors for ICQ use among adolescents and children seemed to be the use of functionally similar technologies such as mobile phones ( $\beta = 0.20, p < 0.001$ ) and text messaging services (i.e., SMS;  $\beta = 0.20, p < 0.001$ ). The results in Table 2 show that heavy ICQ users also frequently listened to music on CD/MP3 players ( $\beta = 0.17, p < 0.001$ ) but were less likely to use video games ( $\beta = -0.08, p < 0.05$ ). The data also

TABLE 2. REGRESSION OF STRESSFUL LIFE EVENTS, SOCIAL SUPPORT, AND NEW MEDIA USE ON INTERNET USAGE

Predictor variables	Internet usage		
	ICQ $\beta$	Web surf $\beta$	Online games $\beta$
Internet use motives			
Entertainment/escape			
Relationship maintenance	0.15**		0.11*
Social recognition			
Information seeking	-0.10*		-0.08*
Stressful life events			
Parental problem	0.08*		
New addition to the family			
Illness/death/separation	-0.12*		
School related problem			
Social support <sup>a</sup>			
Positive Social Interaction		0.14*	
Affectionate			
Emotional/information			
New media use			
Mobile phone	0.20***	0.11**	
SMS	0.20***		
CD/MP3	0.17***		
Video games	-0.08*		0.45***
Online patterns			
Where go online (bedroom = 1)			
Time go online (evening = 1)		0.09*	
Broadband (yes = 1)		0.10**	
$R^2$	0.27	0.11	0.24
Final adjusted $R^2$	0.24	0.08	0.21

<sup>a</sup>People sometimes look to others for companionship, assistance, or other types of support. How often is each of the following kinds of support available to you if you need it? 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.

# $p < 0.1$ ; \* $p < 0.05$ ; \*\* $p < 0.01$ ; \*\*\* $p < 0.001$ ;  $N = 654-703$ .

Figures are standardized beta coefficients.

showed that the more they used ICQ, the more they were motivated to use the Internet for social compensation, especially for relationship maintenance ( $\beta = 0.15, p < 0.01$ ), and that their motivation for using the Internet was less likely to be for mood management ( $\beta = -0.10, p < 0.05$ ) such as for information seeking. Heavy ICQ users often experienced stress resulting from parental problems ( $\beta = 0.08, p < 0.05$ ), for example, the tragic loss of a parent through death, remarriage, divorce, or as the result of a serious accident; but less when they suffered from illness, separation from family members or friends ( $\beta = -0.12, p < 0.05$ ). Adolescents and children who often surfed the Web in the evening ( $\beta = 0.10, p < 0.01$ ) via broadband ( $\beta = 0.09, p < 0.05$ ) tended to be those who also often used mobile phones ( $\beta = 0.11, p < 0.01$ ) through which they obtained plenty of positive social interaction support ( $\beta = 0.14, p < 0.05$ ). As expected, heavy users of online games also reported heavy use of video games offline ( $\beta = 0.45, p < 0.001$ ). Interestingly, those who played online games most frequently also believed Internet use to be for relationship maintenance ( $\beta = 0.11, p < 0.05$ ) and less for mood management especially for information seeking ( $\beta = -0.08, p < 0.05$ ). The three equations explained 8 to 24% of variance.

## DISCUSSION

This research attempts to expand our understanding of the interrelationships between stressful life events, motives for Internet use, and social support. It also investigates how individual differences in stress, motivations for Internet use, and social support received either online or offline affect the levels of Internet and new media use among adolescents and children. The findings clearly support the conceptual relationships.

### *Social support and Internet motives*

The finding in this study that is especially intriguing is how increasing levels in different dimensions of social support are significantly associated with strong mood management motives for Internet use particularly for information seeking and, to some extent, social compensation, specifically for relationship maintenance. This finding can be interpreted as the more adolescents and children feel that the Internet can provide them with news and information about the world and help them feel less lonely, more relaxed, and less tense, the more they are confident that social support is always accessible. Similarly, the more they are satisfied with the

relationship maintenance functions of the Internet (i.e., they can use the Internet to care about other's feelings, to stay in touch, to show encouragement, to meet new people and feel involved with other people), the more they will perceive different dimensions of social supports to be readily available to them.

In fact, in assessing motives for Internet use, respondents were asked how satisfied they were with the Internet in helping them to do a list of tasks or to meet a list of needs, which implies that respondents were asked about the level of gratification they obtained from their use of the Internet. Therefore, the gratification gained from their use of the Internet could actually mean that adolescents and children were satisfied using the Internet for mood management and social compensation. In effect, by responding to the question, respondents were reporting their levels of satisfaction with the use of the Internet in managing their mood and compensating for social deficiency. So, the more they were satisfied with mood management and social compensation facilitated by the Internet, the more confident they felt that social support was always available.

### *Internet motives and stress*

It is also interesting to note that motives for Internet use in relation to social compensation and mood management were significantly linked to stress experienced by adolescents and children. This suggests that persons under stress seem to have a tacit understanding of what they need to alter their mood, while persons who are feeling positive are at liberty to try out the various Internet activities at their disposal. Specifically, people who are experiencing stress as a result of parental problems or a new addition to the family seem to seek entertainment and relationship maintenance to ease stress. Those who were stressed because of illness, death, or separation in the family tended to turn to the Internet for entertainment, relationship maintenance, social recognition, and information for stress reduction. Furthermore, adolescents and children in need of mood repair because of school related problems appeared to seek comfort in the Internet for relaxation, fun, to show others or to receive encouragement, to care about other's feelings, to impress people, and to gain status. Entertainment and relationship maintenance motives may be an appropriate and positive coping strategy to temporarily reduce stress and anxiety. This may be especially true for stressors over which the individual has no control, such as illness, death,

or separation in the family, a new addition to the family, and parental problems. In fact, social withdrawal in favor of a private moment spent playing games on the Internet may have the positive function of allowing the individual to reduce stress arousal and thus reduce the likelihood of negative social interaction with family members. This is in line with mood management theory that suggests that television (or the Internet in this study) can be used in part to block thoughts that cause anxiety and stress.<sup>11</sup> On the other hand, going online for relationship maintenance may allow some degree of social interaction while reducing stress.

#### *Social support and stress*

As expected, the negative correlations between social support measures and stressful life events (parental problems in particular and school related problems and a new addition to the family to some extent) seem to reassert our understanding that adolescents and children need high levels of social support to alleviate stress. This reaffirms Cohen and Wills's public health model where the mental and physical impact of life's stressful events are buffered by one's degree of social support.<sup>46</sup> In fact, social relationships and social support are potent variables that can reduce feelings of stress and defend health against the impact of stress, thus contributing to increases in both the quality and length of life.

#### *Predicting Internet use*

The regression results show the specific Internet activities that adolescents and children usually engage in to help reduce stress caused by illness, death, or separation of family members to be ICQ, and that the use of it is heavy. This is logical as ICQ is the favorite amongst adolescents and children. Quite unexpectedly, however, no systematic usage pattern of web surfing or online gaming was evident as a function of experienced stressful life events. Based on previous research, it was anticipated that online games, because of its capacity to engage and absorb users and, therefore, diminish the effects of stress by disrupting cognitive preoccupation with the affective experience,<sup>27</sup> might also be preferred by adolescents and children experiencing stress. However, the data seems to suggest that the use of games is probably not the preferred option for alleviating negative affects for youngsters. On the contrary, they preferred ICQ. This finding seems to be in line with previous research by Zillmann that showed that "bad moods associated with overstimulation,

stress in particular, can be effectively diminished or terminated by consumption of nonarousing, calming entertaining materials."<sup>22,23</sup> Day also found that exposure to pleasant music is capable of reducing negative moods.<sup>54</sup> Therefore, respondents in this study went for—something calm—ICQ to alleviate stress.

It is also worth noting that various dimensions of social support did not significantly predict Internet activities, except web surfing. These results may be interpreted thus, that adolescents and children actively engage in Internet activities delivered through the web (such as forums, blogs, and special interest chat rooms) to receive affectionate social support. Most of these activities take place in the evening.

Taken as a whole, this finding supports the premise proposed by affect-dependent stimulus arrangement theory which posits that "individuals consume media entertainment purposively in efforts to manage moods."<sup>23</sup> More specifically, people, given the opportunity, are capable of choosing media for exposures that modify and regulate mood states in a desirable way. In this way, stressed individuals can habitually seek entertainment that may serve to manage moods.

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