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Adolescents' use of Instant Messaging as a means of emotional relief

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ABSTRACT

Instant Messaging (IM) plays a major role in online communication, whether through dedicated software or through chat integrated in a social network's platform. IM-based online conversation enables private, synchronous, interpersonal communication while being invisible and possibly anonymous; facilitates self-disclosure and intimacy; and possesses advantageous features of expressive writing and social support. For adolescents, the use of IM is a legitimate, available, and free alternative vehicle for communicating with peers to ventilate negative emotions and to receive social support and advice. The present study examined effects of IMing friends on the emotional state of distressed adolescents through both pre-post ($n = 100$) analyses and comparison with an un-distressed group ($n = 50$). Dependent measures included self-report questionnaires, textual analysis, and expert judges' evaluations of the conversations. Findings revealed that IM conversation significantly contributed to the well-being of distressed adolescents. In addition, participants' level of introversion–extroversion moderated the degree of their perceived emotional relief, so that introverted participants profited from IMing more than did extraverts. The implications of these findings are discussed in the context of online communication theory, as well as the practical implementations for troubled adolescents.

1. Introduction

1.1. Adolescence

Adolescence—the transition period from childhood to maturity (Steinberg, 2008)—is a central developmental stage in human life. During that period, adolescents become closer to their peer group while moving away from their parents. The process of separation and individuation has been characterized as one of the most important developmental tasks in adolescence (Blos, 1979). This task is composed of two distinct yet complementary processes, in which the distinction between the "I" and the other is established. This distinction has two roles: the creation of the adolescent's independent identity, on the one hand, and the preparation for independence and family life, on the other. At the end of the process, the adolescent becomes an independent, mature person, with a unified, distinct personality (Steinberg, 2008).

The maturation process causes no little distress among typical adolescents, including emotional suffering, interpersonal conflicts, psychological stress, and various other, sometimes severe difficulties (Gould & Kramer, 2001). Typically, adolescents seek consolation and support from friends who are experiencing a similar process and may support them (e.g., Laursen & Collins, 2009). The peer group, thus, has a central role in adolescent development, as it provides them with the emotional support resource they need, provides advice, supplies extensive relevant information for making decisions and considering behavior, and serves as a behavioral role model of great influence (Berndt, 1989; Giordano, 2003).

Adolescence, unlike other life stages, is characterized by establishing many social ties and constantly strengthening them. For adolescents, "friends" are defined mainly through mutual activities, but also through a willingness to discuss problems, give advice, provide emotional support, and share mutual areas of interest (Berndt, 1989; Hartup, 1996). Adolescents with no close friends or with only superficial friendships have reported feelings of isolation and depression and been found to tend to suffer from low self-esteem, in contrast to adolescents who have close ties of friendship (e.g., Buhrmester, 1990). It has also been found that close relationships with friends provide a kind of shield against depression during adolescence (Petersen, Kennedy, & Sullivan, 1991), as the existence of social support constitutes a significant resource for dealing with difficulties (Sarason, Sarason, & Pierce, 1994). Social support strengthens adolescents' subjective feelings that they have the means to deal with pressing events; as a result, they experience less anxiety and loneliness in intimidating or stressful situations (Cohen & Wills, 1985). In order to expand the time that typical adolescents spend with friends nowadays, they typically harness the Internet for their needs; the computer enables them to maintain a constant connection to their peers, from their home space too.

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1.2. Online social activities, synchronous communication and IMing

The amount of communication options that the Internet offers leads to its adoption for advancing social goals and personal progress (Antheunis, Valkenburg, & Peter, 2010; Mesch & Talmud, 2010) in such a way that users create and preserve connections with family members, friends, and colleagues regardless of geographical or cultural restraints (Haythornthwaite, 2005). This virtual activity is similar to the establishment of new social ties and to taking part in "real world" social activities and groups (Rainie, Purcell, & Smith, 2011) although online social relationships frequently exist exclusively in the cyberspace (Haythornthwaite, 2007; Subrahmanyam & Šmahel, 2011).

Synchronous communication views a conversation between two or more people as "real-time communication", meaning that it occurs when the participants simultaneously use software or a website that allows simultaneous conversation. This type of communication (chat) emerged in the 1970s, but its use began to grow in popularity from the middle of the 1990s with the launching of the *ICQ* (I Seek You) program enabling Instant Messaging (IM; Boneva, Quinn, Kraut, Kiesler, & Shklovski, 2006), followed by *MS Messenger* and a rather large number of other such programs, which introduced integrated icons and, later, audio and video features. IM chat programs enable private, synchronous communication with one or more users found in one's "buddy's list", which features a "buddy's" activity status; for example, available for conversation, busy, or disconnected. Communication via IM (IMing as it is now termed) can take place while carrying out other online or offline activities; it is possible and even normal to conduct a conversation with several friends in parallel and/or do other things simultaneously while IMing. In the past few years, as the popularity of *Facebook* and other social networks has risen, many have chosen to use built-in IM, which is integrated into network software. Some 62% of American adolescents report IMing, 32% of them doing so daily (Lenhart, Ling, Campbell, & Purcell, 2010).

The use of IM, especially when only texting, neutralizes conspicuous visual cues and impressions, so that interpersonal attributions and emotions become based on personal characteristics and psychological needs, the type of software people use, and the way they choose to describe themselves and manage their online identity (Barak, 2007). It is important to note that in relationships among users who knew each other previously (meaning, where anonymity or the lack of identifying signs does not exist), the fact that users do not *see* one another while communicating has a significant impact on communication partners. It seems that the lack of visual exposure, especially the lack of eye-contact, reduces the influence of labeling and physical impressions (Lapidot-Lefler & Barak, 2012). Text-based communication via the Internet invites direct, free conversation; in fact, it enables a unique situation to occur in which participants literally connect to a great extent to themselves and are less tied to social dictates. For instance, they do not stare or directly gaze, they do not speak up directly, irreversibly, or uncontrollably to their partners, and they do not examine the other's facial expressions and other body cues during communication. In fact, users are judged solely by the content and style of their words (and sometimes accompanying graphics). In a situation like this—in which it seems that participants are talking to themselves—one may expose, approach, participate, and be more personally "real" (McKenna, 2007; McKenna, Green, & Gleason, 2002); that is, one may portray more authentic, less inhibited emotions and behaviors (Suler, 2004; Suler, 2010). It seems that exposure of the "real me" by means of the Internet is psychologically important, because it has the ability to lead to self-acceptance and a feeling of belonging, as well as to aid in the process of self-determination (McKenna, 2007).

Synchronous conversation online, that characterize IMing, tends to be more focused than non-synchronous conversation (e.g., email), thus encouraging intimacy (Hu, Wood, Smith, & Westbrook, 2004), strengthening self-presence (Bardi & Brady, 2010), and creating a sense of anonymity and nonidentifiability, all leading to rapid and expansive self-exposure (Hu et al., 2004; Suler, 2004). A study that compared communication with strangers via IM versus face-to-face conversation found that a feeling of elation took place in both situations, but that it was overwhelmingly more powerful among those who were IMing (Green et al., 2005). Moreover, adolescents find IMing more comfortable and suitable for raising personal issues that they find difficult to discuss face-to-face (Valkenburg & Peter, 2007a). Finally, and almost contradictorily, IMing was found to strengthen relationships and friendships among adolescents, as well as among adults (Lin & Chiu, 2011; Valkenburg & Peter, 2009). It appears, then, that the popularity of IMing among youth is a result of the need for social ties and interconnection even when they are alone and apart (Grinter & Eldridge, 2001; Schianno et al., 2002). The use of IM, whether conducted through computers or cell phones, grants an adolescent a relatively cheap, readily available solution from among existing communication alternatives with her or his highly necessitated peer group, especially in times of emotional need.

Additionally, textual communication has the special merit of self-expression through writing and the special effects of reading, which are intensive and magnified in virtual environments (Barak, 2007; Boniel-Nissim & Barak, in press). Written communications—not necessarily related to either computers or the Internet—contain numerous therapeutic factors, as personal expression through writing has unique ventilating and therapeutic effects (Wright & Chung, 2001). In addition to self-expression free of a partner's interruptions and comments, writing, as opposed to talking, is characterized by self-focus, encouraging self-organization of thoughts, ideas, and feelings (Wright, 2002). It seems that the therapeutic value of writing lies in ventilating emotional difficulties, self-reflection, and self-understanding, in addition to providing a less frightening modality to cope with interpersonal conflicts (Lago, 2004). Online written communication allows writers to confront traumas and difficulties that they usually have refrained from expressing to others, and perhaps to themselves, too (Pennebaker, 1997, 2003; Smyth, 1998). Research conducted in the field of expressive writing found that writing has the ability to relieve writers' distress and to contribute to their physical and emotional well-being (e.g., Pennebaker, 1993; Smith, Floyd, Scogin, & Jamison, 1997). Similar therapeutic values were found in online writing, such as in clinical interventions (e.g., Kraaij et al., 2010; Possemato, Ouimette, & Geller, 2010; support groups (e.g., Barak, Boneh, & Dolev-Cohen, 2010; Barak & Dolev-Cohen, 2006) and blogs (Boniel-Nissim & Barak, in press; Nagel & Anthony, 2009).

1.3. Personality differences in cyberspace

Interpersonal communication, face-to-face and online, is influenced to a great extent by a user's personality. In this context, Eysenck and Eysenck's (1975) classification of types of personality is considered relevant, especially the dimension of introversion and extroversion. People considered introverts prefer their own company over that of others, tend to be reflective, do not look for excitement, and may be perceived by others as distant. Conversely, extroverts seek social interactions and excitement, take risks, and are impulsive. Introversion–extroversion is considered a continuum, not a dichotomy, and therefore people are characterized by the degree of their introversion–extroversion. This personality trait has been regarded as highly relevant in Internet-related behaviors and experiences; for instance, it seems that cyberspace permits

introverted people to try out more typical extrovert behaviors (Amichai-Hamburger, 2005, 2007).

There are two opposing hypotheses dealing with the moderating effects of personality characteristics on online behaviors, especially in the context of interpersonal relationships. One theory claims that "the rich get richer"; that is, extroverts exploit the Internet more fully as their social abilities become stronger online, and thus they are able to expand their social network and strengthen relationships (Kraut et al., 2002). In contrast, a second theory argues that cyberspace permits "social compensation", so that introverts are those who gain the most from using the Internet: they feel protected in virtual environments and may take advantage of anonymity, nonidentifiability, and invisibility to behave in more extrovert ways than their normal approach (Amichai-Hamburger, 2005, 2007; McKenna, 2008; McKenna et al., 2002; Valkenburg, Peter, & Schouten, 2006). Studies conducted in recent years support the idea that the two theories exist simultaneously and that their predictions are dependent upon situational conditions. Some researchers, furthermore, argued that whereas extroverts are aided by the Internet to preserve social contacts, introverts use it to leverage contacts, to raise their self-confidence, and to contemplate in a different manner than in physical settings (e.g., Mesch & Talmud, 2010).

The purpose of the present study was to examine the effects of free IMing by emotionally distressed adolescents with peers on their level of distress. Considering the possible moderating effects of introversion–extroversion, we studied the interaction effects of this trait on changes in distress level. We hypothesized that the level of distress of emotionally distressed adolescents who ventilate their thoughts and feelings with peers would decrease following chat, and more so for introvert than for extrovert participants.

2. Method

2.1. Participants

In order to select participants, questionnaires were distributed to 2643 adolescents (ages 14–18), residing throughout Israel, who volunteered to answer questions about themselves and their everyday IMing. The participants were approached by other volunteer teenagers, who asked their peers to fill out the questionnaire. Participants who reported themselves as regular, extensive IM users were invited to participate in the study. Of the initial pool, 231 participants met these standards and were willing to take part in the study. Their parents signed an approval form permitting their children's participation in the research. However, for the sake of the study, only 150 IM conversations, held by 150 different participants, were used for data analysis. Of those conversations, 100 (33 by boys and 67 by girls) were held by participants who reported a negative emotional state prior to IMing ("distressed group"), and 50 (23 by boys and 27 by girls) by adolescents who reported normal-to-positive emotional states prior to IMing ("undistressed group").

2.2. Instruments

2.2.1. PANAS: positive affect negative affect scale

The PANAS was used to measure participants' level of negative emotions at a given time (Watson, Clark, & Tellegen, 1988). The questionnaire comprised 20 statements, 10 referring to a negative affect (NA; for example: "experiencing distress") and 10 to a positive affect (PA; for example: "enthusiastic"). Participants recorded their responses to the questionnaire items on 4-point scale, ranging from 1 ("very little or not at all") to 5 ("very much"). Responses were summed up across NA and PA separately, but only the NA scale was used in the current study. The scale score ranged from 10 (normal or positive mood) to 40 (highly distressed). The participants were asked to fill out the questionnaire before and after each chat they conducted. Internal consistency of the NA scale for the 150 participants (Cronbach Alpha) was 0.90 in each of the two time measurements.

2.2.2. Textual analysis of participants' conversations

The participants' emotional state was assessed also by text analysis, as is commonly done in text-based ethnographic studies (e.g., Pennebaker, 2002; Stirman & Pennebaker, 2001). For this purpose, after skipping the chat introductory section (relating to general greetings and technical arrangements), we counted words and expressions pertaining to negative emotions freely used by participants during their IMing; for example,: "I hate myself", "I'm fed up", "I'm sad", "I haven't got strength for anything", "I'm really depressed"; or negative emoticons, such as ☹. The frequencies of these negative expressions across the two groups of participants ranged from 0 to 11 (mean = 1.03; standard deviation = 1.69).

2.2.3. Judgment of emotional state condition

Four experts, holders of a master's or doctoral degree and experienced in counseling, evaluated the participants' emotional state as reflected in their IM texts. The text evaluation was conducted for participants who were initially distressed (as assessed by PA-NAS) in order to allow detecting their possible mood change following IMing. The judges carried out this evaluation twice: for the first and then for the second half of each participant's chat, so that the change in the user's emotional state could be identified. The judges used a 5-point scale relating to participants' emotional state (1 = very negative; 5 = very positive). Before assessing the actual conversations, the judges took part in a training workshop, in which they received the definitions and explanations of the rating scale, discussed it, and reached a common understanding and consensus through the use of actual IM conversations (which were not included in the data analysis). Following the workshop, which involved experimentally rating 100 chat conversations, the judges reached a coefficient of concordance (Kendall's *W*) of 0.82 for the first half of the conversations and 0.82 for the second half. For the purpose of evaluating the emotional state of participants in each half of IMing, the judges received the 200 text files in a random order, which obviated linking conversations they evaluated to either identity of a certain participant or to the timing of the conversation (first or second half).

2.2.4. Big-five NEO-FFI

This questionnaire was administered in order to measure participants' level of introversion–extroversion. The *NEO-FFI* includes 60 items measuring five basic personality traits (i.e., Extraversion, Agreeableness, Conscientiousness, Neuroticism, and Openness to Experience), each trait consisting of 12 items. For the sake of the study, participants were requested to fill out the questionnaire in its entirety, but only the introversion–extroversion scale was actually used for hypothesis-testing in the current research. The scale items referred to respondents' habits, regular activities, and attitudes. For example: "I like it when I have lots of people around me;" "I generally prefer to do things alone". Item responses were given on a 5-point scale (1 = strongly agree; 5 = strongly disagree). The total score, computed by summing up responses to all 12 items, could range from 12 (high introversion) to 60 (high extroversion). Alpha coefficient for the 150 participants was 0.69.

2.3. Procedure

The participants volunteered to take part in the study and provide the researchers with files containing their IM conversations

with peers; they were assured confidentiality. Upon completion of the recruitment procedure, the participants received written instructions and a link to an online form (through surveymonkey.com), on which they reported personal demographics and filled out the personality questionnaire. Once this form was prepared, participants received full guidelines and instructions concerning the rest of the study; that is, filling out the emotional state questionnaires, saving IM conversations with peers, and sending these chats to the researchers. After all IM conversations were collected, the participants were divided into two groups according to their PANAS score, prior to the beginning of the conversation.

3. Results

3.1. Effects of IMing on emotional relief

The main research hypothesis argued that IMing with peers would provide relief to adolescents who experience emotional distress. To test this hypothesis, comparisons were made of participants' emotional state before and after IMing both in the distressed and in the un-distressed group.

3.1.1. Effects of IMing reflected in self-reports

Table 1 presents the means and standard deviations of the self-reported emotional distress, by group (initially a high or a low level of distress) and time of measurement (before and after IMing). A 2×2 repeated-measures analyses of variance revealed a significant Group X Time interaction ($F = 44.23$; $df = 1, 146$; $p < .001$; $\eta^2 = 0.233$). The level of emotional distress of the distressed participants decreased from 28.74 to 22.83, while there was no significant change in un-distressed participants (11.08 and 11.54, respectively). It should be noted, however, that despite the significant positive emotional change in distressed participants following IMing with peers, the level of emotional distress did not reach the relieved emotional distress level of the participants in the un-distressed participants after IMing according to their self-reports (22.83 versus 11.54; $F = 93.61$; $df = 1, 146$; $p < .001$). In other words, based on the participants' own reports, IMing provided some relief but did not cause the end of bad mood.

3.1.2. Effects of IMing reflected in chat text

Table 2 shows the means and standard deviations of the number of negative emotional expressions used by participants in each of the two groups in the first and in the second half of the IM chats. As can be seen, participants in the emotionally distressed group reduced the number of negative expressions, on average, from 1.45 in the first half of IMing to 0.58 in the second half. Participants in the other group, however, used, on average, 0.94 negative expressions in the first half of a chat but 1.16 negatives in the second half. A 2×2 repeated-measures analysis of variance revealed a significant interaction effect ($F = 17.79$; $p = 1, 146$; $p < .001$; $\eta^2 = 0.109$). Pair comparisons showed that while the emotionally disturbed participants reduced the number of negative expressions from the first half of chat to the second, no such change appeared with the un-distressed participants.

Table 1
Means and standard deviations of self-reported emotional distress, by group and time of measurement.

Time		Group		Total ($n = 150$)
		Emotionally Distressed ($n = 100$)	Emotionally Un-distressed ($n = 50$)	
Before IMing	M	28.74	11.08	22.85
	SD	5.75	1.98	9.65
After IMing	M	22.83	11.54	19.07
	SD	7.69	2.76	8.38

Note: The higher the score, the greater is the distress.

Table 2
Means and standard deviations of number of negative expressions, by group and part of IM chat.

Part of Chat		Group		Total ($n = 150$)
		Emotional distress ($n = 100$)	No emotional distress ($n = 50$)	
First half	M	1.45	0.94	1.28
	SD	2.04	1.46	1.88
Second half	M	0.58	1.16	0.77
	SD	1.42	1.41	1.43

Note: The higher the score, the greater is the distress.

3.1.3. Effects of IMing by judges' evaluations

The judges' mean ratings of the level of emotional distress of the distressed participants was 2.69 (SD = 0.83) in the first half of a chat and 3.41 (SD = 0.75) in the second half. The improvement in emotional state was found to be significant ($F = 46.06$; $df = 98$; $p < .001$; $\eta^2 = 0.32$).

3.2. Moderating effects of introversion–extroversion on emotional relief

The second research hypothesis argued that emotional relief following IMing with peers would be moderated by participants' level of introversion–extroversion. More specifically, it was hypothesized that in the emotionally-distressed group of participants, introverted participants would gain more relief after IMing than would extroverted participants. Emotional relief, for that purpose, was defined as the difference between participants' scores on the dependent measures (i.e., self-reported level of distress, number of written emotionally negative expressions, and expert judgments of level of distress) before (or first half of) chat and after it took place (or its second half). Findings were mixed for the relationship between introversion–extroversion and different levels of distress-improvement: −0.19 ($p < .05$) Pearson correlation with self-reported distress, 0.08 with emotional negative expressions, and 0.02 with judges' ratings of distress level. That is, the level of introversion–extroversion indeed moderated by lowering the level of distress but only as reported by participants, and not according to the two other measures.

4. Discussion

Our findings suggest that IMing between distressed adolescents and their peers may provide emotional relief and consequently contribute to the well-being of the former. It can thus be inferred that an IM conversation supplies troubled adolescents with an intimate and private space where they may share worries and other expressions of bad mood, a place for revealing "true-self" without being judged by others but where they may be listened to at eye-level, as it were, by friends.

Our results showed that IMing between friends—as reflected in self-reports, conversation texts, and chat content—produced significant positive changes in emotional state. This finding is consistent with previous research; Green et al. (2005), for example, who examined the emotional state of students who conversed with strangers face-to-face and additionally through IM, found a positive mood change following social interaction but even more so following IMing. It seems that this interaction, whether carried

out between strangers or friends, has the ability to lead to emotional relief and heightened well-being. Previous research also showed that IMing increased disinhibition and self-exposure and, consequently, reduced feelings of loneliness (Leung, 2002; Subrahmanyam and Šmahel, 2011).

Repression of negative emotions may lead to a negative quality of life (Lieberman & Goldstein, 2005) and to a feeling of helplessness (Watson et al., 1991). Therefore, venting hard feelings is important. However, the method of expressing emotions is of no less importance: writing—as opposed to talking—enables, at least for some people, less censured and more authentic sharing of thoughts and feelings. Through written text, writers reveal sincere feelings, thus helping them to contend with troubling issues (Pennebaker, Mehl, & Niederhoffer, 2003; Twenge, Catanese, & Baumeister, 2003). This argument has been supported by numerous studies dealing with the impact of expressive writing and the writer's psychological health (e.g., Slatcher & Pennebaker, 2006; Smyth, Hockemeyer, & Tulloch, 2008).

It should be noted that participants in the current study were asked to provide IM conversations that they had held with peers. These conversations were authentic and natural and carried out without any external intervention or a-priori instructions. That is, the subject of conversations, their content, and characteristics were spontaneous and reflected the participants' free wishes and intensions. Our findings reveal that even such unmanipulated IM conversations (as opposed to intended, pre-planned interventions) can bring relief to emotional distress. The outcome of this naturalistic research approach is consistent with the conclusions of quite a few studies that examined the effects of expressive writing as shown by Smyth's (1998) meta-analysis.

Various studies have shown that one of the leading reasons for emotional relief following writing is the exchange of emotions for written words; the ability to effect this exchange contributes to self-organization, understanding, examination, and reflection (Atwell, 1987; Smyth, True, & Souto, 2001), consequently advancing the writer to the promotion of change (Pennebaker & Graybeal, 2001). An additional factor for feelings of relief is the very exposure of oneself, manifested in the need for sharing with others. It appears that sharing with others not only has a venting function but it also fulfills a personal social value: involving others in one's own condition, especially that which causes pain and trauma (Pennebaker & Graybeal, 2001). As personal exposure is elevated in online interactions (Joinson, 2001, 2007), consequently contributing to enhanced social ties (Kraut et al., 2002; Valkenburg & Peter, 2007b), it seems that IMing offers a unique advantage over face-to-face communication in regard to distressful personal conditions. Thus, Valkenburg and Peter (2007a), for instance, found that adolescents who conversed online with their face-to-face friends strengthened the feeling of closeness that they felt toward them when it was based only on a face-to-face relationship. These researchers also reported that many of their participants found online communication to be easier and more effective than talking face-to-face when it came to self-exposure and the sharing of intimate experiences. In this context, it is interesting to note that despite the fact that most blogs are public and can be read by anyone, younger bloggers report that they reveal true details about themselves and express authentic experiences (Blinka & Smahel, 2009; Subrahmanyam, Garcia, Harsono, Li, & Lipana, 2009).

The moderating influence of introversion–extroversion on emotional relief was found to be significant as reflected in the participants' own reports, but not in the two other dependent measures. This finding may be interpreted in different ways; however, it seems that it points to the complexity of studying multiple factors operating simultaneously in cyberspace. Although we cannot resolve the conflicting theories relating to the benefits of online communication simply ("the rich get richer" versus "the poor get richer"), our results may point to a possible solution: it depends on whom you ask and the means by which you examine the answer. Much recent research has been trying to relate to this issue (e.g., Desjarlais & Willoughby, 2010; Selfhout, Branje, Delsing, ter Bogt, & Meeus, 2009; Valkenburg, Sumter, & Peter, 2011), but it seems that future studies should consider our postulation in regard to the measurement of "richness".

In conclusion, IMing, whether through designated programs or through social network chat procedures, form an inseparable part of the contemporary adolescent's world and youngsters use it to fulfill their need to share, include, receive information, and experience belonging (Boneva et al., 2006; Valkenburg & Peter, 2009). In such an unstable period, full of emotional crises, that characterizes adolescence, great value attaches to a tool that provides teenagers with emotional stability and strength, and therefore it is of utmost importance to examine this tool. The findings of the current study show that for distressed adolescents, IMing with peers may improve a negative emotional state. Moreover, it seems that for introverts, this way of communicating has great potential for relieving distress. These findings may enhance an understanding of contemporary adolescents in their communication with their age group (Steinberg, 2008). Our findings, added to previous relevant research, may contribute to creating a working tool for reaching out to distressed adolescents without the need of formal therapeutic interventions.

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