The relationship between socializing on the Spanish online networking site Tuenti and teenagers' subjective wellbeing: The roles of self-esteem and loneliness

Vanessa Apaolaza a,⁎, Patrick Hartmann b, Esteban Medina c, Jose M. Barrutia c, Carmen Echebarria c

a Faculty of Economics and Business Administration, University of the Basque Country UPV/EHU, Avda. Lehendakari Aguirre 83, 48015 Bilbao, Spain
b Like Social Media, Villa de Plentzia 4, 48930 Getxo, Spain
c Institute of Applied Business Economics, University of the Basque Country UPV/EHU, Avda. Lehendakari Aguirre 83, 48015 Bilbao, Spain

A R T I C L E   I N F O

Keywords:
Social networking site
Adolescents
Loneliness
Self-esteem
Subjective wellbeing
Socializing

A B S T R A C T

This study addresses the influences of Spanish teenagers’ usage intensity of the Spanish online social networking site Tuenti on their psychological wellbeing. Tuenti is the social networking site that is most preferred and used by Spanish adolescents. Hypothesized relationships are analyzed by structural equation analysis using data from a sample of 344 Spanish adolescents aged 12–17 with an online Tuenti profile. ‘Teenagers’ usage intensity of Tuenti was positively related to the degree of socializing on the social networking site. Furthermore, socializing on Tuenti had a significantly positive increase on teenagers’ perception of well-being. This relationship was not direct, however, but mediated by the intervening variables of self-esteem and loneliness. Results confirmed that Tuenti has become a suitable platform for the development, consolidation and growth of Spanish teenagers’ social relations. Contrary to previous research pointing to a detrimental effect of SNS use on mental health and psychological wellbeing, the findings of this study are in line with those of a number of authors who suggest that SNS use may have a positive effect on users, including most teenagers.

© 2013 Elsevier Ltd. All rights reserved.

1. Introduction

The popularity of social networking sites (SNSs) has been consistently growing in recent years. SNSs such as Facebook are a kind of virtual community that allows users to contact other users, including most teenagers.

For more information, please visit our website: www.elsevier.com/locate/comphumbeh

1 Spanish legislation regarding data protection allows no under-14 teenagers to have a commercial relation with any company or firm without express parental consent. Tuenti highlights its close collaboration with the Spanish authorities in the elimination of all under-14 profiles, as well as its active efforts to identify underage users (Sádaba & Bringué, 2011).

E-mail addresses: vanessa.apaolaza@gmail.com, vanessa.apaolaza@ehu.es (V. Apaolaza), dr.patrick.hartmann@gmail.com, patrick.hartmann@ehu.es (P. Hartmann), esteban.medina@like.es (E. Medina), josemari.barrutia@ehu.es (J.M. Barrutia), carmen.etechebarria@ehu.es (C. Echebarria).

CrossMark
the importance of this network for Spanish teenagers and the time
they spend on it, the influences of Tuenti use-intensity on their
psychological wellbeing, and in particular the influences of mediat-
ing psychological variables, have not yet been studied. The present
study addresses this gap in the literature by examining the effects
of Tuenti SNS usage on teenagers' subjective wellbeing, and inter-
vening psychological variables.

Previous research has analyzed how the frequency of use of so-
cial networks such as Facebook, measured in terms of hours spent
or the number of registered friends, relates to psychological vari-
ables (Burke, Marlow, & Lento, 2009; Ellison, Steinfield, & Lampe,
2007; Gilbert & Karahalios, 2009; Ji et al., 2010; Steinfield, Ellison,
& Lampe, 2008; Valkenburg, Peter, & Schouten, 2006), and the man-
ner in which personality traits potentially influence how people
use SNSs (Buffardi & Campbell, 2008; Ceyhan & Ceyhan, 2007;
Correa, Hinsley, & de Zuniga, 2010; Gangadharbatla, 2008; Ham-
burger & Ben-Artzi, 2000; Kuss & Griffiths, 2011; Leung, 2002,
2007; Peter, Valkenburg, & Schouten, 2005; Ross et al., 2009; Wil-
son, Fornasier, & White, 2010). Several studies have also examined
the variables of loneliness (e.g. Bonetti, Campbell, & Gilmore, 2010;
Kim, LaRose, & Peng, 2009; Morahan-Martin, 1999; Morahan–Mar-
tin & Schumacher, 2003; Valkenburg & Peter, 2007) and self-es-
tee (e.g. Ehrenberg, Juckes, White, & Walsh, 2008; Niemz,
Griffiths, & Banyard, 2005; Wilson et al., 2010) as antecedents of
SNS use, but few have analyzed them as a behavioral outcome. How
different SNS usage patterns affect teenagers' wellbeing re-
mains rather unclear. There is also no agreement in the literature
regarding the influence, either positive or negative, of the utiliza-
tion of SNSs on teenagers' levels of self-esteem and loneliness. This
study proposes a theoretical framework, in which the effects of SNS
socializing on wellbeing are mediated by teenagers' degree of lone-
liness and self-esteem. The theoretical model is tested for the spe-
cific case of Tuenti SNS on a sample of Spanish adolescents.

1.1. SNS use and socializing

SNSs offer a new tool to its users for the creation and mainte-
nance of social relations and are used for both establishing and
maintaining social connections (Barker, 2009; Kujath, 2011; Kuss
& Griffiths, 2011; Pempek, Vermolayeva, & Calvert, 2009; Pfeil,
Raj, & Panayiotis, 2009; Raacke & Bonds-Raacke, 2008; Sheldon,
2008; Subrahmanyam, Reich, Waechter, & Espinoza, 2008). Previ-
ous research has confirmed that indeed socializing is one of the
main reasons why teenagers use SNSs such as Facebook (Boyd,
2007; Kim, Sohn, & Choi, 2011; Liu, 2008; Tong, Van Der Heide,
Langwell, & Walther, 2008). In their study of 881 adolescents
(10–19 years of age) who had an online profile on a Dutch friend
networking site, Valkenburg et al. (2006) found that the frequency
with which adolescents used the site stimulated the number of
relationships formed on the site and the frequency with which
adolescents received feedback on their profiles. Teenage use of
SNSs mostly comprises relationship management, communication
with their own social circle, or connecting with other teenagers
who share similar interests, as well as interaction with the oppo-
site gender (Boyd & Ellison, 2008; Dunne, Lawlor, & Rowley,
2010; McKenna, Green, & Gleason, 2002). Ellison et al. (2007)
showed that Facebook was used for bridging and bonding of social
contacts, which provided users with emotional satisfaction. Stein-
field et al. (2008) found in a longitudinal analysis of panel data
from Facebook users that the intensity of Facebook use in year
one strongly predicted bridging social capital outcomes in year
two. They suggest that Facebook use helps reduce barriers that
lower self-esteem students might experience in forming large, het-
erogeneous networks that are sources of bridging social capital.
SNS-use seems to facilitate managing a certain identity and per-
sona in a social context, since the relatively impersonal nature of
the online environment is seen to help young participants in negoti-
ating the practicalities and difficulties that can arise offline, in
terms of managing relationships (Dunne et al., 2010). Thus,
through connecting and reconnecting with friends and family
members, SNS use satisfies socializing needs (Kalpidou, Costin,
& Morris, 2011; Subrahmanyam et al., 2008). Whereas online com-
munication is also used for relationship formation (Valkenburg &
Peter, 2011), some research suggests that SNSs are used more to
maintain social relationships than to extend social contacts. This
has been shown, for instance, in the case of Facebook (Kujath,
2011; Sheldon, 2008).

Overall, SNS use intensity seems to be related with teenagers
socializing on SNSs. The possibility of being in uninterrupted con-
tact with peer groups may be one of the main reasons of Tuenti's
current success (Sádaba & Bringué, 2011). In line with the reviewed
literature, it is hypothesized that use of Tuenti increases teenagers'
socializing, such as maintaining relationships and strengthening
ties with their friends.

H1: There is a positive relationship between use of the SNS
Tuenti and teenagers' socializing on Tuenti.

1.2. SNS use and loneliness

A stream of research has related SNS-use with a decrease in
social contacts and increased loneliness of the individual. Internet
use absorbs time from face to face interaction with family and
friends (Brenner, 1997). Earlier research found a relationship
between increased Internet use and feelings of loneliness and
depression (Kratt et al., 1998). Loneliness can be a by-product of
excessive Internet use, because users invest in online relationships
at the expense of their real-life relationships (Morahan-Martin,
showed that low levels of social and emotional loneliness were both
associated with high degrees of face-to-face friendship networks,
while high levels of Internet use were associated with low levels
of social loneliness but high levels of emotional loneliness. Internet
use may decrease social wellbeing, even though it is often used as a
communication tool. Kim et al. (2009) found that individuals who
were lonely or did not have good social skills could develop strong
compulsive Internet use behaviors resulting in negative life
outcomes (e.g., harming other significant activities such as work,
school, or significant relationships).

However, a number of studies point to the need for a re-exami-
nation of the relationship between SNS use and feelings of loneli-
ness. In contrast to the perspective that SNS use isolates
individuals, SNS use may indeed decrease social isolation. In Kraut
et al.'s (2002) study, for instance, when studied over a longer time
period, Internet use was no longer positively related to loneliness
and depression, but in fact showed up negatively. Shaw and Gant
(2002) found that Internet use significantly decreased loneliness
and depression, while perceived social support increased signifi-
cantly. Specifically for Tuenti, Sánchez-Franco, Buitrago-Esquinas,
and Yhigüe (2012) showed that community satisfaction leads
Tuenti members to develop community participation and feelings
of belonging and identification with other members. Several other
studies support the notion that SNS use contributes to reducing
loneliness among users, increases conceptions of social support
and leads to greater feelings of bonding and social capital (Amic-
hai-Hamburger & Ben-Artzi, 2003; Burke, Marlow, & Lento, 2010;
LaRose, Mastro, & Eastin, 2001). SNS use may enhance individual's
feelings of group belonging (Koh & Kim, 2004) and reduce lone-
liness through community membership experiences (Kozinets,
1999).

In line with the latter, more positive perspective of social and
psychological consequences of SNS use, it is suggested here that
satisfaction of the need for socialization and the maintenance
and strengthening of social relations provided by the use of Tuenti may lead to reduced feelings of loneliness. Indeed, the search for social relationships and a feeling of belonging to a community are among the most widely-mentioned reasons for using Tuenti, as it helps youngsters to feel less alone and less cut off from their friends (Sánchez-Burón & Fernández-Martín, 2010). In fact, it is presumed that Tuenti users will cultivate a network of relations and support from other users and will therefore feel a sense of belonging to a community. As a result, they may experience reduced loneliness levels.

H2: Socializing on Tuenti decreases teenagers’ loneliness.

1.3. SNS use and self-esteem

Human beings seem to have a universal desire to maintain and foster their self-esteem (Rosenberg, 1989). Self-esteem is related to approval and acceptance by other people, as well as to the control of one’s environment (Harter, 1999, 2003). Teenagers may get both from online communication, since SNS profiles allow teenagers to control the information that they want others to have about them. Walther (2007) posits that asynchronous media such as SNSs enable users to self-present themselves in a selective way. The way teenagers introduce themselves can be created or altered, and they can choose the pace, breadth, and depth of self-disclosure. By experimenting with how to present and disclose themselves, they can expect to solicit positive peer reactions and feedback and thus enhance their self-esteem (Valkenburg & Peter, 2011). In Kalpidou et al.’s (2011) study high numbers of Facebook friends potentially hindered academic adjustment, and spending long periods of time on Facebook was related to low self-esteem, although this applied only to first-year students. The relationship turned positive later in college life, when more senior students used Facebook effectively to connect socially with their peers. Gonzales and Hancock’s (2011) research results revealed that becoming self-aware by viewing one’s own Facebook profile enhances self-esteem. Participants that updated their profiles and viewed their own profiles reported greater self-esteem. These findings suggest that selective self-presentation in SNSs influences impressions of the self. SNS profiles may furnish sufficient positively biased stimuli to act as a counterweight to the classical effects of objective self-awareness, setting off instead positive self-esteem changes. Focusing on Dutch teenagers, Valkenburg et al. (2006) also reported positive effects of the use of SNSs on youth self-esteem. The more often teenagers accessed SNSs the more they received reactions from others. Positive reactions led to higher degrees of self-esteem. Since most of the reactions to online profiles were positive, overall teenagers benefited from SNS use. For 7% of participants, however, reactions to the online profile were mostly negative, lowering their self-esteem. The notion that online communications relate positively on the whole to teenage self-esteem is supported by a number of further studies (Ellison et al., 2007; Gross, 2004; Jackson, 2008; Schmitt, Dayanim, & Matthias, 2008; Shaw & Gant, 2002; Steinfield et al., 2008).

In line with the predominant view in the literature, a positive correlation between socializing on Tuenti and self-esteem is proposed. The maintenance and strengthening of social relations with friends are key factors for self-assertion during the teen years. The fact that teenagers feel that Tuenti allows them to keep closer contact and relations with their friends is expected to result in positive feedback, derived in turn from the feeling that their friends are interested and show interest in their opinions and comments. Thus it is hypothesized that the maintenance and strengthening of social relationships with friendship groups via Tuenti contributes to increasing teenagers’ self-esteem, since it helps them to gain self-confidence, as well as the approval and acceptance of others.

H3: Socializing on Tuenti increases teenagers’ self-esteem.

1.4. SNS use and subjective wellbeing

A number of studies have shown that Internet use can have a positive impact on psychological wellbeing (Bargh & McKenna, 2004; Ellison et al., 2007; Kraut et al., 2002; Lee, Lee, & Kwon, 2011; McKenna & Bargh, 2000; Preece, Nonnecke, & Andrews, 2004; Shaw & Gant, 2002; Shen, Liu, & Wang, 2013; Valenzuela, Park, & Kee, 2009). There is evidence that the size of people’s online social networks is positively related with life satisfaction and wellbeing (Lee et al., 2011). Further findings suggest that the relationship between SNS socializing and wellbeing may be mediated by a number of intervening variables such as the subject’s self-esteem and the degree of perceived loneliness or group integration. Indeed, previous research has repeatedly revealed an important influence of both self-esteem and feelings of loneliness on subjective wellbeing. Kalpidou et al. (2011) showed that the relationship between the number of an individual’s Facebook friends and her or his emotional wellbeing was negative among first-year students, but turned positive for more senior students. At the same time, self-esteem was related to wellbeing. In Valkenburg et al.’s (2006) study, the frequency with which adolescents used a SNS had a significant influence on their wellbeing. This effect was indirect, however, moderated by the number of relationships formed on the site, reduced loneliness (by experiencing connectedness and social support), the frequency with which adolescents received feedback on their profiles, and the tone (positive vs. negative) of this feedback. The valence of the feedback seemed to affect self-esteem, which in turn was related to wellbeing. Ellison et al. (2007) also found Facebook usage to interact with measures of psychological wellbeing, suggesting that it might provide greater benefits for users experiencing low self-esteem and low life satisfaction. Socializing, in particular bonding and bridging social capital, and reducing loneliness by staying connected with members of a community, seemed to intervene in this relationship. Further research suggests that both the number of online friendships, and positive self-presentation, which may elevate the user’s self-esteem, may relate to subjective wellbeing (Kim & Lee, 2011; Steinfield et al., 2008).

In line with previous research it can be expected that teenagers who actively socialize on Tuenti are more likely to experience connectedness, lower degrees of loneliness, and greater self-esteem, and that these variables in turn are related to their subjective wellbeing. After all, if the goal of friend networking sites is to encourage participants to form relationships and comment on one another’s appearance and personality (Valkenburg et al., 2006), the use of such sites is likely to affect loneliness and self-esteem, which, in turn, seem to affect how users perceive their wellbeing. The hypothesized relationships between Tuenti usage intensity and teenagers’ socializing, loneliness, self-esteem, and wellbeing are depicted in Fig. 1.

H4: Socializing on Tuenti enhances teenager’s subjective wellbeing indirectly, mediated by a decrease in the feeling of loneliness.

H5: There is an indirect positive relationship between socializing on Tuenti and teenager’s subjective wellbeing, mediated by the degree of self-esteem.

2. Method

2.1. Sample and procedure

After obtaining the corresponding permissions from school centers and express parental consent, we conducted self-administered surveys in three Spanish secondary education centers on a total sample of 344 Spanish teenagers between 12 and 17 years of age.
who had Tuenti personal profiles; 178 were female (52%) and 166 male (48%). The study was carried out between January and May 2012. The teenagers participating were informed that their involvement was voluntary and that their responses would be anonymous.

2.2. Measures

The scales measuring the independent variables were derived from the literature with the aim of ensuring content validity. First, one item adapted from Valkenburg et al. (2006) was used to measure the intensity of Tuenti use: ‘How much time do you spend daily using Tuenti?’ Response categories for this item ranged from 1 (less than 10 min) to 5 (more than 3 h).

The degree of socializing was measured with four items based on the literature (e.g. Dunne et al., 2010; Peter, Valkenburg, & Schouten, 2006): (1) ‘I can keep and strengthen contact with my friends’, (2) ‘I can talk to friends that I do not usually meet because they live far away’, (3) ‘I can meet and talk to friends from the past’, and (4) ‘I feel that my friends show interest in contacting and mixing with me’. Response categories ranged from not at all = 1 to very much = 4. Cronbach’s alpha for the scale was .71.

Loneliness was measured by three items from Russell’s UCLA Loneliness scale (Russell, 1996). This scale asks participants to register their degree of agreement with each of the statements ‘I feel lonely’, ‘I have no company’, and ‘I feel isolated’, on four-point scales ranging from never = 1 to very often = 4. Cronbach’s alpha for the scale was .71.

Self-esteem was measured using the Rosenberg self-esteem scale (Rosenberg, 1989), which employs four items. Responses scored on a four-point scale ranging from strongly agree = 4 to strongly disagree = 1 with each of the following statements: ‘I believe that I deserve to be appreciated, at least as much as others’, ‘I certainly believe that I have many virtues’, ‘I am capable of doing things as well as most people’, and ‘I have a positive attitude towards myself’. Cronbach’s alpha for the scale was .71.

The respondents’ perceived level of personal wellbeing was assessed based on the Satisfaction with Life Scale developed by Diener, Emmons, Larsen, and Griffin (1985). This scale is among the most widely-used measures in psychology for assessing global life satisfaction, showing high levels of internal consistency and temporal reliability (Pavot, Diener, Colvin, & Sandvik, 1991). Respondents were asked about their level of agreement, using a 6-point scale ranging from strongly disagree = 1 to strongly agree = 6, with each of the following statements: ‘In most ways my life is close to my ideal’, ‘The conditions of my life are excellent’, and ‘I am satisfied with my life’. Cronbach’s alpha for the scale was .75. The descriptive statistics for all the measurement indicators are depicted in Table 1.

3. Results

The results show that the use of Tuenti is moderate among Spanish adolescents. Amongst all respondents, the most common responses for the time spent on Tuenti SNS daily were between 31 and 60 min (26.3%), between 1 and 2 h (23.4%) and between 10 and 30 min (22.4%). A relatively small proportion of users claimed to spend either fewer than 10 min per day (11.5%) or between 2 and 3 h (9.5%). The proportion of users claiming more than 3 h of Tuenti use per day was even smaller (6.9%). Most adolescents, then, did not excessively (or compulsively) use Tuenti.

Structural equation analysis based on maximum-likelihood estimation with Amos 6.0 was conducted to empirically test the proposed theoretical model (see Fig. 1 and Table 3). The criteria for model fit (Schreiber, Nora, Stage, Barlow, & King, 2006) indicate an overall adequate fit. The Chi-square/degrees of freedom ratio of 1.65 is well below the recommended value of 2–3. Root Mean Square Error of Approximation RMSEA = .04 (Steiger & Lind, 1980) with a 90% confidence interval of .03 to .056 is lower than the recommended criteria of .06 to .08 including the confidence interval (Kaplan, 2000). Also the Root Mean Square Residual value RMR = .04 (Hu & Bentler, 1995) indicates adequate fit. The Incremental Fit Index IFI = .94. Non-Normed Fit Index NFI, also known as the Tucker-Lewis Index TLI = .92, Comparative Fit Index CFI = .93 (Bentler, 1990), Goodness of Fit Index GFI = .95 and the Adjusted

Fig. 1. Structural model of the relationships between the use of Tuenti, socializing, loneliness, self-esteem and wellbeing (standardized regression coefficients).

Table 1
Descriptive statistics for the measurement indicators.

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Mean</th>
<th>Std. deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Socializing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contact with friends</td>
<td>3.35</td>
<td>.76</td>
</tr>
<tr>
<td>Talk to friends living far away</td>
<td>3.66</td>
<td>.71</td>
</tr>
<tr>
<td>Meet and talk to friends from the past</td>
<td>3.32</td>
<td>.67</td>
</tr>
<tr>
<td>Friends show interest</td>
<td>3.24</td>
<td>.69</td>
</tr>
<tr>
<td>Self-esteem</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Deserve to be appreciated</td>
<td>3.37</td>
<td>.69</td>
</tr>
<tr>
<td>Belief in personal virtues</td>
<td>3.43</td>
<td>.61</td>
</tr>
<tr>
<td>Capable of doing things</td>
<td>3.44</td>
<td>.64</td>
</tr>
<tr>
<td>Positive attitude towards self</td>
<td>3.33</td>
<td>.68</td>
</tr>
<tr>
<td>Loneliness</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Feeling lonely</td>
<td>1.39</td>
<td>.65</td>
</tr>
<tr>
<td>Having no company</td>
<td>1.32</td>
<td>.56</td>
</tr>
<tr>
<td>Feeling isolated</td>
<td>1.26</td>
<td>.53</td>
</tr>
<tr>
<td>Wellbeing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Life close to personal ideal</td>
<td>4.41</td>
<td>1.17</td>
</tr>
<tr>
<td>Conditions of life</td>
<td>4.89</td>
<td>1.11</td>
</tr>
<tr>
<td>Life satisfaction</td>
<td>5.13</td>
<td>1.09</td>
</tr>
<tr>
<td>Tuenti use</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Time spent daily using Tuenti</td>
<td>2.18</td>
<td>1.30</td>
</tr>
</tbody>
</table>
Table 2
Construct correlations.

<table>
<thead>
<tr>
<th>Construct</th>
<th>Socializing</th>
<th>Self-esteem</th>
<th>Loneliness</th>
<th>Wellbeing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-esteem</td>
<td>.23*</td>
<td>.33*</td>
<td>.24</td>
<td>.38</td>
</tr>
<tr>
<td>Loneliness</td>
<td>−.23*</td>
<td>.55*</td>
<td>n.s.</td>
<td>n.s.</td>
</tr>
<tr>
<td>Wellbeing</td>
<td>.15*</td>
<td>n.s.</td>
<td>n.s.</td>
<td>n.s.</td>
</tr>
<tr>
<td>Tuenti use</td>
<td>.32*</td>
<td>n.s.</td>
<td>n.s.</td>
<td>n.s.</td>
</tr>
</tbody>
</table>

Note: *p < .001; n.s.: non-significant.

Table 3
Structural equation analysis: regression coefficients (standardized; non-standardized; P).

<table>
<thead>
<tr>
<th>Factor</th>
<th>Use of Tuenti SNS → socializing</th>
<th>Socializing → self-esteem</th>
<th>Socializing → loneliness</th>
<th>Self-esteem → wellbeing</th>
<th>Loneliness → wellbeing</th>
<th>Model fit</th>
<th>CFI</th>
<th>GFI</th>
<th>AGFI</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>−.30; .08; p &lt; .001</td>
<td>.22; .22; p &lt; .027</td>
<td>−.24; −.27; p &lt; .012</td>
<td>.47; 1.03; p &lt; .001</td>
<td>−.27; −.31; p &lt; .001</td>
<td>Chi-square/df = 1.65; RMSEA = .04; RMR = .04; IFI = .94; NNFI(TLI) = .92; CFI = .93; GFI = .95; AGFI = .92</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: RMSEA = Root Mean Square Error of Approximation, RMR = Root Mean Square Residual, IFI = Incremental Fit Index, NNFI(TLI) = Non-Normed Fit Index (Tucker-Lewis Index), CFI = Comparative Fit Index, GFI = Goodness of Fit Index; AGFI = Adjusted Goodness of Fit Index.

Goodness of Fit Index AGFI = .94 (Jöreskog & Sörbom, 1984) are all near the criteria of .95 for good fit. Furthermore, the factor loadings of all the measurement indicators on their respective constructs are significant (p < .001), ranging 5 to 8, with minimum recommended values of .5 (Bagozzi & Yi, 1994; Fornell & Larcker, 1981; Hair, Anderson, Tatham, & Black, 1998). The correlations of measurement constructs are indicated in Table 2.

The results of the structural equation analysis (Fig. 1 and Table 3) indicate a significant positive influence of the Tuenti use dimension on the socializing variable (SRC = .30; p < .001), as proposed by hypothesis one. Moreover, socializing has a significant positive effect on self-esteem (SRC = .22; p = .027) and a significant negative effect on the loneliness dimension (SRC = −.24; p = .012), confirming, respectively, hypotheses two and three. In turn, the self-esteem construct has a significant positive impact on the variable ‘wellbeing’ (SRC = .47; p < .001), while loneliness is negatively related to the same variable (SRC = −.27; p < .001).

A series of Sobel tests (Baron & Kenny, 1986; Sobel, 1982) was carried out to assess the significance of indirect effects between the variables in the model, confirming mediation effects. For the indirect effect of Tuenti use on self-esteem, mediated by socializing, the t-value of the Sobel test was 3.94 and p < .001. Socializing also significantly mediated the effect of use frequency on loneliness (t = −3.96; p < .001). In addition, the effects of socializing on wellbeing were significantly mediated by self-esteem (t = 1.97, p = .04), as well as by loneliness (t = 2.17, p = .03). Thus, Tuenti usage enhances self-esteem and lowers feelings of loneliness indirectly via socializing on the SNS. Wellbeing is also increased indirectly mediated by self-esteem, as well as via a significant decrease of loneliness. Thus, hypotheses four and five are significantly supported by the present data.

4. Discussion and implications

The empirical study addressed the influences of teenagers’ usage intensity of the Spanish SNS Tuenti on their psychological wellbeing and, in particular, the influences of mediating psychological variables, in the scope of a theoretical framework, in which the relationship of socializing on Tuenti with subjective wellbeing is mediated by teenagers’ degree of loneliness and self-esteem. The proposed framework has not been addressed previously, in particular, the influences of socializing, self-esteem, and loneliness on wellbeing, which have not been analyzed simultaneously. Moreover, previous research on Tuenti has been extremely scarce (e.g. Monge Benito & Olabarri Fernández, 2011; Sánchez-Franco & Rodríguez, 2010; Sánchez-Franco et al. 2012), in spite of the importance of this network for Spanish teenagers and the time they spend using it.

The results confirmed the hypothesized pattern of relationships. Teenagers’ usage intensity of Tuenti was positively related to the degree of socializing on the SNS, i.e. establishment and maintenance of online relationships, implying an increase in social capital, as has been found in previous research (e.g., Steinfield et al., 2008). SNS use seems to reduce barriers that teenagers might experience in forming large, heterogeneous networks that are sources of bridging social capital. The relatively impersonal nature of the online environment may help young participants in negotiating the practicalities and difficulties that can arise offline, in terms of managing relationships (Dunne et al., 2010). Additionally, socializing on Tuenti had a significantly positive influence on teenage perception of wellbeing. This relationship was not direct, however, but mediated by the intervening variables of self-esteem and loneliness. The findings of several previous studies pointed to the existence of such mediation effects (e.g., Ellison et al., 2007; Kalpidou et al., 2011; Kim & Lee, 2011; Steinfield et al., 2008).

On the one hand, socializing on Tuenti leads to an increase in self-esteem. Increased self-esteem, in turn, enhances subjective wellbeing. The present study confirms the importance of socializing for Spanish adolescents in terms of keeping in contact with friends, given the important influence of this variable on their self-esteem and psychological wellbeing. As had been suggested by previous research, the maintenance and strengthening of relationships with friends seems to be an important element that contributes to gaining self-confidence, as well as approval and acceptance from others (Harter, 1999, 2003; Leary, 1996). The findings are in line with Valkenburg et al. (2006), who found that the number of relationships formed on the SNS had an indirect effect on social self-esteem and wellbeing. In Valdenburg’s study, however, only positive feedback of online contacts on the profiles enhanced adolescents’ social self-esteem and, subsequently, wellbeing, whereas negative feedback decreased their self-esteem and wellbeing.

On the other hand, Tuenti socializing also lowered teenagers’ feelings of loneliness, and a decrease in loneliness was related to the improvement of teenager’s wellbeing. There exists a certain controversy on this point in the literature. Some earlier research had found a positive relationship of increased Internet use with feelings of loneliness and depression (Kraut et al., 1998). It had been suggested that loneliness could be a by-product of excessive Internet use, because users invest in online relationships at the expense of their real-life relationships (Morahan-Martin, 1999; Morahan-Martin & Schumacher, 2000). Moody (2001) showed that high levels of Internet use were associated with high levels of emotional loneliness. SNS use was thus suggested to decrease the social and emotional wellbeing of users. A number of more recent studies, however, point to the need for a re-examination of the effect of SNS-use on loneliness. The results of the present study indicate, in contrast to the perspective that SNS-use isolates individuals, that teenage SNS-use may indeed decrease social isolation, and, consequently, increase subjective wellbeing. These findings are in line with a number of previous studies. For instance, Kraut et al. (2002) longitudinal study showed that Internet use was indeed negatively related to loneliness and depression, when studied over a longer time period. Shaw and Gant (2002) found Internet use to...
decrease loneliness and depression significantly, while perceived social support increased significantly, a view supported by several other authors (Amichai-Hamburger & Ben-Artzi, 2003; Burke et al., 2010; LaRose et al., 2001; Sánchez-Franco et al., 2012). Present findings also suggest that teenagers’ wellbeing depends directly as much on their self-esteem as on their loneliness levels, supporting the view of authors who argue that teenagers’ self-esteem and loneliness are strongly related to their wellbeing (Bargh & McKenna, 2004; Kalpidou et al., 2011; Lee et al., 2011; McKenna & Bargh, 2000; Shaw & Gant, 2002; Valenzuela et al., 2009).

The findings of the present research have several implications. Overall, the results confirm that Tuenti has become a suitable platform for the development, consolidation and growth of Spanish teenagers’ social relations. Tuenti is a highly accessible instrument for Spanish teenagers to achieve wellbeing and self-esteem, as it allows them to keep in contact with their friendship group. Belonging to a peer group and realizing that others are interested in their online profile and comments contributes to emotional confidence and wellbeing. Contrary to some previous research pointing to a detrimental effect of SNS-use on mental health and psychological wellbeing, the findings of this study are in line with a number of authors who suggest that SNS-use may on the whole be positive for users, including most teenagers (e.g., Dunne et al., 2010; Kim & Lee, 2011; Lee et al., 2011; Valkenburg et al., 2006). Adequate SNS use may lead to increased socializing and an extension of social capital. Teenagers may also benefit from reduced loneliness, feeling themselves to be part of an extensive peer-group. Self-esteem may also benefit, if responses to online profiles are mostly positive. Possible negative effects on school performance, observed when teenagers initiate SNS use, seem to reverse after the SNS has been used for some time (Kalpidou et al., 2011).

Educational efforts should be directed at preventing teenagers from posting excessively negative comments on other’s online identities, as well as at reinforcing teenagers’ psychological defences in response to negative reactions from online peers. If these conditions are met, there seems to be no immediate reason for serious concern about the possible negative effects of Tuenti use on teenagers’ psychological wellbeing.

5. Limitations and future research

Findings should be taken with some caution, since this study has several limitations. First, the cross sectional design prevents the establishment of causal relationships. The results are descriptive in nature and therefore cannot be employed to predict relations. Future research should use a longitudinal design to establish the causal relationship between teenager’s SNS use and later wellbeing. In addition, the use of self-report measures places an important limitation on the internal validity of the data. Teenagers may not report correctly the average daily usage of the SNS, for instance. This may either be a consequence of a distortion of time perception or a voluntary decision of the participant. In addition, the measurement of psychological variables such as self-esteem, loneliness and wellbeing still poses important problems for researchers. Using multiple data collection methods in future studies may improve the validity of construct measures and lead to a more precise understanding of the consequences and antecedents of teenagers’ SNS use.

As Valkenburg et al. (2006) pointed out, friend networking sites are a worldwide phenomenon that attracts a growing number of teenagers. Such sites can no longer be ignored either by communication researchers or educators. The reality is that the use of social networks is shaping the way youth communicate, settle personal relations, get to know the world around them and interact with it. Thus, SNSs shape teenagers’ personalities. For this reason, both researchers and educators should keep analyzing and studying the effects that the use of these networks can have on teenagers’ psychology and relations with their counterparts. This study showed that the use of these technologies can have a positive impact on teenagers’ psychological wellbeing by enhancing their socializing. Nevertheless, future research should analyze whether excessive or compulsive use of SNSs may lead to psychological problems in terms of self-esteem and loneliness.

SNSs are a reflection of real life and are, therefore, places where undesired things also happen: strangers getting in touch, abuses of authority, overexposure leading to loss of privacy, etc. (Valkenburg & Peter, 2011). Anonymity and the sensation of unreality created by the virtual world make teenagers more willing to do things that they would not dare to do in ‘real life’ through fear of damaging their personal integrity or simply because of the obstacles posed by visible and public behavior. This usually happens in cases of online bullying. In spite of the fact that cyber-bullying seems to be a minority behavior (scarcely 6% of Spanish 10–18 year-olds have reported cyber-bullying; Sádaba & Bringué, 2011), the seriousness of this phenomenon and its possible consequences demands that further research should be devoted to this issue.

Acknowledgements

The authors wish to thank the three secondary education centers involved, for showing great interest in our research and for making this research possible through their collaboration. The authors are also grateful to the anonymous reviewers for their constructive critiques and helpful comments, which provided significant help in improving the contribution of this article.

This study received financial support from research grants EHU 10/13, GIU 11/17, SAIOITEK S-PE 10UN29, ECO 2010-20792, GIC 10/54-IT 473-10, and FESIDE Foundation.

References


