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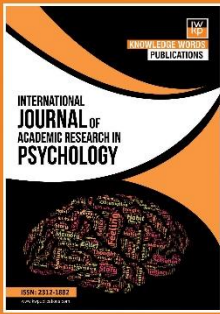
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## Sexting and Emotional Difficulties in High School Pupils

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### Abstract

Sexting has recently attracted the attention of researchers. The aim of this study was twofold: (a) to investigate the prevalence of sexting among boys and girls, and b) to examine the relationship between different types of sexting and emotional difficulties in high school pupils. The research was conducted on a sample of 711 adolescents aged 14-19 years. The Sexting Behavior Questionnaire was used to assess sexting, while the Depression Anxiety and Stress Scales and the item of suicidality were used to assess emotional difficulties. The results of the study show that the most frequently reported type of sexting is sending sexually explicit content and the rarest is posting sexually explicit content. Boys are more frequently engaged in sexting compared to girls. Furthermore, pupils involved in sexting think about suicidal thoughts and suicide more often. The obtained results suggest that youth do participate in sexting and those who do have some negative thoughts, which emphasize the necessary for both a prevention and intervention approach for this population.

**Keywords:** Sexting, Negative Emotional States, Suicidality, High School Pupils, Adolescents.

### Introduction

The National Center for Missing and Exploited Children (NCMEC) (Cox Communications 2009) defines sexting as the writing of sexually explicit messages, the photographing of oneself and/or one's peers in a sexually explicit manner by adolescents and sending them to their peers. Recently, the definition of sexting has come to encompass not just the transmission of sexually explicit content but also the exchange and forwarding of message content. Hudson (2015) defines sexting as the electronic or mobile sending, posting, sharing or forwarding of sexually explicit messages, semi-nude or nude photos.

The differences in the definitions of sexting have limited the comparison of results across studies which have aimed to examine the prevalence of the exchange of sexually explicit content (Drouin et al., 2013; Lounsbury, Mitchell, & Finkelhor, 2011). Besides the differences in the definitions, the studies conducted to date also differ with respect to the sample, the ways in which message content is defined (text and/or photo), the media used for the message exchange, and the relationship of the individuals between whom the sexually explicit content is exchanged.

Taking into consideration the above-mentioned limitations and, according to the results of studies conducted to date, the frequency of sexting is within the range from 4% to 82% (Lenhart, 2009; Mitchell et al., 2012; Morelli et al., 2016; NCMEC 2009; Patrick et al., 2015; Temple et al., 2012; Vrselja, Pacadi, & Maričić, 2015; Ybarra & Mitchell, 2014; Walrave et al., 2015). Some studies show girls report more activity exchanging sexually explicit content in comparison to boys (Martinez-Prather & Vandiver, 2014; Mitchell et al., 2012; Reyns, Henson & Fisher, 2014) and girls report sending messages more frequently with sexually explicit content, whereas boys report receiving messages with sexually explicit content (Englander 2012; Gordon-Messer et al., 2013; Henderson & Morgan, 2011; Strassberg et al., 2013). As opposed to the above-mentioned study results, Jonsson et al. (2014) suggested that boys participate more often in activities such as sexual exposure (posting nude and/or semi-nude photos and/or videos of themselves). Other studies show that boys and girls equally participate in the exchange of sexually explicit content via electronic media (Dake et al., 2012; Hinduja & Patchin, 2010; Lenhart, 2009; Rice et al., 2012).

The studies examining adolescents' attitudes toward sexting indicate that adolescents stress the numerous positive aspects of sexting, and that they are not aware of the potentially negative repercussions of exchanging sexually explicit content via electronic media (Henderson & Morgan, 2011). However, the virtual dissemination of photos with sexually explicit content may result in health issues (e. g. suicide, mood difficulties etc., Katzman, 2010). Some authors in this field have reported on the relationship between sexting, depression, anxiety, suicidal thoughts and suicide (Angelides, 2013; Brown, Keller, & Stern, 2009; Chalfen 2009; Gordon- Messer et al., 2013; Mitchell et al., 2012; Ryan, 2010; Temple et al., 2012; Tomazin & Smith, 2007; Van Ouytsel et al., 2014). By comparing adolescents who had sexted with those who had never sexted, Englander (2012) observed that individuals who had sexted, either encouraged by others or under pressure from others, predominantly reported on having problems with greater anxiety in comparison to those who had sexted without any pressure. Dake et al. (2012) observed that sexters had a statistically significant greater probability for suicidal thoughts and attempted suicide in relation to those who did not sext, and they often reported feelings of sadness or hopelessness for at least two consecutive weeks in the previous year. Mitchell et al. (2012) also investigated the emotional consequences of sexting. According to the results of their study, 21% of the participants who were subjects on sexually explicit photos or who took such photos and 25% of the participants who received sexually explicit photos reported a high or intensive level of agitation, shame and fear as a consequence of their behavior. In the end, it is also necessary to cite the results of the studies that did not indicate a relationship between sexting and negative emotional states. Gordon-Messer et al. (2013) did not observe any significant differences in the level of depression, anxiety and self-esteem amongst the individuals who received sexually explicit photos, who received and sent sexually explicit photos, and those who neither received nor sent them during their lives. Statistically significant differences between sexters and non-sexters in the terms of serious psychological consequences were also not found in the study by O'Sullivan (2014). Similarly, Levine (2013) believes that sexting must not be considered exclusively risky and unhealthy behavior, rather it must be observed as a new way in which adolescents explore their sexuality.

The inconsistencies in these findings may be due to a variety of issues including sample demographics (ranging from a teenager sample to a mixed sample of youth adult) or the different types of sexting and mental measures. The inconsistent findings signal the need for additional studies to understand more about relationship between sexting and emotional difficulties. Exploring sexting by using a narrow definition of sexting and emotional difficulties and targeted on a younger sample

of adolescents (14-19-year-olds) allow us to gain deeper knowledge on this recent field of sexting. Furthermore, there is a broad overview of relevant literature of sexting and adolescent health conducted on American sample. Amount of data on European contexts is missing. This study examines the extent of adolescent sexting in a Bosnia-Herzegovina context of South-East Europe's by deploying psychometrical well-established measures of sexting, emotional difficulties and suicidal thoughts.

The aim of this study was to investigate, on a sample of adolescents, whether there is a relationship between sexting, negative emotional states (anxiety, depression stress) and suicidal thoughts. In line with the perspective of a sexting as a high-risk behavior, we believe that may be an indicator of deeper emotional issues. Therefore we presumed that significant predictors of sexting would be gender, negative emotional states (anxiety, depression and stress) and experience suicidal thoughts. This is an area of current study, relevant and of interest within the field of psychology and its implication with emotional welfare or discomfort.

## Method

### Participants

The participants were 711 pupils (300 boys and 411 girls) attending the four-year high schools from Mostar, Capljina, Stolac and Tomislavgrad (Bosnia & Herzegovina), aged from 14 to 19 ( $M = 16.70$ ;  $SD = .86$ ). Of the total number of participants, 249 (35.02%) were pupils from Mostar (95 boys and 154 girls), 60 (8.44%) from Capljina (18 boys and 42 girls), 186 (26.16%) from Stolac (97 boys and 89 girls) and 216 (30.38%) from Tomislavgrad (90 boys and 126 girls).

### Measures

The rationale of using following measures was that they have been widely used and characterized by a good internal structure.

The socio-demographic characteristics taken into consideration in the study were the gender and age of the pupil.

**Sexting.** The Sexting Behaviors Questionnaire (Morelli et al., 2016) was used to assess the prevalence of receiving, sending and posting textual messages, photos and videos of sexually suggestive or provocative content. For the needs of this study, the Questionnaire was translated from English into Croatian according to the standards for the translation of psychological instruments, after which a reverse translation was conducted from Croatian into English. The reverse translation indicated a few omissions which were subsequently corrected in the Croatian version of the Questionnaire. The Questionnaire consisted of two basic sections. The first section contained 29 items divided into three subscales: subscale *receiving* sexually explicit content via smart phones or social networks (e.g., *How often have you received sexually suggestive or provocative photos/videos or messages about someone you know over the internet (i.e., Facebook, e-mail, Twitter)?*), subscale *sending* sexually explicit content via smart phones or social networks (e.g., *How often have you sent sexually suggestive or provocative photos/videos or messages about yourself over the internet (i.e., Facebook, e-mail, Twitter)?*), and the subscale *posting* sexually explicit content via smart phones or social networks (e.g., *How often have you publicly posted sexually suggestive or provocative photos or videos about yourself on Facebook, Twitter, or MySpace*). The participants assessed the frequency of their own behavior on the following 5-point scale 1 (never); 2 (rarely or a few times); 3 (occasionally or 2-3 times a month); 4 (often or 2-3 times a week); 5 (frequently or daily). The subscale total scores were obtained by summing the item scores within each subscale. The second section of the

Questionnaire consisted of eight additional items, questioning the number of individuals with whom sexually suggestive textual messages, photos and/or videos were exchanged (one item); the identity of the people from whom they received sexually suggestive or provocative messages, photos and/or videos (two items), and the circumstances in which the sexually suggestive or provocative messages, photos and/or videos were exchanged (five items). In the present study, only the first part of the questionnaire was used following the original factor structure reported by (Morelli et al., 2016).

In accordance with the recommendations by Morelli et al. (2016), the participants were categorized into two groups according to their self-assessment: participants who send, receive or post sexually explicit content (with results on the subscales of the Questionnaire greater than one standard deviation from the mean) and participants who do not send, receive or post sexually explicit content (with results on the subscales of the Questionnaire lower than one standard deviation from the mean). Therefore we analyzed the data using stricter criteria to create the sexting groups: that is, one standard deviation above the mean of the sexting subscales. The rationale for using this scoring method was that we wanted to select participants who are clearly disturbed to be in the sexting categories.

Morelli et al. (2016) obtained high reliability on the internal consistency of the whole scale ( $\alpha=.93$ ), and the values of Cronbach's alpha were  $\alpha=.86$  for the subscale receiving,  $\alpha=.85$  for the subscale sending and  $\alpha=.92$  for the subscale posting sexually explicit content. In this study, the reliability coefficient for the subscales calculated using Cronbach's alpha ranges from  $\alpha=.89$  for the subscale receiving,  $\alpha=.94$  for the subscale sending,  $\alpha=.92$  for the subscale posting and  $\alpha=.96$  for the entire scale.

*Negative emotional states.* The negative emotional symptoms were assessed using the Depression Anxiety and Stress Scale (DASS, Lovibond & Lovibond, 1995) which was adapted for our language by Reić-Ercegovac and Penezić (2012). We decided to use DASS since it has been shown to possess excellent psychometric properties (see Brown et al., 1997; Crawford & Henry, 2003; Lovibond & Lovibond, 1995) and it allows rigorous clinical assessment of the different aspects of emotional disturbance. DASS consists of three subscales which measure the frequency and presence of three negative emotional states: depression, anxiety and stress. It consists of a total of 42 items, with each of the three subscales consisting of 14 items. The *depression* scale contains items which assess dysphoria, hopelessness, devaluation of life, self-deprecation, lack of interest/ involvement anhedonia (e.g., *I felt sad and depressed*). The *anxiety* scale assesses autonomic arousal, skeletal muscle effects, situational anxiety, and subjective experience of anxious affect (e.g., *I felt I was close to panic*). The stress scale is sensitive to levels of chronic non-specific arousal. It assesses difficulty relaxing, nervous arousal, and being easily upset/agitated, irritable/over-reactive and impatient (e.g., *I found it difficult to relax*). The participants rate the extent to which they have experienced each symptom over the previous week, on a 4-point severity/frequency scale, from 1 (did not apply to me at all) to 4 (applied to me very much, or most of the time). Scores for Depression, Anxiety and Stress were determined by summing the scores for the relevant 14 items. Brown et al. (1997) found intermediate coefficients of consistency, and Cronbach's alpha values were  $\alpha = .71$  for the subscale depression,  $\alpha = .79$  for the subscale anxiety and  $\alpha = .81$  for the subscale stress. In this study, internal consistencies (coefficient alpha) for each scale of the DASS were: depression  $\alpha = .91$ ; anxiety  $\alpha = .87$ ; stress  $\alpha = .89$ .

*Suicidality.* The dichotomous yes/no question was used to assess thinking about death, which stated: *I often think about death or suicide*. The item used represents the intermediary measure for suicidality, for conclusions on the risk of suicidality are made on the basis of suicidal thoughts.



Although a single-item measure of suicidality is desirable because of its simplicity, it has to be careful with presumption of data due to possible low internal validity of the measure. However, systematic review of instruments for the assessment of suicide risk has shown that none of suicide risk assessment tool, which varied in length and character (e.g. including few to more factors etc.), did not fulfilled requirements for sufficient diagnostic accuracy (Runeson et al., 2017).

## Procedure

The study was conducted in May, 2016 in cooperation with teachers, psychologists and professors in the schools where the research was conducted. The research was approved by the Psychology Department Ethics Committee, University of Mostar. Participation in the study was on a volunteer basis which allowed the pupils to withdraw from the research at any time. The collection of data took place during class time and lasted approximately 20 minutes. Before filling out the questionnaires, the researcher introduced himself to the pupils, explained the purpose of the research and informed the pupils whom they could contact if they had additional questions after they had completed the questionnaire. The participants in the study signed informed consent forms. After they completed the questionnaires, the participants were asked to put them into an envelope, seal them and put them into a box which was on a table at the back of the classroom.

## Results

### The Prevalence of Sexting in the Study Sample

In order to ascertain the frequency of sexting behavior amongst boys and girls, we analyzed the results of the participants on the Sexting Behavior Questionnaire. According to the criteria of the standard deviation of results on the questionnaire above the value of 1 as an indicator of the measure of sexting behavior, 11.25% ( $N = 80$ ) of the total sample participated in the exchange of sexually explicit content. Of the total number of pupils who participated in sexting, 9.42% were boys, and 1.83% girls.

Upon analysis of the data concerning the three sub-dimensions of sexting (receiving, sending and posting), it was found that the largest number of participants received messages, photos and/or videos with sexually explicit content ( $N = 79$ ; 11.11%), and the smallest number 6.06% ( $N = 43$ ) posted sexually explicit content. The number of participants sending sexually explicit content was 10.12% ( $N = 72$ ). Of the total number of boys, 9.28% ( $N = 66$ ) received, 8.58% ( $N = 61$ ) sent, and 5.63% ( $N = 40$ ) posted sexually explicit content. An analysis of the responses to the individual sub-dimensions of sexting of girls indicated that fewer girls participated in sexting as opposed to the boys with 1.83% ( $N = 13$ ) of the total sample receiving, 1.55% ( $N = 11$ ) sending and 0.42% ( $N = 3$ ) posting sexually explicit content. The results of sexting frequency of boys and girls are shown in Table 1.

The following step in the analysis was to examine whether there were gender differences in the three sub-dimensions of sexting (Table 1). A t-test analysis showed significant differences according to gender in the subscales of sexting. In comparison to the girls, the boys were more likely to participate in sexting, particularly in receiving messages, photos and/or videos of sexually explicit content.

In order to compare the obtained results, we calculated effect size with the Cohen's d-index (Table 1). A Cohen's d lower than .20 indicates a small effect, from .20 to .50 a medium effect, from .50 to .80 a medium-to large effect, and if the value exceeds .80 it belongs to the category of large effects (Cohen 1988). Table 1 suggests that the difference in the sexting subscales between boys and girls is a small to middle effect size. The largest d-index values were found for the subscale of sending

and receiving sexually explicit content, while the subscale of posting gave rise to smaller effects. The result indicates that in comparison to girls, boys more often resort to sexting, particularly to the sending and receiving of messages, photos and/or videos of sexually suggestive content.

Insert Table 1. Here

Table 1. Descriptive statistic and gender differences in sexting behaviors

Sexting Behaviors Questionnaire	Boys			Girls			<i>t</i>	<i>Df</i>	<i>p</i>	Cohen's <i>d</i>
	<i>N</i> (%) <sup>*</sup>	<i>M</i>	<i>SD</i>	<i>N</i> (%) <sup>*</sup>	<i>M</i>	<i>SD</i>				
Receiving	66 (22.00%)	1.55	.83	13 (3.16%)	1.23	.30	7.64	709	.00	.54
Sending	61 (20.33%)	1.04	.56	11 (2.68%)	.81	.16	7.85	709	.00	.55
Posting	40 (13.33%)	1.21	.59	3 (.73%)	1.02	.17	6.36	709	.00	.45
Sexting Total Score	67 (22.33%)	1.39	.69	13 (3.16%)	1.10	.21	8.04	709	.00	.57

\*percentage of participants who were classified as sexters in terms of sending, receiving and/or posting sexually explicit content

### Gender, Psychological Difficulties and Sexting

Before testing the predicative values of gender, negative emotional states (anxiety, depression and stress) and suicidal thoughts for sexting, we determine whether or not there is a relationship between the variables of interest (Table 2). All three dimensions of sexting were found to have a positive correlation with gender and suicidality. Although all the correlations reached the .05 level of significance, all of them appear to be weak, with a tendency for correlation between sexting and suicidality to be weaker. The weakness of the correlations among variables implies that there is no linear relationship between the variables.

Insert Table 2. Here

Table 2. Correlation between sexting sub-dimensions, gender and psychological difficulties

Sexting Behaviors Questionnaire	Gender	Negative emotional states			
		Depression	Anxiety	Stress	Suicidality
Receiving	.27*	.00	.03	.03	.11*
Sending	.28*	.01	.03	.04	.10*
Posting	.23*	-.03	-.02	.00	.01*

\**p* < .05

Furthermore, data were analyzed by regression analyses for measure of sexting as criterion variable. The significant regression predictor models for sexting are illustrated in Table 3. Gender and

suicidality proved to be significant predictors of receiving, sending and posting sexually explicit content. Combined together, gender and suicidality explain the 28% variance in the receiving and sending of messages, photos and/or videos of sexually explicit content as well as the 24% variance in the posting of sexually explicit content.

Insert Table 3. Here

Table 3. Summary of regression analysis for variable predicting sexting behavior

Predictors	Sexting Behaviors Subscales					
	Receiving		Sending		Posting	
	$\beta$	<i>SE</i>	<i>B</i>	<i>SE</i>	$\beta$	<i>SE</i>
Gender	.25***	.03	.26***	.03	.22***	.03
Suicidality	.11**	.03	.10**	.03	.09*	.03
Anxiety	.03	.06	-.02	.06	-.04	.06
Depression	-.02	.05	.00	.05	-.01	.05
Stress	-.00	.05	.03	.05	.03	.06
R <sup>2</sup>	.28		.29		.24	

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

## Discussion

The results of this research indicate that a total of 11.25% of the participants had participated in exchanging sexually explicit content via electronic media. The obtained frequency of sexting in our research is partially in accordance with the findings of recent studies (Lenhart, 2009; Mitchell et al., 2012; Morelli et al., 2016; NCMEC, 2009; Patrick et al., 2015; Temple et al., 2012; Ybarra & Mitchell, 2014; Vrselja et al., 2015; Walrave et al., 2015) which emphasize that sexting is a common behavior among youth, irrespective of the obtained differences in the prevalence of sexting in studies to date. For example, Lenhart (2009) found on a sample of adolescents aged from 12 to 17 that the prevalence of sexting ranged from 4% to 30% of participants. Similarly, Mitchell et al. (2012) showed, on a sample of young secondary-school pupils, that the prevalence of sexting among its participants ranged from 9% to 54%. Studies conducted in Croatia showed that 19% to 61% of adolescents participated in sexting (Kričkić, 2016; Vrselja et al., 2015). An astonishing prevalence rate of sexting was found by Morelli et al. (2016), who reports that up to 82.23% of youth from the ages of 13 to 30 have participated in sexting at least once in their lives. Comparing the results of our research with the results of studies conducted so far it can be concluded that sexting is present in Bosnia and Herzegovina, but to a lesser extent than in other countries. The results can be explained within the framework of an environmental context. Sexuality in the Bosnian and Herzegovinian context is characterized by strong traditional attitudes towards the sexual behavior of adolescents. Due to these reasons, it is possible that adolescents find it difficult to adapt their attitudes and values to those that society imposes, and that they have a negative attitude towards such behavior which reduces the possibility of accepting and practicing such behavior. Furthermore, the fact that the assessment criteria for the prevalence of sexting between this study and other studies mentioned above were



different limits the comparison of the gained results. In our study, in order to encompass only those included in sexting, we separated the sexters from the non-sexters by applying the ad hoc criterion on the basis of standard values. The mentioned criterion could have influenced the results of the prevalence of sexting taking into consideration that the criterion is relatively strict. Using this criterion it is possible that the participants who had sexted once in their lives were excluded from the data.

According to the results of our study, boys sent and received messages, photos or videos with sexually explicit content more often than girls. The generally higher prevalence of sexting in boys and the finding on the greater exposure of boys to sending and receiving sexually explicit content are in accordance with the results of studies conducted to date (Burke-Winkelman et al., 2014; Gordon-Messer et al., 2013; Reyns et al., 2014; Ringrose et al., 2012; Strassberg et al. 2013; Vandoninck & d'Haenens, 2014; Walker et al., 2013). We can attempt to explain the results via "double standards" in the perception of the sexting behavior of boys and girls. The sexting of girls is severely criticized and punished by society (Lippman & Campbell 2014; Ringrose et al., 2012; Yeung et al., 2014). Thus, girls, in order to avoid rejection and negative comments, participate more rarely in sexting. Simultaneously, boys are given the support of the environment to participate in sexting communication and even attain greater popularity in the peer group which affects the prevalence of the exchange of sexually explicit messages, photos and/or videos (Lippman & Campbell, 2014; Ringrose et al., 2012). As opposed to the findings of our study, the results of some studies to date show that girls more often send sexually suggestive photos or videos, and boys more frequently receive and/or post them (Burke-Winkelman et al., 2014; Reyns et al., 2014; Strassberg et al., 2013). One can attempt to explain the obtained differences between the results of our study and other studies with the earlier mentioned differences in social norms for boys and girls. These are more prominent in traditional countries than in the countries where sexting studies were conducted, predominantly in the American region, where attitudes towards expressing and exploring your sexuality and generally towards sexting are less traditional (Ahrold & Meston, 2010; Boehnke, 2011; Twenge, Sherman & Wells, 2015; Wood & Eagly, 2010).

According to our results, a correlation between sexting and negative emotional states was not found. The results with respect to the relationship between sexting and negative emotional states are inconsistent. There are studies which indicate a positive correlation between sexting and depression, anxiety and/or stress (Dake et al., 2012; Houck et al., 2014; Mitchell et al., 2012; Van Ouytsel et al., 2014), but there are also those that indicate that there is no relationship between sexting and emotional difficulties (Burić, 2016; Gordon-Messer et al., 2013; Levin, 2013; O'Sullivan, 2014; Temple et al., 2014). The possible cause for sexting not being in relationship with psychological difficulties such as depression, anxiety and stress is that sexting can only be related with strong changes in emotional states. The negative emotional state scale used in this study serves to detect milder changes in depression, anxiety and stress. The second explanation could be related to the sample of participants. The study was conducted on a normal population amongst whom the prevalence of depression, anxiety and stress is much lower than in a clinical population. Therefore, it is to be assumed that differences could not be found taking into consideration that the expression of negative states in the sample was generally low. Better insight into the relationship between sexting and symptoms of depression, anxiety and stress would be obtained if the study were conducted on a clinical sample. In the end, it is not necessary to define sexting exclusively as a form of risk behavior amongst youth, but sexting can represent a new way of exploring adolescent sexuality (Levine 2013) or an extension of adolescents' off-line lives (Rice et al., 2012; Temple et al., 2012).

Furthermore, the results showed a positive correlation between sexting and suicidality. Boys and/or those who often think about death report greater participation in the exchange of sexually explicit content in comparison to the girls and/or those who think less about death. The results speak in favour of a significant correlation between gender and suicidality and sexting. Dake et al. (2012) found that adolescents, who participated in sexting more often felt sad, thought about suicide or even attempted suicide. In addition, the relationship between sexting and suicidality points to the fact that those who sext more are more likely to think about death more often. The chronic stress evident in the increased level of fear, agitation and shame due to sharing sexually explicit content may be the initiator of the suicidal thoughts and suicide (Brown et al., 2009). An analysis of existing literature has found only two studies which examined the correlation between suicide and sexting (Angelides, 2013; Ryan, 2010). Such conflicting results with respect to the relationship between psychological difficulties and sexting indicate that the mechanisms of the influence of sexting on emotional difficulties have still not been completely resolved. What is still questionable is the true role of emotional difficulties in sexting behavior, because authors do not interpret this relationship in the same way. Some authors claim that emotional difficulties and negative emotional states are the cause of sexting behavior (Temple et al., 2014), whilst others believe that they are possibly the consequences of sexting (Mitchell et al., 2012). For example, it is unclear if those who sext more think about death more, or if frequent thinking about death leads adolescents to get the attention and acceptance they seek through sexting. More research specific to these factors is indicated due to limitations in the dichotomous variable for suicidality.

### **Limitations**

In the end, we will address the methodological limitations of this study. The first limitation refers to the sincerity of the participant in answering the questions. Often self-reported results are not congruent with the current behavior usually due to occurrence of social desirable bias which could have both conscious and unconscious aspects (Dodaj, 2012). Although much care was taken to ensure a feeling of privacy and anonymity, considering the subject of the study, it is quite possible that some participants were uncomfortable answering some questions and hence offered insincere answers. Furthermore, participants may be unaware of the content of item or in the process of self-deceptive denial and give a response which is incongruent with the actual self-reported behavior. The next difficulty refers to the fact that the data were collected through self-assessment measures, that is, questionnaires which were lacking in various respects, like above mentioned socially desirable responses, the impossibility of checking the truth of the responses the possibility that some questions were misunderstood. We should also emphasize the fact that some measures such as measure of suicidality might have low internal validity. For example, Milner, Lee and Nock (2015) found that single-item measurement regarding the suicide ideation, plans and attempt leads to misclassification and increase the likelihood of statistical errors. Furthermore, the study was conducted on a convenience sample of participants who cannot thus be considered representative of a population of adolescents in the region in which the study was conducted. The study was conducted on participants from two cantons in Bosnia and Herzegovina and thus its results cannot be generalized with respect to other countries. Finally, our results are based on correlation data and should be interpreted with caution. Correlation data do not allow drawing of conclusions about the causal relationships among variables.

### Future Research

From the results of our study we can conclude that pupils participated in sexting and that there was a relatively strong correlation between sexting and gender, and sexting and suicidality. The pupils who most often participated in sexting were boys, as were those who thought about death more often. It would be important for future studies to consider does sexting results in adverse outcomes, such as to suicidality or suicidality can lead to increased sexting as a function of that behavior (e.g., attention seeking) by using longitudinal research designs.

Further research should test whether the same relationship exists between sexting, gender and negative emotional states when other measures are used to assess psychological difficulties and other sexting criteria. In addition, research should examine whether gender is a moderator of the relationship between sexting and psychological difficulties. Additional studies should also examine relationship between sexting and other risk-taking behaviors in adolescents (e.g., smoking, drug/alcohol use, truancy, etc.). Future studies should also investigate the perception of participants on whether their participation in sexting was voluntary or forced, and to assess their attitudes to sexting. It is possible that these variables have a moderator role between participating in sexting and negative emotional states. It is also necessary in a study on psychological difficulties to know the duration of the difficulties in order to understand which behaviors signify pathological deviation. Furthermore, longitudinal study would contribute to a better understanding of the relationship between sexting and difficulties. In the end, by positing sexting as deviant and risky behavior we decided to examine only negative emotional states. However, it seems important in the future to investigate and relationship of sexting with positive emotional states since some researchers view sexting as normal intimate communication (Döring, 2014; Rice et al., 2014).

### Conclusion

The results of the conducted study indicated that youth participate in sexting. The findings show gender and suicidal thinking relations to sexting but not to emotional states. This study implicates that effort to prevent and reduce sexting are needed. Professionals should be aware that gender represent risk factor for sexting, and that the issues of suicidal thoughts should be concern. They should arm the children with appropriate coping resources to deal with negative aspect of sexting and provide more appropriate positive environment in family and school context.

### Notes on Contributors

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