

Vol 7, n 1, 2019

Articles

Sexting and emotional regulation strategies among young adults

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Abstract

Sexting as a common adolescent behavior might be related with difficulties of emotion regulation, a skillset that draws on identifying the relationship between behaviors and emotions and then creating strategies for regulating such emotions. The aim of this study was to explore the relation between sexting and emotional regulation strategies. The study involved 440 respondents, aged 18 to 25. Emotion Regulation Questionnaire was used to measure emotional regulation strategies (cognitive reappraisal and expressive suppression). Sexting Behaviors Scale was used to assess the frequency of receiving, sending and posting sexually suggestive or provocative texts, photos or videos. Result showed that boys use the strategy of expressive suppression more intense than girls. Statistically significant low correlation was found between posting sexually suggestive content and cognitive reappraisal. Furthermore, gender has been found to be a significant predictor of engagement in the activity of sexting behavior. The results suggest that exchange of sexually suggestive content among youth, which shows low incidence, cannot be defined as an indicator of difficulties in emotional regulation.

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Keywords:

Sexting, Difficulties in emotion regulation, Cognitive reappraisal, Expressive suppression, Gender

DOI: 10.6092/2282-1619/2019.7.2008

1. Introduction

Technological progress on a global level has undoubtedly led to the development of new forms of social interaction and communication over the past decade. Digital media, including mobile phones and the internet, have become necessary in interpersonal communication between young people, and they use them increasingly frequently for creating, forming and maintaining social relationships (Cooper et al., 2016; Döring, 2014; Gámez-Guadix, Borrajo, & Almendros, 2016; Weisskirch & Delevi, 2011). Therefore it is no wonder that new forms of technologically mediated communication have appeared, and one of these is sexting.

Sexting is usually defined as the exchange of sexually explicit or provocative content (textual messages, photographs and video recordings) by means of mobile phones, the internet or social networks (Chalfen, 2009; Döring, 2014; Klettke, Hallford, & Mellor,

2014). Further definitions of sexting have been proposed within the literature. Some of definitions included categorization in terms of the subject depicted in the images (“primary” refers to sharing personal sexually explicit content and “secondary” refers to sharing someone else sexually explicit content; Calvert, 2009), others included the intention of sexting (“experimental” sexting which is consensual exchange of sexual content without any criminal or harmful intention and “aggravated” sexting which refers on public sharing of someone else sexually explicit content implying aggressive and deviant intention; Wolak & Finkelhor 2011; Wolak, Finkelhor, & Mitchell, 2012). In the present study we conceived sexting as receiving, sending and sharing (posting) sexually suggestive or provocative contents to one or more persons.

Data on the prevalence of sexting vary from research to research, and the major variations in prevalence may be explained by the different methodological approaches and differences in the definition of sexting (Mitchell et al., 2012; Rice et al., 2012.). The prevalence of sending and posting of sexually explicit messages between adolescents is in a range of 2.5% to 27.6% (Barrense-Dias et al., 2017; Cooper et al., 2016), and amongst young people (aged from 18 to 25) from 20% to 48.5% (Hudson, Fetro, & Ogletree, 2014; Reyns et al., 2013). The results of research consistently show that the prevalence of sexting rises with age (Dake et al., 2012; Klettke et al., 2014; Mitchell et al., 2012; Rice et al., 2012; Strassberg et al., 2013; Temple et al., 2012). In terms of gender differences in participation in sexting, research so far has not shown inconsistent results. Some research did not find any difference between involvement in sexting between boys and girls (Benotsch et al., 2013; Dir et al., 2013; Drouin & Landgraff, 2012; Henderson & Morgan, 2011), some found that boys in general engage in sexting more often (Delevi & Weisskirch, 2013; Jonsson et al., 2015; Morelli et al., 2016; Strassberg et al., 2013; Olatunde & Balogun, 2017), and others that girls are more active in sexting (Klettke et al., 2014; Mitchell et al., 2012; Ybarra & Mitchell, 2014; Wysocki & Childers, 2011).

A review of the literature clearly shows that there are two different ways of understanding sexting. One group of author’s sees sexting as a contemporary form of intimate communication between young people (Döring, 2014; Ferguson, 2011; Hudson & Marshall, 2018). They support their views with the fact that it was noticed that sexting was normal in adolescent relationships (Mitchell et al. 2012), represents consensual behavior in which both sides participate without coercion (Hasinoff, 2013; Levine, 2013), and that young people see it as "fun" (Anastassiou, 2017; Burkett, 2015; Lippman & Campbell, 2014). Moreover, adolescents say that sexting serves them as an alternative to explicit physical sexual activities (Rice et al., 2012). Some of the sexters even

emphasize that sexting gives them feeling of “sexually aroused” (Hudson & Marshall, 2018).

According to others, sexting is related to certain risk factors, but also negative outcomes. Sexting is sometimes used as a tool for blackmailing young people (Kopecký, 2014) or even as a tool for revenge on ex-partners (Walker, Sanci, & Temple-Smith, 2013). Those who sext are often concerned that their content might be shared to other persons leading to embarrassment or loss of reputation of person who sexted (Renfrow & Rollo, 2014). Renfrow and Rollo (2014) states that among abstainers main reason for not sexting is the fear that the content will be shared among others. Sexting sometimes may perceive problematic since it can become a common prequel for real life sex practice (Meyer, 2016). Young people who engage in sexting have a higher risk of engaging in risky sexual behaviors (Gordon Messer et al., 2013; Rice et al., 2012; Temple et al., 2012). There is a greater probability that they will seek fulfilment of their sexual desires very quickly after an exchange of sexually explicit messages with their partner (Gordon Messer et al., 2013). Further, sexting is more common among young people from dysfunctional families (Gordon Messer et al., 2013) and in young people with certain character traits, such as extroversion and neuroticism (Barrick, Mount, & Judge, 2001; Chamorro-Premuzic & Furnham, 2003; Delevi & Weisskrich, 2013). More recently some authors have mentioned that dysfunctional styles of emotion regulation may be an important predictor for risky behavior, including sexting (Cooper et al., 2016).

The ways in which people attempt to understand and regulate their emotional experiences began to engage the attention of researchers at the end of the 1980's (Mayer & Gaschke, 1988; Mayer et al., 1991; Mayer & Stevens, 1994).

According to Koole (2009), emotion regulation is a controlled process that is used to change a person's spontaneous emotional response. People may modulate their emotions on a several ways, commonly referred to as emotion regulation strategies (Gross & John, 2003). Contemporary models propose that, at the broadest level, emotion regulation strategies are distinguished by whether they are “antecedent - focused” or “response-focused” (Gross & John, 2003), depending on the point at which the individual intervenes in emotional processing. Cognitive reappraisal is an adaptive, antecedent-focused strategy, affecting the early cognitive stages of emotional activity, whereby the initial interpretation of a given situation is re-evaluated. It includes changing or reformulating the way an individual thinks about a situation or the emotion, to regulate its impact. In contrast, expressive suppression is a maladaptive, response-focused plan

of action implemented after an emotional response has fully developed. It is conceptualized as inhibiting the behavioral expression of the emotion and involving restraining or inhibiting external facial, bodily, or behavioral signs of the emotion.

Further, the results of research indicate the existence of gender differences in the choice of strategy for emotion regulation. Boys more often use the strategy of expressive suppression in comparison to girls, whilst the strategy of cognitive reappraisal is used equally by boys and girls (Gross & John, 2003; Gross, Richards, & John, 2006; Melka et al., 2011).

Research indicates that each of these strategies is differentially related to psychological functioning, such as affect, cognition, and social interaction (Gross, 1998; Gross, 2001; Gross & John, 2003; John & Gross, 2004; Srivastava et al., 2009).

Using less effective strategies to regulate emotions in adolescents is linked to more behavioral problems and more sexual partners (Cooper et al., 2003; Hessler & Katz, 2010; Silk, Steinberg, & Morris, 2003). Moreover, difficulties in regulating emotions were significantly correlated in the research by Brown et al. (2012) with sexually risky behavior (e.g. not using contraception during sexual relations). Categorizing sexting as sexually risky behavior led some authors to ask whether deficits in emotion regulation differ in people who participate in sexting in relation to those who do not. The results of the research conducted by Houck et al. (2014) show that the prevalence of sexting is greater amongst adolescents with behavioral or emotional difficulties (at the age of 12 to 14 years), in comparison to adolescents without these difficulties. Also, their results showed that young persons who sext have a poorer ability to perceive and understand their own emotions, and a lower perceptive capacity for managing their own emotions. The relationship between sexting and problems in regulating emotions was also confirmed by research by Trub and Starks (2017) on a sample of young women who were in romantic relationships. And finally, Curro (2017), in a sample of adults aged between 18 and 39 years, found a significant relationship between sexting and difficulties in regulating emotions, whereby lack of acceptance of emotional responses, and difficulties controlling impulses were found to be predictors of sexting.

From a review of the research available in this field we confirmed that no research had been conducted previously dealing with an examination of the correlation between difficulties in regulation of emotions according to Gross's process model of emotion regulation (Gross et al., 2006), in students of both genders, and various aspects of sexting behavior. Therefore our aim was to contribute to the understanding of the

relationship of sexting in a student population with strategies for emotion regulation, and to test whether use of dysfunctional coping strategies is related with engaging in sexting behaviour.

In this research we endeavoured to examine whether there are differences in the choice of emotion regulation strategy (cognitive reappraisal or expressive suppression) between girls and young men (P1). It was expected that young men would more often use the strategy of expressive suppression in comparison to girls, while in the use of strategy of cognitive reappraisal no gender differences were expected (H1). The differences in emotion regulation strategies were tested between the subjects who sexted and those who did not (P2). Here it was expected that persons who sext have greater difficulties in regulating their own emotions than those who do not sext, that is, that they would make more use of the dysfunctional strategy of expressive suppression (H2). The research examined the correlation between engaging in sexting and the use of emotion regulation strategies (P3). It was presumed that persons who have greater difficulties in regulating emotions would tend to engage more in sexting (H3). Finally, the predictive value was tested of gender, age and emotion regulation strategy for engaging in sexting (P4). In view of the results of research conducted so far, it was expected that gender, age and use of dysfunctional emotion regulation strategies would contribute significantly to engaging in sexting (H4).

2. Materials and Methods

2.1 Participants

The sample consisted of 494 students from the University of Mostar (from the Faculties of Economics, Civil Engineering, Medicine, Arts, Science, Mathematics and Education, and Law). Fifty-four participants were excluded from further analysis after inconsistencies were found in their replies, or they did not complete the survey fully. The results of 440 students were processed in the research, 182 males and 258 females. The age range of the students was from 18 to 25 years ($M = 21.32$, $SD = 1.84$).

2.2 Measuring instruments

Emotion Regulation Questionnaire (Gross & John, 2003)

The Emotion Regulation Questionnaire (ERQ, Gross & John, 2003) is an established 10-item self-report questionnaire targeting emotion-regulatory processes and strategies for how emotions are regulated and managed. The questionnaire assesses two specific

emotion regulation strategies - cognitive reappraisal and expressive suppression. The cognitive reappraisal scale has six items and the expressive suppression has four items. Item example in the cognitive reappraisal scale is “I control my emotions by changing the way I think about the situation I’m in”, and of the expressive suppression scale is “I control my emotions by not expressing them”. In addition to these general-emotion items, the Reappraisal scale and the Suppression scale both included at least one item asking about regulating negative emotion (illustrated for the participants by giving sadness and anger as examples) and one item about regulating positive emotion (exemplified by joy and amusement). Individuals are asked to rate the extent to which they typically try to think or behave differently in situations to change their emotions on a 7-point Likert scale, where 1 means “strongly disagree”, 4 “neutral”, and 7 means “strongly agree”. No items are reversed. Higher mean score on a subscale indicates that the strategy is more endorsed. In earlier studies, the ERQ had high internal consistency for both the Cognitive reappraisal and Expressive suppression subscales ($a = .79$ and $a = .73$, respectively; Gross & John, 2003). The internal reliability (Chronbach alpha) for cognitive reappraisal scale in this research was $\alpha = .79$, and for expressive suppression subscale $\alpha = .66$.

2.3 Sexting Behaviors Scale (Dir, 2012)

For assessment of engagement in the exchange of sexually explicit content using electronic media, a modified version of the Sexting Behaviors Scale was used (SBS, Dir, 2012). The original scale consists of 11 items, in which the subjects respond using a Likert scale with five levels from 1 means “never” and 5 means “often or every day” assessing their personal engagement in sexting. The authors reported good internal consistency expressed by the Cronbach alpha coefficient of reliability (Cronbach $a = .88$) (Dir, 2012). The internal reliability of the scale in this research was $a = .89$.

For the purpose of this study 18 items were developed. Three items related to assessment of the frequency of receiving sexually suggestive or provocative text messages, photographs or video recordings (“*How often have you received sexually suggestive or provocative text messages through an application on your mobile phone or by internet on your computer?*”). Three items were used to assess the frequency of sending sexually suggestive or provocative text messages, photographs or video recordings (“*How often have you sent sexually suggestive or provocative photographs, using an application on your mobile phone or by internet on your computer?*”). Three items related to assessment of the frequency of responding to sexually suggestive or provocative text messages, photographs or video recordings which

the subjects received (*“How often have you responded to sexually suggestive or provocative text messages, through an application on your mobile phone or by internet on your computer?”*). Assessment of the frequency of responses by the other person to sexually suggestive or provocative text messages, photographs and video recordings which the subjects had sent (*“How often has someone responded to sexually suggestive or provocative text messages you have sent, using an application on a mobile phone or by internet?”*) was tested using three items. And finally, for three items the frequency was tested of the publication of sexually suggestive or provocative text messages, photographs or video recordings (*“How often have you publicized sexually suggestive or provocative photographs, using an application on a mobile phone or by internet on your computer?”*). The remaining three items related to the number of people with whom the subjects exchange sexually suggestive or provocative content and assessment of the identity of the persons with whom the subjects exchange sexually suggestive or provocative contents (1 - I do not exchange sexually suggestive or provocative text messages, photographs and/or video recordings with anyone, 2 - with friends and people I like, 3 - with the person I am dating, 4 - with the person with whom I am in an intimate relationship (e.g. boyfriend or girlfriend)), where the subjects were able to choose more than one response; and which applications they use most often to exchange sexually suggestive or provocative contents (1 - SMS, 2 - WhatsApp, 3 - Instagram, 4 - Snapchat, 5 - Facebook, 6 - Twitter, 7 - E-mail, 8 - none), where the subjects could also choose more than one response.

The original version of the scale did not take into account video recordings and popular social and communications networks, which young people use today (Twitter, WhatsApp), and therefore for this research it was modified to include the items mentioned above.

The results of exploratory factor analysis of the Sexting Behaviors Scale (using the common factor method with the Guttman-Kaiser extraction criterion and a minimum eigen value of 1) show the existence of two factors which should be included in the final version, and which do not agree with the author's construction of the existence of three factors. This two factors were named as “receiving and sending sexually suggestive or provocative contents” (12 items), as well as a “posting sexually suggestive or provocative contents” (3 items). According to Worthington and Whittaker (2006) it may contain a factor with a minimum of three items. The reliability indicators (from $a = .81$ to $a = .93$) and the validity of the Sexting Behaviors Scale indicate the good metrical characteristics and usefulness of this questionnaire in future research.

2.4 Procedure

Having obtained the approval of the Ethics Committee of the Psychology Department of the Faculty of Social Sciences and Humanities of the University of Mostar, the study was conducted in groups on students at the University of Mostar. Students who signed the consent form participated in the survey. In the beginning of the study students were informed about the aim of this study and then completed above mentioned questionnaires. After all the students had completed the questionnaire and placed them in the box provided at the back of the classroom, the authors of the research were available for all their questions related to the subject of the research.

2.5 Data analysis

Before the statistical analysis itself, the normality of distribution was tested using the Shapiro-Wilk test, of the results for the Emotion Regulation Questionnaire, and the Sexting Behaviors Scale. It was established that the results the Sexting Behaviors Scales of "receiving and sending sexually suggestive or provocative contents" and "posting sexually suggestive or provocative content" deviated from normal ($p < .05$).

The distribution of the results for "receiving and sending" and "posting sexually suggestive or provocative contents" were positively asymmetrical, which indicates that a larger number of participants reported low levels of engagement in sexting behaviors, which was more expressed for the scale of "posting sexually suggestive or provocative contents". The data of emotional regulation measures were normally distributed.

Differences in sexting in terms of gender and age were tested using the Mann-Whitney U test. To examine the differences in emotion regulation in relation to gender, we used an independent sample T-test, whilst for testing differences in emotion regulation (cognitive reappraisal or expressive suppression) in relation to the "sexting" category (sexters and non-sexters) we used the Mann-Whitney test.

In order to test the correlation between the sexting categories (sexters and non-sexters) and the emotion regulation strategies (cognitive reappraisal and expressive suppression), we performed a Point-biserial correlation analysis. To test the correlation between sexting categories (sexters and non-sexters) and age (younger and older) we used a nominal correlation measure, that is, the Phi (Φ) coefficient of correlation.

To verify the predictive value of gender, age and level of emotional skills and competences in relation to engagement in sexting we used binary logistic regression.

For categorization of the subjects in groups in relation to the frequency of participation in sexting, we used hierarchical cluster analysis and non-hierarchical k-means analysis. Data processing was conducted using the statistics program SPSS Statistics 20. For assessment of the significance of the results obtained, the levels of significance .05, .01 and .001 were used.

3. Results

Categorization of the subjects into groups regarding the sexting behavior was undertaken for each factor separately. When testing different solutions, those including two factors were found to be unacceptable. The decision was based on the acceptable number of subjects in clusters and the interpretability of the clusters.

For the factor "sending and receiving" two clusters were formed (non-sexters and sexters), where the first clusters comprised 76.36% of the subjects (a result of less than 2 on the sexting scale), and the other cluster comprised 23.64% of the subjects (a result of 2 or more on the sexting scale).

These two groups differed from one another in terms of gender, where there was a higher number of girls in the first cluster in comparison with boys, and in the second cluster there was a higher number of boys in relation to girls ($\chi^2(1, N=440) = 59.95; p < .01$).

In the "posting" factor, the first cluster comprised 89.77% of subjects (a result of 1 on the sexting scale), and the second cluster comprised 10.23% of subjects (a score above 1 on the sexting scale).

These two groups differed from one another in terms of gender, where there was a higher number of girls in the first cluster in comparison with boys, and in the second cluster there was a higher number of boys in relation to girls ($\chi^2(1, N = 440) = 28.83; p < .01$).

The participants most often exchanged sexually explicit messages with people with whom they were in an intimate relationship (114 participants), and with friends and people they liked (83 participants), and least with people they were dating (38 participants). The number of participants which had not exchanged sexually suggestive contents was 229.

For exchanging messages with sexually suggestive or provocative contents, the most frequently used applications were WhatsApp (171 participants), Facebook (59

participants), Instagram (39 participants), Snapchat (37 participants), SMS (11 participants) and four participants each used Twitter and e-mail.

The average number of people with whom the participants exchanged sexually suggestive or provocative contents was above 1 ($M = 1.78$ $SD = 3.44$, $min=1$, $max=25$). Interestingly, as regards the number of person sexting, one of the participant reported that had sext with 25 persons.

The results tested by the Mann-Whitney U test showed that boys engage in sexting more often than girls, which is in line with the results of the cluster analysis. Greater differences were noticed for receiving and sending in comparison with publication. The results are presented in Table 1.

Since in developmental psychology (Berk, 2018) it is said that the transition from early adulthood is from 17 to 22 years of age (Levinson's Seasons of Life) and that younger or earlier adulthood begins from 20 or 21 years of life, the participants were categorized into two age groups: younger (from 18 to 20 years), $N = 188$ and older (from 21 to 25 years), $N = 252$.

From Table 1 it may be seen that a statistically significant difference was found between receiving and sending and publication in relation to age. In both cases older participants engaged in sexting more often than younger ones.

Table 1 Differences in engagement in sexting in relation to gender and age

	Gender				Age							
	Girls		Boys		Z	P	Younger (18-20)		Older (21-25)		Z	P
Sexting	<i>Mdn</i>	<i>IQR</i>	<i>Mdn</i>	<i>IQR</i>			<i>Mdn</i>	<i>IQR</i>	<i>Mdn</i>	<i>IQR</i>		
Receiving and sending	1.08	.33	1.75	1.35	-8.36	.000*	1.08	.50	1.33	1.08	4.05	.000*
Posting	1.00	.00	1.00	.00	-5.42	.000*	1.00	.00	1.00	.00	2.16	.03*

* $p < .05$

The independent samples T-test did not show any statistically significant difference in the strategy of cognitive reappraisal in relation to gender (Table 2). However a statistically significant difference was found in the strategy of expressive suppression, where boys had higher results in comparison to girls.

Table 2 Differences in emotional regulation in relation to gender

	Girls		Boys		<i>t</i>	<i>df</i>	<i>P</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
Cognitive reappraisal	28.39	6.99	27.44	6.40	-1.46	438	.145
Expressive suppression	14.99	4.84	17.79	4.88	5.95	438	.000*

* $p < .05$

The analysis of the results did not show any statistically significant difference in emotion regulation in terms of the sexting category (Table 3). Table 3 shows that there was a difference in publication in relation to cognitive reappraisal in terms of the sexting category, whilst for expressive suppression no difference was found.

That is to say, the results suggest that participants in the non-sexter category had higher results for the cognitive reappraisal strategy, that is, they reinterpret a specific situation more cognitively before they develop their response (in this case publication of sexually suggestive content) in comparison to participants in the sexter category.

Table 3 Differences in emotional regulation strategies in relation to sexting categories (non-sexters and sexters) for posting sexually suggestive or provocative contents

	Receiving and sending				Posting							
	Non-sexting category		Sexting category		<i>Z</i>	<i>p</i>	Non-sexting category		Sexting category		<i>Z</i>	<i>p</i>
Emotional regulation strategies	<i>Mdn</i>	<i>IQR</i>	<i>Mdn</i>	<i>IQR</i>			<i>Mdn</i>	<i>IQR</i>	<i>Mdn</i>	<i>IQR</i>		
Cognitive reappraisal	28.00	9.00	28.00	7.00	1.38	.167	28.00	9.00	26.50	9.00	2.26	.024*
Expressive suppression	16.00	6.00	16.50	6.50	-1.36	.174	16.00	7.00	16.00	8.00	-.29	.770

* $p < .05$

Further analysis of the results did not show any statistically significant correlation between the sexting category (sexters and non-sexters) and the emotion regulation strategy (cognitive reappraisal $r = -.07$, and expressive suppression $r = .07$) for receiving and sending.

However, a statistically significant, but low, negative correlation was found between cognitive reappraisal strategy and the category “publication” ($r = -.10$ $p < .05$). The correlation between expressive suppression and the sexting category was not shown to be significant ($r = .02$).

The results obtained suggest that those participants who post sexually suggestive content use adaptive emotion regulation strategies. Further, a significant low correlation was found between age and sexting category for receiving and sending ($r = .16$ $p < .05$) and publication ($r = .10$ $p < .05$). The results suggest that participants who participate in sexting are older.

In order to verify the predictive value of gender, age and emotion regulation strategy for engaging in sexting, binary logistic regression analysis was performed, with the critical variable “sexting” (0 - non-sexter, 1- sexter).

In that analysis gender, age and emotion regulation strategy (cognitive reappraisal and expressive suppression) were used as predictor variables. For receiving and sending, the group of predictor variables together significantly predicted engaging in sexting ($\chi^2 = 62.86$, $df = 4$, $p = .000$). The total percentage of cases correctly classified on the basis of the predictors included was 75.7% and the analyzed group of variables explains 20% of the variance in sexting ($R^2 = .20$).

For publication, the group of predictor variables together significantly predicts engaging in sexting ($\chi^2 = 33.343$, $df = 4$, $p = .000$).

The total percentage of cases correctly classified on the basis of the predictors included was 89.5% and the analyzed group of variables explains 15% of the variance in sexting ($R^2 = .149$). Table 4 shows that gender was shown to be the only significant predictor for engaging in sexting for receiving and sending, and for publication.

The results suggest that boys are more likely to engage in sexting than girls. The emotion regulation strategy (cognitive reappraisal or expressive suppression) and age were not shown to be significant predictors of engaging in sexting.

Table 4 Result of binary logistic regression analysis

Predictors	Receiving and sending						Posting					
	<i>B</i>	<i>S.E.</i>	<i>Wald</i>	<i>df</i>	<i>P</i>	OR (95% CI)	<i>B</i>	<i>S.E.</i>	<i>Wald</i>	<i>df</i>	<i>P</i>	OR (95% CI)
Gender	1.82	.26	46.53	1	.000*	6.19 (3.66 -10.45)	1.82	.39	21.94	1	.000*	6.21 (2.89-13.34)
Age	.07	.06	1.44	1	.229	1.08 (.95-1.23)	.04	.08	.27	1	.603	1.04 (.88-1.24)
Cognitive reappraisal	-.01	.01	.63	1	.424	.98 (.94 - 1.02)	-.42	.02	2.68	1	.101	.95 (.91-1.00)
Expressive suppression	-.01	.02	.24	1	.619	.98 (.93-1.03)	-.02	.03	.40	1	.526	.97 (.91-1.04)
Cox & Snell R ² =.13 Nagelkerke R ² =.20						Cox & Snell R ² =.07 Nagelkerke R ² =.15						

B=nonstandardized coefficients of predictor variables; S. E. = standard errors; Wald=test of significance for individual regression coefficients; OR=odds ratio per each predictor; 95% CI for OR=95% confidence interval for prognostic value of each predictor; $p < .05$

4. Discussion

The aim of this research was to test the relationship between difficulties in emotion regulation and sexting.

The results of the cluster analysis showed that for the factor receiving and sending 23.64% of participants were in the sexting category, and for the factor posting, 10.23% were in the sexting category. In comparison with data from previous research conducted on young adult subjects, which suggest that about 50-60% of young people engage in sexting (Crimmins & Seigfried-Spellar, 2014; Gordon-Messer et al., 2013; Klettke et al., 2014), the prevalence of engaging in sexting in this sample was somewhat lower. However, it was higher than that found by Liong and Cheng (2017). The variations in prevalence are probably caused by differences in the definition of sexting, the age range, and the criteria for categorizing subjects into two categories. That is to say, a large amount of research, when entering data on prevalence, most often expresses the percentage of those who have participated at least once in the past year in sexting in any way. In this research, stricter criteria were used (cluster analysis), where the frequency of participation in sexting was taken into consideration. In this way we were trying to avoid labelling those participants as "sexters" who in terms of the frequency of sexting were not even in the group of those who exchanged sexually suggestive content "rarely or only a few times" (on the scale they achieved results lower than 2).

From the results it is visible that participants most often exchange sexually suggestive messages, photographs and/or video recordings with the person with whom they are in an intimate relationship, and then with friends and persons they like. Obtained data support others studies which have found that people most often engage in sexting with their romantic partners (Dir et al., 2013; Drouin et al., 2013; Gámez-Guadix et al., 2015). For example, Hudson and Marshall (2018) found that one of the most often reported positive consequences of sexting was a feeling of comfortable expressing emotions and feelings of love with the partners. Our results suggest that sexting might enhance intimate relationship. For those who are in relationship, sexting could have positive sexual or even emotional consequences.

The highest percentage of participants reported that for exchanging sexually suggestive messages, photographs and/or video recordings, they use the WhatsApp application. More formal forms of communication, such as e-mail, are almost never used. A possible explanation is that young people see WhatsApp as a more intimate form of communication. Van Ouytsel et al. (2017) found in their research that Facebook and other forms of digital communication, such as e-mail, are considered to be too "open" and "direct". Moreover,

participants stated that they believe Facebook and e-mail are more at risk in terms of unauthorized distribution of photographs.

The results of this research showed significant differences in participation in sexting in terms of gender, whereby boys in general engage more often in sexting in comparison to girls, that is, they more often receive and send, and more often posting sexually suggestive content. Although previous research is inconsistent, the hypothesis was confirmed and is in line with research conducted by Delevi and Weisskirch (2013) and Hudson (2011). This may be the result of the relative social acceptability of male sexuality or the traditional male sexual role as the sexual initiator. Delevi and Weisskirch (2013) believe that the difference in participation may indicate the difference in the motives in sexting between boys and girls. Boys may use sexting to attract potential partners, whilst girls may use sexting as a way of maintaining the interest of their current partner. Liong and Cheng (2017) found that boys have a greater probability of sexting because they have a more positive attitude towards sexting. The results obtained may be partially explained with the fact that boys receive more often than girl's sexually suggestive content that was intended for someone else, and they are not necessarily part of any reciprocal exchange. In the present research, most boys do not exchange sexually suggestive content only within a romantic relationship, but also outside one, for example with friends, where this is probably a case of forwarding content that was not originally intended for them. Also, differences in the frequency of participating in sexting may also be linked to the perceived risk. Garcia et al. (2016) found that girls believe more than young men that sexting may harm their reputation, career, self-respect and current relationships or friendships. However, since both sample participated in sexting, we may believe that both of them may perceive positive consequences of sexting.

A comparison of the results of participation in sexting in relation to age showed that older participants engage more often in sexting than younger ones. These results support research that found a correlation in adolescents (Baumgartner et al., 2014; Gámez-Guadix et al., 2017) and an adult population (from 21 to 75 years) (Garcia et al., 2016) between age and the prevalence of sexting. A possible explanation for these results is that a probability of establishing stable romantic relationship increases with ages (the context in which sexting more frequently occurs).

The results of testing the differences in emotion regulation in terms of gender suggest that boys more intensively use the strategy of expressive suppression in comparison to girls. No differences were found between girls and boys for the strategy of cognitive reappraisal. This is in line with the hypotheses and the findings of previous research (Gross & John, 2003; Gross

et al., 2006; Melka et al., 2011). Brody and Hall (2000) state that gender differences in expressing emotions is the result of a combination of biologically conditioned temperamental predispositions and socialization by parents, teachers and peers. Boys have a higher level of activity, arousal, or expression of negative emotions, less linguistic ability to express their emotions, and lower inhibitory control than girls. Due to these early differences between boys and girls, the social environment develops a specific relationship towards the different modes of functioning of each gender. Whilst in boys emotional expression is suppressed, they are encouraged to restrict their emotions as a way of regulating their high emotional arousal and level of activity, in girls emotional expression is tolerated (Brody & Hall, 2000).

Further, the non-significant relationship between sexting and emotion regulation strategies is not in line with the hypothesis set, and do not support previous research (Houck et al., 2014; Trub & Starks, 2017). Due to different sample and measures of emotion regulation strategies the non-significant relationship in our study might be inconsistent with the relationship obtained in the previous studies. For example, Houck et al. (2014) conducted their research on adolescents (from 12 to 14 years of age), that is, adolescents in whom school and medical staff had identified symptoms of emotional difficulties and behavioral difficulties. On the other hand, Trub and Starks (2017) only covered young adult girls in their sample. Both authors used a different measurement instrument to assess emotion regulation (the Difficulties in Emotion Regulation Scale - DERS, Gratz & Roemer, 2004), which may also have caused a difference between the results of this research and ours. The results obtained suggest that receiving and sending sexually suggestive content between young adults, who practice it on a low level, cannot be defined as difficulties in emotion regulation. Sexting in young adulthood may take place under qualitatively different conditions than sexting in adolescence. Ševčíková (2016) states that behavior in romantic relationships in adolescents is much more under the influence of peer pressure. In contrast, it may be presumed that romantic relationships in adulthood are less related to group values and norms, and more aimed at expressing feelings of love. The results obtained support the theoretical assumptions of some authors, according to which sexting is a normal, contemporary form of sexual expression and intimate communication within romantic and sexual relationships (discourse of normality) (Döring 2014). Research suggests that in people in romantic relationships, sexting may affect the pace of the relationship and increase intimacy between partners (Dir et al., 2013; Hudson & Marshall, 2018; Parker et al., 2013). Outside romantic relationships, sexting is most often used as a joke or a bonding ritual (Albury & Crawford, 2012).

Analysis of the results showed that in the factor "posting" a difference exists in cognitive reappraisal in relation to the sexting category. It was also established that there was a low

negative correlation between the strategy of cognitive reappraisal and the sexting category, in the case of posting. The results suggest that participants who posted sexually suggestive content are more prone to weaker cognitive reappraisal. Since no research was found in the literature examining the relationship between cognitive reappraisal and posting of sexually suggestive content, there is no possibility of comparing the results. However, it may be said that this research supports research which established a correlation between difficulties in emotion regulation and other forms of sexting (receiving and sending) (Houck et al., 2014; Trub & Starks, 2017). Cognitive reappraisal is one of the key elements in regulation of social behavior, which is particularly important in an electronic environment, where disinhibition and dysregulation of behavior are much more frequent than in an "offline" environment (Suler, 2004). Martin et al. (2013) state that cognitive reappraisal in an electronic environment may be more relevant than other forms of emotion regulation, since online communication is characterized as an environment in which individuals have a tendency to focus on their own cognition and emotions more often than they do in "offline" situations. Moreover, cognitive reappraisal may also be related to a deeper cognitive analysis of stimuli (Craig & Lockhart, 1972). Since when sexually suggestive content is publicized, the information becomes accessible to a significantly larger number of people right at the start, in comparison to the number of people involved in interactive exchanges (receiving and sending) of content, it is possible that individuals more easily perceive the risk involved in this behavior. This may result in the fact that those who do not publicize sexually suggestive content act with more care and more consideration of the situation (e.g. the possibility of further unauthorized distribution, undermining their reputation etc.) before they develop a response, and in that way chose appropriate behavior. Other explanation would be that maybe it is not relevant difficulty in regulation of own's emotions to understand that shared photos will be become public, but participants desire to attract others by sharing the content in order to achieve sexual desire or even admiration of others. In such case, habit of sexting could be related with self-promoting narcissistic behavior. Recent study (March & Wagstaff, 2017) conducted on young people has found that narcissism and other dark traits (Machiavellianism, psychopathy and sadism) are related with sexting.

Despite the established correlation between cognitive reappraisal and the sexting categories for posting, and age and sexting category for receiving and sending, the results of the logistic binary regression showed that gender is the only significant predictor of engaging in sexting. The results suggest that there is a greater probability of engaging in sexting for boys than for girls. This partially confirms the results obtained by Garcia et al. (2016) which, apart from gender, also found age to be a significant predictor. As was mentioned above, this may be the

result of the relative social acceptance of male sexuality, or the traditional male sexual role as the sexual initiator, more positive attitudes towards sexting etc. Also, the results may be partially ascribed to the fact that boys, more often than girls, receive sexually suggestive content which was originally intended for someone else and they are not necessarily part of a reciprocal exchange.

This research has some limitations which need to be pointed out. The research was conducted on a convenience sample of students, which limits the generalization of the results. Also the time period for which the participants assessed their involvement in sexting was not limited. There is a possibility that participants reported exchanges that took place a fairly long time earlier (longer than one year), and in which the context of the exchange differed from their current situation (e.g. they were then in a romantic relationship, and now they are not). Further, the survey of emotion regulation covered only two strategies, not taking into account multiple aspects of emotion regulation, such as the lack of emotional awareness, difficulties in controlling impulsiveness, a lack of a clear understanding of emotions etc., which may have affected the results when examining the relationship between sexting and emotion regulation.

The results of this research contribute to a better understanding of sexting and its relationship to emotion regulation. Although sexting is often mentioned as risky behavior, related with negative outcomes, the information from this study indicates that such statements may be exaggerated.

The participants in this sample engage in sexting, not every day but occasionally, and they do so most often within an intimate relationship. The results suggest that receiving and sending sexually suggestive content amongst young adults, which is practiced on a low level, cannot be defined as an indicator of difficulties in emotion regulation. This may be significant for practitioners and researchers, who are given clearer insight into a new form of sexual behavior in young people. They may be prompted to approach sexting as a normal, contemporary form of sexual expression and intimate communication. Those who are good at detecting and managing own emotions may be aware of their sexual desires and may tend to satisfy those desire, sometimes even through sexting.

Further, the low negative correlation found between the strategy of cognitive reappraisal and the sexting category in terms of publication may help professionals to focus on specific strategies which will help young people to express their feelings about sexuality in a safer way, for example, to encourage integration of information about the possible risks of publication of sexually suggestive content within the educational process. If we relate posting with narcissistic behavior of person to satisfy own sexual desire through getting attraction of

others, than professional helpers could not only underline the risks of sharing sexual contents, but also work on subjects narcissism in order to help them to direct sexual desire toward something that is outside themselves.

Since these data were obtained from a single sample, it is necessary to undertake further research into the relationship between sexting and emotional regulation, in order to draw specific conclusions with greater certainty. One suggestion could be to use a different measurement instrument to examine difficulties in emotion regulation (e.g. the Difficulties in Emotion Regulation Scale (DERS), Gratz & Roemer, 2004) and others variables of interest (e.g. personality traits) . The attention of the researchers should be also directed towards examining does excessive sexting leads to addiction, which consequently could cause negative outcomes. Also it would be useful to examine the attitudes of young people towards sexting in this region. We believe it is more likely that individuals will less sext if they perceive risk of sexting (e.g. loosing reputation). Furthermore, since so far obtained findings about the relationship between sexting and sexual life satisfactions are robust (according to Wiederhold, 2015), we see an important step for future studies to examine that relationship. To be more specific it could be compared group of sexters and non-sexters on different aspects of sexual life.

5. Conclusions

In conclusion we can say that boys are more likely to engage in the activity of sexting than girls and older participants are more likely to engage in the activity of sexting than younger ones. It was found that boys use the strategy of expressive suppression more intense than girls. When it comes to the relationship between sexting and emotional regulation, there is a difference in cognitive reappraisal between participant who post and who do not post sexually suggestive content. Statistically significant low correlation was found between posting sexually suggestive content and cognitive reappraisal. Furthermore, testing the predictive values has proven gender to be a significant predictor of engagement in the activity of both category of sexting behavior. The results suggest that exchange sexually suggestive content among young adults, which shows low incidence, cannot be defined as an indicator of difficulties in emotional regulation.

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DOI: 10.6092/2282-1619/2019.7.2008