



Psychometric properties of the Sexting Motivations Questionnaire for adolescents and young adults

Proprietà psicometriche del Sexting Motivations Questionnaire per adolescenti e giovani adulti

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ABSTRACT

There has been a lack of research into the motivations for sexting. This study presents a self report instrument, the Sexting Motivations Questionnaire (SMQ), evaluating three sexting motivations: sexual purposes, instrumental/aggravated reasons and body image reinforcement. We also investigated which sexting motivations predict different sexting behaviors, distinguishing between experimental and more harmful sexting. The study involved 509 participants aged from 13 to 35 ($M_{age} = 21.4$; $SD_{age} = 4.6$; 63.7% females) who reported having sent sexts during the last year. Explorative factor analysis revealed three factors: sexual purposes, instrumental/aggravated reasons, and body image reinforcement. The results showed that sexual purposes were the most frequently reported, followed by body image reinforcement, and instrumental/aggravated reasons were reported in low but alarming percentages. Only instrumental/aggravated reasons turned out to predict more harmful sexting behaviors, such as publicly posting own sexts and the so-called 'not allowed sharing' of a partner's sexts. These motivations could lead to aggravated sexting. Our findings confirmed the good reliability and criterion validity of the SMQ, a new instrument for assessing sexting motivations in young people.

Keywords: sexting motivations; body image; sexual purposes; instrumental/aggravated reasons; adolescents; young adults.

RIASSUNTO

La letteratura ha messo in luce la carenza di ricerca sulle motivazioni al sexting. Questo studio presenta la costruzione di uno strumento self report, il Sexting Motivations Questionnaire (SMQ), che permette di valutare tre motivazioni al sexting: sessuali, strumentali/aggravate e rinforzo dell'immagine corporea. Abbiamo inoltre indagato quali di queste motivazioni predicono differenti comportamenti di sexting, distinguendo tra sexting sperimentale e aggravato. Hanno partecipato 509 giovani tra i 13 e i 35 anni (età media = 21.4; deviazione standard = 4.6; 63.7% femmine), che hanno riferito di aver inviato sext nell'ultimo anno. Dall'analisi fattoriale esplorativa sono emersi tre fattori: motivazioni sessuali, intenzioni strumentali/aggravate e rinforzo dell'immagine corporea. I risultati hanno mostrato che le motivazioni sessuali sono le più frequentemente riportate, seguite dal rinforzo dell'immagine corporea, mentre le intenzioni strumentali/aggravate mostrano percentuali basse ma preoccupanti. Solo le intenzioni strumentali/aggravate predicono comportamenti di sexting più dannosi, quali il postare pubblicamente propri sext e condividere sext del partner senza il suo permesso. Dunque queste ultime motivazioni possono condurre al sexting aggravato. I risultati confermano la buona attendibilità e validità di criterio dell'SMQ per valutare le motivazioni al sexting nei giovani.

Parole chiave: motivazioni al sexting; immagine corporea; motivazioni sessuali; intenzioni strumentali/aggravate; adolescenti; giovani adulti.

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RdP

Introduction

Media-based communication interacts with several areas of daily life and development. Sexuality too can be mediated by new technologies, and sexting is becoming very common among young people. Sexting has been defined as the exchange of sexually suggestive and provocative text messages, pictures, or videos via a smartphone, the internet or social networks (Chalfen, 2009). Further definitions have been proposed in the literature, including categorizing sexting according to the subject depicted in the images (“primary sexting” refers to sharing one’s own sexts, while “secondary sexting” is the sharing of sexts depicting someone else; Calvert, 2009; 2013) and according to the aims behind the behaviors (“experimental sexting” does not imply harmful intentions, conversely “aggravated sexting” implies aggressive intent towards someone; Wolak, Finkelhor, & Mitchell, 2012).

The specifically “not allowed sharing of sexts” (Morelli, Bianchi, Baiocco, Pezzuti, & Chirumbolo, 2016a) refers to sharing or forwarding sexts depicting someone else without their permission. “Unwanted but consensual” sexting occurs when someone sends a sext in response to being pressured by a partner, a phenomenon reported by some 50% of young adults (Drouin & Tobin, 2014; Tobin & Drouin, 2013). Both not allowed sexting and unwanted but consensual sexting are aggressive behaviors that can occur among dating partners or ex-partners, as found in previous studies (Morelli et al., 2016a; Morelli, Bianchi, Baiocco, Pezzuti, & Chirumbolo, 2016b; Drouin, Ross & Tobin, 2015) and can be considered expressions of aggravated sexting.

The high prevalence of sexting among adolescents and young adults has been addressed by several international studies (Eurispes & Telefono Azzurro, 2012; Dake, Price, Maziarz, & Ward, 2012; Dir, Coskunpinar, Steiner, & Cyders, 2013; Morelli et al., 2016b; Morelli, Bianchi, Baiocco, Pezzuti, & Chirumbolo, 2016c; Samimi & Alderson, 2014). The first literature on sexting was mostly focused on risks to health and other negative consequences, investigating the phenomenon from either clinical or legal perspectives (Dir, Cyders, & Coskunpinar, 2013; Benotsch, Snipes, Martin, & Bull, 2013; Dake et al., 2012; Eraker, 2010; Ferguson 2011; Wolak et al., 2012). Developmental psychology studies proposed an alternative view of the phenomenon, which considered sexting as a new and normal expression of sexuality among young people, not definable as problematic or pathological behavior in itself (Gordon-Messer, Bauermeister, Grodzinski, & Zimmerman, 2013; Levine, 2013). In fact there is evidence that sexting is not always related to psychological distress and risky sexual behavior (Hudson, 2011; Morelli et al., 2016b; O’Sullivan, 2014; Temple et al., 2014). In line with this developmental perspective and in order to better distinguish between sexting as a new normal expression of sexuality and as harmful behavior, it could be useful to further examine the motivations behind sexting itself.

A recent review by Cooper, Quayle, Jonsson, and Svedin (2016) stressed the lack of research into the motivation for sexting. The most common motivations addressed in literature are related to sexuality, strengthening intimate relationships, social purposes, pressure from partners/friends, instrumental purposes (e.g. in exchange for money), self-expression, and identity construction. Sexuality, one of the most reported motivations, includes sending sexts in order to flirt, to initiate sexual activity, to attract or arouse someone, or as foreplay (Drouin, Vogel, Surbey, & Stills, 2013; Drouin & Tobin, 2014; Englander, 2012; Henderson & Morgan, 2011; Kopecky, 2012; Martinez-Prather & Vandiver, 2014; National Campaign & CosmoGirl.com, 2008).

Strengthening intimate relationships is a sexting motivational area that involves gaining a partner’s attention, demonstrating trust, offering a sexy present to a partner, and increasing passion or satisfaction, especially within a long distance relationship (Drouin et al., 2013; Drouin & Tobin, 2014; Englander, 2012; Eurispes & Telefono Azzurro, 2012; Henderson & Morgan, 2011; Kopecky, 2012; McDaniel & Drouin, 2015; National Campaign & CosmoGirl.com, 2008; Weisskirch & Delevi, 2011). The third sexting motivational area involves social purposes such as having fun, joking, killing time, as a result of boredom (Drouin et al., 2013; Eurispes & Telefono Azzurro, 2012; Henderson & Morgan, 2011; Kopecky, 2012; Martinez-Prather & Vandiver, 2014; National Campaign & CosmoGirl.com, 2008), to increase popularity, to gaining attention on a social network and to imitate friends (Englander, 2012; Eurispes & Telefono Azzurro, 2012; Kopecky, 2012).

Pressured from a partner or friends is another reason that seems to lead young people to sext (AP-MTV, 2009; Drouin et al., 2013; Drouin & Tobin, 2014; Englander, 2012; Eurispes & Telefono Azzurro, 2012; Henderson & Morgan, 2011; Kopecky, 2012; Martinez-Prather & Vandiver, 2014; National Campaign & CosmoGirl.com, 2008). A more dangerous and alarming motivational area is related to harmful aims such as sending sexts in exchange for money, for revenge against an ex-partner and to embarrass someone else (Eurispes & Telefono Azzurro, 2012; Kopecky, 2012; Walker, Sancì, & Temple-Smith, 2013).

Finally, there is sexting for self-expression, which involves showing off one's own appearance, feeling and appearing sexy (Henderson & Morgan, 2011; Kopecky, 2012) or experimenting with identity construction (Van Manen, 2010). To our knowledge, this area appears to be understudied. In particular, studies have not taken into account how body image development during adolescence could affect the use of sexting as self-expression.

Adolescent development is characterised by puberty, which involves physical and psychological changes, new interests in sexuality and implies the redefinition of body image (Blos, 1967, 1979; Erikson, 1959, 1970). Nowadays, as addressed by Smahel and Subrahmanyam (2014), new media communications can affect the way adolescents face these developmental tasks. In fact the redefinition and acceptance of body image during adolescence require social reinforcement via feedback and confirmation from others (Baumgartner, Valkenburg, & Peter, 2011; Ricciardelli, McCabe, & Banfield, 2000; Valkenburg & Peter, 2011) and this process increasingly takes place on social networks. Studies suggest that self-presentation on the internet helps boys and girls in the exploration and expression of their forming identities (Schmitt, Dayanim, & Matthias, 2008). Sexting can also become a way to obtain social reinforcement about the adequacy of appearance and body, according to previous studies, which found sexting to be related to the need for peer approval of one's own appearance (Chalfen, 2009; Sübak, 2009).

Within this theoretical framework, the aim of this study was to investigate motivations for sending sexts, taking into account the need for social reinforcement regarding body image (Chalfen, 2009; Sübak, 2009), an aspect that was relatively overlooked in literature. Specifically, our study assessed the motivational dimensions previously described (i.e. sexuality, strengthening intimate relationship, be pressured, harmful aims and self-expression) through the construction of a self-report instrument, the Sexting Motivations Questionnaire (SMQ). In order to confirm the validity of the instrument, the study explored how different sexting motivations could predict different sexting behaviors. Specifically, we expected that sexting motivations related to the exploration of sexuality and developmental tasks would be more common and could lead to safer sexting behaviors, such as privately sharing sexts. These motivations would thus be considered a facet of experimental sexting, as described by Wolak et al. (2012).

We also expected that sexting motivations related to secondary aims and harmful intentions might be less reported, because they are related to more severe consequences, and that these motivations could also lead to dangerous sexting behaviors, such as publicly posting own sexts and the not allowed sharing of a partner's sexts, investigated in previous studies (Drouin et al., 2015; Morelli et al., 2016a). These motivations could thus be related to 'aggravated sexting' (Wolak et al., 2012).

Method

Participants and Procedures. The sample comprised 509 participants aged from 13 to 35 ($M_{age} = 21.4$; $SD_{age} = 4.6$; 63.7% females), who had previously reported sending sexts at least once in the last year. Young adults were recruited via an online survey and gave their informed consent by selecting "yes" on the initial page of the survey. Adolescents were recruited in secondary schools in Rome, and written informed consent was obtained from parents/guardians and school authorities. Data collection for the adolescents was conducted at school via an online survey. The majority of participants were exclusively heterosexual (77.4%; $n = 394$), and 96.5% of participants were Italian.

This study was approved by the Ethics Committee of the Department of Social and Developmental Psychology of Sapienza University of Rome.

Instruments

Socio-demographic data. Participants were asked for demographic data such as gender, age, nationality and sexual orientation. Sexual orientation was assessed via the Kinsey Scale (Kinsey, 1948) using a 5-point Likert scale, from 1 (*exclusively heterosexual*) to 5 (*exclusively homosexual*).

Sexting behaviors. Sexting was defined as the exchange of sexually suggestive or provocative messages, photos and/or videos via smartphone, internet and social networks (Chalfen, 2009). Three items from the Sexting Behaviors Questionnaire (Morelli et al., 2016b) evaluated the frequency of three specific sexting behaviors in the last year: privately sending one's own sexts ($M_{\text{score}} = 1.3$; $SD = 0.7$); publicly posting one's own sexts ($M_{\text{score}} = 1.1$; $SD = 0.4$) and the sharing of a partner's sexts without their consent ($M_{\text{score}} = 1.13$; $SD = 0.5$). Participants rated each item on a 5-point Likert scale, from 1 (*Never*) to 5 (*Frequently or daily*).

Sexting motivations. In order to identify and assess specific motivations for sexting, various thematic areas were explored based on previous literature (Cooper et al., 2016). The items were selected following these steps. The first step was a deep analysis of several studies regarding reasons for sexting reported by young people (Drouin, et al., 2013; Drouin & Tobin, 2014; Englander, 2012; Eurispes & Telefono Azzurro, 2012; Henderson & Morgan, 2011; Kopecky, 2012; Lenhart, 2009; Martinez-Prather & Vandiver, 2014; McDaniel & Drouin, 2015; National Campaign & CosmoGirl.com, 2008; Weisskirch & Delevi, 2011). The second step comprised a further analysis of studies on common beliefs and expectations in sexting (Dir, Coskunpinar et al., 2013; Eurispes & Telefono Azzurro, 2012; Lenhart, 2009). Two focus group discussions were conducted with experts in developmental psychology, in order to identify the main reasons for sexting. Finally, based on a comparison of these findings, an instrument comprising by 13 items was developed by the authors. This measure aimed to explore the following motivations: sending sexts to improve passion and intimacy within a dating relationship (2 items), to initiate sexual activities and to feel sexually aroused (3 items), sending sexts for secondary aims such as obtaining favours, in exchange for money (3 items), sending sexts related to harmful intentions, taking into account both victimisation (being forced by someone to sext; 1 item) and perpetration, (sexting in order to hurt or damage someone; 1 item) and finally, sending sexts in order to obtain positive feedback about the adequacy of own body (3 items). The original items in Italian are reported in the appendix. Participants rated how often they sent sexts with each motivation on a 5-point Likert scale from 0 (*Never*) to 4 (*Always*). Since this measure was newly developed, item wording, factor structure and reliability will be fully reported in the results section.

Data analysis. An explorative factor analysis was conducted to examine the factorial structure of the SMQ using principal axis factoring (PAF) with Oblimin rotation. For descriptive purposes, the percentages of different sexting motivations were computed. Mean scores and standard deviations were provided as normative data, for males and females, for adolescents (aged from 13 to 19; $n = 207$) and young adults (aged from 20 to 35; $n = 302$), for exclusively heterosexual (who answered 1 to the Kinsey scale; $n = 394$) and not exclusively heterosexual participants (who answered from 2 to 5 to the Kinsey scale; $n = 115$), and for the total sample. Moreover a set of univariate analyses of variance (ANOVAs) was run in order to test gender, age and sexual orientation differences in sexting motivations. Correlations among the three sexting motivations and three different kinds of sexting behaviors were computed. Finally, in order to provide evidence for the criterion validity of the instrument, three hierarchical regression analyses were conducted for evaluating whether different sexting motivations were related to different sexting behaviors (e.g. sending and posting one's own sexts, and not allowed sharing of a partner's sexts), controlling for gender, age and sexual orientation. In the first step of each regression, socio-demographic variables such as gender, age and sexual orientation were included as covariates. In the second step, the criterion was regressed on the three sexting motivations.

Results

Explorative factor analysis of SMQ

Principal axis factoring (PAF) with Oblimin rotation was conducted on the 13 items previously identified for investigating sexting motivations. This analysis led to the extraction of three interpretable factors that accounted for 70.53% of the total variance, according to an examination of the scree plot and the eigenvalues (the eigenvalues of the first six factors were: 4.48, 3.13, 1.46, 0.83, 0.76, 0.53). The items and factor loadings of the Sexting Motivation Questionnaire are reported in Table 1. The first factor accounted for the 35.23% of the variance and had factor loadings ranging from .40 to .97 (mean factor loading of .67). It was named *Sexual purposes* since it was comprised of five items that referred to sending sexts for sexual aims (e.g. increasing passion and intimacy in a dating relationship, feeling wanted and sexually aroused, and flirting). The second factor accounted for 24.05% of the variance and had factor loadings ranging from .51 to .91 (mean factor loading of .78). It was named *Instrumental/aggravated reasons* since it was comprised of five items that referred to the use of sexting for secondary aims, not related to sexuality (e.g. for obtaining money, gifts or small favours or related to the perpetration of, and victimisation by violence). Finally, the third factor accounted for 11.25% of the variance and had factor loadings ranging from .75 to .94 (mean factor loading of .84). It was named *Body image reinforcement* because it was comprised of three items that referred to the use of sexting in order to obtain social reinforcement about the adequacy of one's own body (e.g. for testing whether the body is acceptable, or attractive enough). The first factor was weakly and positively correlated with the second ($r = .12$), and moderately and negatively correlated with the third ($r = -.46$). The second and the third factors were also modestly and negatively correlated ($r = -.21$). The three factors showed good internal consistency: Sexual purposes had a Cronbach's alpha of .84, instrumental/aggravated reasons of .87, and body image reinforcement of .89.

Table 1. Factor loadings of SMQ

Items	Factor loadings		
	Sexual purposes	Instrumental/aggravated reasons	Body image reinforcement
<i>Sometimes I send sexts...</i>			
... to increase passion in my dating relationship	0.96		
... to increase intimacy in my dating relationship	0.95		
... to feel sexually aroused	0.57		
... to feel wanted	0.49		
... for flirting or hooking up	0.40		
... to obtain small favours from people		0.91	
... in exchange for money or gifts		0.90	
... because I am forced by someone		0.79	
... in exchange for something I need		0.77	
... to hurt or damage someone		0.51	
... to test whether I am attractive enough			0.94
... to verify whether my body is okay			0.83
... to test whether I am sexually attractive			0.75

Prevalence of sexting motivations

Participants who reported sending sexts for sexual purposes comprised 88% ($n = 448$) of the sample, meanwhile instrumental/aggravated reasons were reported at 13.5% ($n = 69$) and body image reinforcement at 57.4% ($n = 292$). Normative data for males and females, for adolescents and young adults, for exclusively heterosexual and not exclusively heterosexual participants are reported in Table 2. The F values of ANOVA analyses run for testing gender, age and sexual orientation differences are also reported in table 2.

Correlations

The three sexting motivations were modestly and positively correlated with all investigated sexting behaviors. Correlations are reported in table 3.

Sexting motivations predicting sexting behaviors

In order to test the criterion validity of the SMQ, three hierarchical regression analyses were conducted – following the previously described procedure – in order to determine which sexting motivations predict sending own sexts, posting own sexts and the not allowed sharing of a partner's sexts, controlling for gender, age and sexual orientation. Regarding sending own sexts, gender, age and sexual orientation, entered in the first step as covariates, accounted for 3% of the variance, $R = .19$, $p = .000$. Gender, $\beta = -.11$, $p = .02$, age, $\beta = .14$, $p = .002$, and sexual orientation, $\beta = .11$, $p = .01$, emerged as significant predictors, with males (more than females), young adults (more than adolescents) and not-exclusively heterosexuals (more than exclusively heterosexuals) reporting sending their own sexts. In the second step, in which sexting motivations were added to the equation, 12% of the variance was accounted for, $R = .35$, with a significant increment of 9% in the explained variance, $\Delta F(3, 497) = 16.62$, $p = .000$. Only gender and age remained significant predictors and, controlling for these variables, sexual purposes, $\beta = .14$, $p = .006$, instrumental/aggravated reasons, $\beta = .14$, $p = .001$, and body image reinforcement, $\beta = .14$, $p = .007$, turned out to be significant predictors of sending own sexts.

Regarding posting of own sexts instead, gender, age and sexual orientation, entered in the first step as covariates, accounted for 3% of the variance, $R = .17$, $p = .003$. Only sexual orientation, $\beta = .16$, $p = .000$, emerged as significant predictor, with not-exclusively heterosexuals reporting posting their own sexts more often than exclusively heterosexuals. In the second step, in which sexting motivations were added to the equation, 7% of the variance was accounted for, $R = .26$, with a significant increment of 4% in the explained variance, $\Delta F(3, 500) = 6.87$, $p = .000$. Sexual orientation remained a significant predictor and, controlling for this variable, only instrumental/aggravated reasons, $\beta = .18$, $p = .000$, turned out to be a significant predictor of posting own sexts.

Finally, regarding the not allowed sharing of a partner's sexts, gender, age and sexual orientation, entered in the first step as covariates, accounted for 2% of the variance, $R = .13$, $p = .029$. Only gender, $\beta = -.121$, $p = .009$, emerged as a significant predictor, with males reporting more not allowed sharing of a partner's sexts than females. In the second step, in which sexting motivations were added to the equation, 5% of the variance was accounted for, $R = .21$, with a significant increment of 3% in the explained variance, $\Delta F(3, 500) = 4.89$, $p = .002$. Gender remained a significant predictor and, controlling for this variable, only instrumental/aggravated reasons, $\beta = .09$, $p = .05$, turned out to be a significant predictor of not allowed sharing of a partner's sexts. See Table 4 for regression coefficients.

Table 2. Means, standard deviations and *F* values on SMQ dimensions by gender, age and sexual orientation

	Gender		Age		Sexual orientation				
	Males	Females	Adolescents	Young adults	Exclusively heterosexuals	Not-exclusively heterosexuals			
	M (SD)	M (SD)	M (SD)	M (SD)	M (SD)	M (SD)			
Sexual purposes	2.40 (1.10)	2.73 (1.03)	11.63**	2.24 (1.04)	2.87 (1.01)	46.49**	2.47 (1.07)	3.10 (0.92)	33.26**
Instrumental/aggravated reasons	1.20 (0.53)	1.07(0.35)	9.78**	1.15 (0.48)	1.09 (0.38)	2.42	1.10 (0.39)	1.17 (0.39)	1.87
Body image reinforcement	1.78 (0.94)	1.89(1.00)	1.57	1.73 (0.92)	1.93 (1.01)	5.05*	1.77 (0.93)	2.12 (1.10)	11.74**

Note. * $p < .05$; ** $p < .01$

Table 3. Correlations among variables

	<i>Private sending own sexts</i>	<i>Publicly posting own sexts</i>	<i>Not allowed sharing of a partner's sext</i>	<i>M</i>	<i>SD</i>
Sexual purposes	.262***	.115**	.101*	2.61	1.07
Instrumental/aggravated reasons	.196***	.134**	.206***	1.12	0.42
Body image reinforcement	.235***	.123**	.112**	1.85	0.98

Note: *** $p < .001$; ** $p < .01$; * $p < .05$

Table 4. Hierarchical regression analyses

Predictors	Sexting behaviors					
	Sending own sexts		Posting own sexts		Not allowed sharing of a partner's sexts	
	ΔR^2	β	ΔR^2	β	ΔR^2	β
Step 1	.03***		.03**		.02*	
Gender		-.11*		-.04		-.12**
Age		.14**		.04		-.01
Sexual Orientation		.11**		.16***		.06
Step 2	.09***		.04***		.03**	
Gender		-.11*		-.02		-.12**
Age		.11*		.04		-.03
Sexual Orientation		.07		.14**		.03
Sexual purposes		.14**		.00		.09
Instrumental/aggravated reasons		.14***		.18***		.09*
Body image reinforcement		.14**		.06		.06
Total R ²	.12***		.07***		.04**	
N	506		509		509	

Note. Gender was coded as 0 = Males and 1 = Females. * $p < .05$; ** $p < .01$ *** $p < .001$

Discussion

This study presented the psychometric features of the Sexting Motivations Questionnaire, a new instrument assessing sexting motivations. The results demonstrated the presence of three dimensions as indicated by the PFA: sexual purposes, instrumental/aggravated reasons and body image reinforcement. These sexting motivations appeared to be related to different sexting behaviors and showed different prevalence among young people. The questionnaire demonstrated good reliability and criterion validity.

Our results addressed the presence of three main dimensions, in which the sexting motivations commonly reported in the literature seem to converge. Sexual purposes, comprised of attempts to improve couple relationships and a more general desire to flirt and 'hook up', appeared to be the most commonly reported dimension among adolescents and young adults. These findings are consistent with previous studies that found sexuality to be one of the most common reasons for sexting among young people (Drouin et al., 2013; Drouin & Tobin, 2014; McDaniel & Drouin, 2015), and seem to confirm sexting as an experimental and normal expression of sexuality, as previously suggested by Levine (2013) and Wolak et al., (2012). In fact, according to Lancini and Turuani (2009), new technologies ensure a continuity between offline and online, providing an online

expression of several areas of daily life in which adolescents can experiment. It is thus conceivable that sexuality can find its online expression in sexting.

The second dimension emerging from the PAF, Instrumental/aggravated reasons, was comprised of different kinds of harmful and aggressive intentions, such as victimisation and perpetration of sexting coercion (as previously described by Drouin et al., 2015), and sexting for secondary aims, such as in exchange for money or gifts (previously reported in Eurispes & Telefono Azzurro, 2012; Pellai et al., 2015). These instrumental/aggravated reasons were the less reported among our sample, confirming previous studies which revealed low but alarming percentages of sexting under pressure, sexting in exchange for something and not allowed sexting (Eurispes & Telefono Azzurro, 2012; Morelli et al., 2016a, 2016b; Pellai et al., 2015). These motivations seem to involve more risky sexting behaviors (Dake et al., 2012; Drouin et al., 2015; Gamez-Guadix, Almendros, Borrajo, & Calvete, 2015; Morelli et al., 2016a), and could be categorised overall as an expression of aggravated sexting, according to the definition of Wolak et al. (2012).

Finally, the third dimension emerging from the PAF, body image reinforcement, shed light on an important motivational area related to sexting in order to obtain social reinforcement about physical appearance, a domain relatively under-addressed in previous studies. Our findings showed that body image reinforcement appeared to be a motivation frequently reported by Italian adolescents and young adults, confirming previous international studies of adolescents (Chalfen, 2009). These results suggest that sexting could be a new expression of a specific developmental task starting during adolescence, related to the redefinition and acceptance of body image, and addressed by developmental psychology (Blos, 1967, 1979; Erikson 1959, 1970). Lindberg, Grabe and Hyde (2007) found that pubertal growth causes concerns about body image: Physical changes increase with age, leading boys and girls to focus more and more on the appearance of their own body, and those of other people. This could explain the need for social confirmation about body adequacy during adolescence and young adulthood. Our findings thus confirm the importance of sexting as a new vehicle for self-presentation on the internet, which could help boys and girls in the expression and exploration of their forming identities (Schmitt et al., 2008).

For descriptive purposes the study also investigated gender, age and sexual orientation differences. Results showed that girls (v.s boys) send more sexts for sexual purposes, confirming previous studies who evaluated motivations related to sexual activities (Henderson & Morgan, 2011; Lippmann & Campbell, 2014). Conversely, males (vs. females) reported more instrumental/aggravated reasons, in line with literature that found sexting under pressure and sexual risky behaviors more common among boys (Henderson & Morgan, 2011; Morelli et al., 2016b; Romer & Hennessy, 2007). Regarding age differences, young adults (vs. adolescents) reported more sexual purposes and body image reinforcement. Previous studies found that sexting leads to more sexual activity during adolescence, thus we could speculate that young adults, growing up, learned that sexting could enhance their sexual activity. Moreover, sexting for body image reinforcement appeared to increase with age, suggesting that this motivation follows the increasing trend of a developmental task related to body image redefinition (Blos, 1967, 1979; Erikson, 1959, 1970), that in literature is described as starting during adolescence and increasing until young adulthood (Lindberg, Grabe & Hyde, 2007). Finally, regarding sexual orientation, not heterosexual participants (vs. heterosexuals) reported more sexual purposes and body image reinforcement. These findings confirm literature on sexual minority, that underlined how new technologies facilitate relationships and communications and are used for exploring sexuality, meeting partners and friends among not heterosexual people (Bauermeister, Yeagley, Meanley, & Pingel, 2014; Chong, Zhang, Mak, & Pang, 2015; Rice et al., 2012). Furthermore, previous studies found lower levels of body satisfaction among sexual minorities (Laska et al., 2015; Morrison, Morrison, & Sager, 2004). Thus sexting could represent a safer way for getting feedback about the adequacy of their own look.

Hierarchical regression analyses confirmed the criterion validity of this instrument, showing that different sexting motivations can be related to specific sexting behaviors. Specifically, all sexting motivations appeared to predict the private sending of own sexts, but only instrumental/aggravated reasons were related to more dangerous and harmful sexting behaviors, such as publicly posting own sexts and sharing a partner's sexts without their consent.

Confirming our hypothesis, both sexual purposes and body image reinforcement seem to lead to the private sending of own sexts, a less harmful sexting behavior that was found very popular among young people in previous studies (Lenhart, 2009), and is perceived as safer and more acceptable within a dating relationship (Delevi & Weisskirch, 2013; Dir, Coskunpinar et al., 2013). It is possible to speculate that sexual purposes and body image reinforcement reflect some developmental issues and are an expression of experimental sexting, that consequently leads to common and less risky sexting behaviors. On the other hand, confirming our hypothesis, only instrumental/aggravated reasons appeared to predict dangerous and harmful sexting behaviors, such as publicly posting own sexts and the not allowed sharing of a partner's sexts (Morelli et al., 2016a). This dimension identifies aggressive and secondary aims, not directly connected to sexuality, and could lead to risky sexting behaviors (Dake et al., 2012; Drouin et al., 2015; Gamez-Guadix et al., 2015; Morelli et al., 2016a). Future research should investigate whether instrumental/aggravated reasons could be linked to antisocial personality traits.

Correlations among the three dimensions of the SMQ showed that sexual purposes were negatively related to both instrumental/aggravated reasons and body image reinforcement, which in turn were positively related to each other. These results seem to confirm the thesis proposed by Levine (2013), according to which sexting should not be considered a risky behavior by itself, because in presence of high sexual purposes, instrumental/aggravated reasons seem to decrease. Although body image reinforcement refers to a developmental task, it appears to be positively related to instrumental/aggravated reasons. This can be explained by the assumption that both these motivations are related to secondary aims that go beyond sexuality itself.

There are limitations of this study due to the self report instruments, which can be affected by social desirability: Socially undesirable behaviors could be underreported. We also collected data using a convenience sample, which may not be representative of the general population and could be affected by the cultural context. Future cross-cultural studies about sexting behaviors and motivations should be conducted in order to confirm these preliminary results.

In conclusion, our results provide evidence that sexting is mostly experimental, because young people seem to sext both to initiate and improve sexual activity, and to explore self-presentation, body image and identity. These motivations also seem related to developmental stages and should not be considered alarming per se, although sometimes they can have risky implications (Wolak & Finkelhor, 2011). Nevertheless, a less reported motivation related to instrumental/aggravated and harmful intentions seems to require attention, due to its possibly dangerous consequences regarding psychological wellbeing. Future research should take into account sexting motivations related to self presentation (i.e. body image reinforcement), that are underrepresented in the literature, in order to investigate possible psychological wellbeing outcomes in depth.

Our results could have clinical and research implications: Clinical implications could be related to the possibility of making an easy screening of sexting motivations and early identifying aggravated sexting and harmful intentions. Research implications are related to a deeper investigation of motivations that can lead to different sexting behaviors, providing a validated instrument with good psychometrics properties. The instrument could be used in educational and clinical settings to improve the efficacy of prevention programmes for adolescents.

References

- AP-MTV. (2009). *A thin line: 2009 APMTV digital abuse study*. Retrieved from http://www.athinline.org/MTV-AP_Digital_Abuse_Study_Full.pdf.
- Bauermeister, J. A., Yeagley, E., Meanley, S., & Pingel, E. S. (2014). Sexting among young men who have sex with men: Results from a national survey. *Journal of Adolescent Health, 54*(5), 606–611.
- Baumgartner, S. E., Valkenburg, P. M., & Peter, J. (2011). The influence of descriptive and injunctive peer norms on adolescents' risky sexual online behavior. *Cyberpsychology, Behavior, and Social Networking, 14*(12), 753–758.

- Benetsch, E. G., Snipes, D. J., Martin, A. M., & Bull, S. S. (2013). Sexting, substance use, and sexual risk behavior in young adults. *Journal of Adolescent Health, 52*(3), 307–313.
- Blos, P. (1967). The second individuation process of adolescence. *Psychoanalytic Study of the Child, 22*(3), 162–186.
- Blos, P. (1979). *The adolescent passage: Developmental issues*. New York: International Universities Press.
- Calvert, C. (2009). Sex, cell phones, privacy, and the first amendment: when children become child pornographers and the Lolita Effect undermines the law. *CommLaw Conspectus, 18*(1), 1–65.
- Calvert, C. (2013). Revenge porn and freedom of expression: legislative pushback to an online weapon of emotional and reputational destruction. *Fordham Intellectual Property, Media & Entertainment Law Journal, 24*(2), 673–702.
- Chalfen, R. (2009). 'It's only a picture': sexting, 'smutty' snapshots and felony charges. *Visual Studies, 24*(3), 258–268.
- Chong, E. S., Zhang, Y., Mak, W. W., & Pang, I. H. (2015). Social media as social capital of LGB individuals in Hong Kong: Its relations with group membership, stigma, and mental well-being. *American journal of community psychology, 55*(1-2), 228–238.
- Cooper, K., Quayle, E., Jonsson, L., & Svedin, C. G. (2016). Adolescents and self-taken sexual images: A review of the literature. *Computers in Human Behavior, 55*, 706–716.
- Dake, J. A., Price, D. H., Maziarz, L., & Ward, B. (2012). Prevalence and correlates of sexting behaviour in adolescents. *American Journal of Sexuality Education, 7*, 1–15.
- Delevi, R., & Weisskirch, R. S. (2013). Personality factors as predictors of sexting. *Computers in Human Behavior, 29*(6), 2589–2594.
- Dir, A. L., Cyders, M. A., & Coskunpinar, A. (2013). From the bar to the bed via mobile phone: A first test of the role of problematic alcohol use, sexting, and impulsivity-related traits in sexual hookups. *Computers in Human Behavior, 29*(4), 1664–1670.
- Dir, A. L., Coskunpinar, A., Steiner, J. L., & Cyders, M. A. (2013). Understanding differences in sexting behaviors across gender, relationship status, and sexual identity, and the role of expectancies in sexting. *Cyberpsychology, Behavior, and Social Networking, 16*(8), 568–574.
- Drouin, M., Ross, J., & Tobin, E. (2015). Sexting: A new, digital vehicle for intimate partner aggression? *Computers in Human Behavior, 50*, 197–204.
- Drouin, M., & Tobin, E. (2014). Unwanted but consensual sexting among young adults: relations with attachment and sexual motivations. *Computers in Human Behavior, 31*(2014), 412–418.
- Drouin, M., Vogel, K. N., Surbey, A., & Stills, J. R. (2013). Let's talk about sexting, baby: Computer-mediated sexual behaviors among young adults. *Computers in Human Behavior, 29*(5), A25–A30.
- Englander, E. (2012). *Low risk associated with most teenage sexting: a study of 617 18-year-olds*. Retrieved from http://vc.bridgew.edu/cgi/viewcontent.cgi?article=1003&context=marc_reports
- Eraker, E. C. (2010). Stemming sexting: sensible legal approaches to teenagers' exchange of self-produced pornography. *Berkeley Technology Law Journal, 25*(1), 555–596.
- Erikson, E. H. (1959). Identity and the life cycle. *Psychological issues, 1*(1), 1–171.
- Erikson, E. H. (1970). Autobiographic notes on the identity crisis. *Daedalus, 99*(4), 730–759.
- Eurispes & Telefono Azzurro. (2012). *Indagine conoscitiva sulla condizione dell'infanzia e dell'adolescenza in Italia [explorative investigation about Italian condition of infancy and adolescence]*. Retrieved from http://www.azzurro.it/sites/default/files/SintesiIndagineconoscitivaInfanziaAdolescenza2012_1.pdf.
- Ferguson, C. J. (2011). Sexting behaviors among young Hispanic women: Incidence and association with other high-risk sexual behaviors. *Psychiatric Quarterly, 82*(3), 239–243.

- Gámez-Guadix, M., Almendros, C., Borrajo, E., & Calvete, E. (2015). Prevalence and association of sexting and online sexual victimization among Spanish adults. *Sexuality Research and Social Policy*, *12*(2), 145–154.
- Gordon-Messer, D., Bauermeister, J. A., Grodzinski, A., & Zimmerman, M. (2013). Sexting among young adults. *Journal of Adolescent Health*, *52*(3), 301–306.
- Henderson, L., & Morgan, E. (2011). Sexting and sexual relationships among teens and young adults. *McNair Scholars Research Journal*, *7*(1), 31–39.
- Hudson, H. K. (2011). *Factors affecting sexting behaviors among selected undergraduate students* (Doctoral dissertation, Southern Illinois University Carbondale).
- Kinsey, A. C. (1948). *Sexual behavior in the human female*. Philadelphia: W. B. Saunders.
- Kopecký, K. (2012). Sexting among Czech preadolescents and adolescents. *The New Educational Review*, *28*(2), 39–48.
- Lancini, M., & Turuani, L. (2009). Sempre in contatto. *Relazioni virtuali in adolescenza*. Milano: Franco Angeli.
- Laska, M. N., VanKim, N. A., Erickson, D. J., Lust, K., Eisenberg, M. E., & Rosser, B. S. (2015). Disparities in weight and weight behaviors by sexual orientation in college students. *American journal of public health*, *105*(1), 111–121.
- Lenhart, A. (2009). Teens and sexting. *A Pew Internet & American Life Project Report*.
- Levine, D. (2013). Sexting: a terrifying health risk... or the new normal for young adults?. *The Journal of adolescent health: official publication of the Society for Adolescent Medicine*, *52*(3), 257.
- Lindberg, S. M., Grabe, S., & Hyde, J. S. (2007). Gender, pubertal development, and peer sexual harassment predict objectified body consciousness in early adolescence. *Journal of Research on Adolescence*, *17*(4), 723–742.
- Lippman, J. R., & Campbell, S. W. (2014). Damned if you do, damned if you don't... if you're a girl: Relational and normative contexts of adolescent sexting in the united states. *Journal of Children and Media*, *8*(4), 371–386.
- Martinez-Prather, K., & Vandiver, D. M. (2014). Sexting among Teenagers in the United States: A Retrospective Analysis of Identifying Motivating Factors, Potential Targets, and the Role of a Capable Guardian. *International Journal of Cyber Criminology*, *8*(1), 21–35.
- McDaniel, B. T., & Drouin, M. (2015). Sexting Among Married Couples: Who Is Doing It, and Are They More Satisfied? *Cyberpsychology, Behavior, and Social Networking*, *18*(11), 628–634.
- Morelli, M., Bianchi, D., Baiocco, R., Pezzuti, L., & Chirumbolo, A. (2016a). Not-allowed sharing of sexts and dating violence from the perpetrator's perspective: The moderation role of sexism. *Computers in Human Behavior*, *56*, 163–169.
- Morelli, M., Bianchi, D., Baiocco, R., Pezzuti, L., & Chirumbolo, A. (2016b). Sexting, psychological distress and dating violence among adolescents and young adults. *Psicothema*, *28*(2), 137–142.
- Morelli, M., Bianchi, D., Baiocco, R., Pezzuti, L., & Chirumbolo, A. (2016c). Sexting Behaviors and Cyber Pornography Addiction Among Adolescents: the Moderating Role of Alcohol Consumption. *Sexuality Research and Social Policy*, 1–9.
- Morrison, M. A., Morrison, T. G., & Sager, C. L. (2004). Does body satisfaction differ between gay men and lesbian women and heterosexual men and women?: A meta-analytic review. *Body image*, *1*(2), 127–138.
- National Campaign to Prevent Teen and Unplanned Pregnancy & CosmoGirlcom. (2008). *Sex and tech*. Retrieved from http://thenationalcampaign.org/sites/default/files/resource-primary-download/sex_and_tech_summary.pdf.
- O'Sullivan, L. F. (2014). Linking online sexual activities to health outcomes among teens. *New directions for child and adolescent development*, *2014*(144), 37–51.
- Pellai, A., Erba, S., Ciampelli, A., Iemmi, D., Bronzin, S., Capobussi, M., ... & Corradin, M. (2015). Epidemiology of sexting. *Minerva pediatrica*, *67*(1), 1–9.

- Ricciardelli, L. A., McCabe, M. P., & Banfield, S. (2000). Body image and body change methods in adolescent boys: Role of parents, friends and the media. *Journal of Psychosomatic Research, 49*(3), 189–197.
- Rice, E., Rhoades, H., Winetrobe, H., Sanchez, M., Montoya, J., Plant, A., & Kordic, T. (2012). Sexually explicit cell phone messaging associated with sexual risk among adolescents. *Pediatrics, 130*(4), 667–673.
- Romer, D., & Hennessy, M. (2007). A biosocial-affect model of adolescent sensation seeking: The role of affect evaluation and peer-group influence in adolescent drug use. *Prevention Science, 8*(2), 89–101.
- Samimi, P., & Alderson, K. G. (2014). Sexting among undergraduate students. *Computers in Human Behavior, 31*, 230–241.
- Schmitt, K. L., Dayanim, S., & Matthias, S. (2008). Personal homepage construction as an expression of social development. *Developmental Psychology, 44*(2), 496–506.
- Siihak, A. (2009). Constructing the self through the photo selection-visual impression management on social networking websites. *Cyberpsychology: Journal of Psychosocial Research on Cyberspace, 3*(1), 1.
- Smahel, D., & Subrahmanyam, K. (2014). Adolescent sexuality on the Internet: a developmental perspective. In F. M. Saleh, A. Grudinskas, Jr., & A. Judge (Eds.), *Adolescent sexual behavior in the digital age: Considerations for clinicians, legal professionals, and educators* (pp. 69–88). New York, NY: Oxford University Press.
- Temple, J. R., Le, V. D., van den Berg, P., Ling, Y., Paul, J. A., & Temple, B. W. (2014). Brief report: Teen sexting and psychosocial health. *Journal of adolescence, 37*(1), 33–36.
- Tobin, E., & Drouin, M. (2013). Sexting: a possible route to physical and sexual covictimization? *Paper presented at 16th annual student research and creative endeavor symposium*, Fort Wayne, IN.
- Valkenburg, P. M., & Peter, J. (2011). Online communication among adolescents: An integrated model of its attraction, opportunities, and risks. *Journal of Adolescent Health, 48*(2), 121–127.
- Van Manen, M. (2010). The pedagogy of Momus technologies: Facebook, privacy, and online intimacy. *Qualitative Health Research, 20*(8), 1023–1032.
- Walker, S., Sanci, L., & Temple-Smith, M. (2013). Sexting: Young women's and men's views on its nature and origins. *Journal of Adolescent Health, 52*(6), 697–701.
- Weisskirch, R. S., & Delevi, R. (2011). “Sexting” and adult romantic attachment. *Computers in Human Behavior, 27*(5), 1697–1701.
- Wolak, J., & Finkelhor, D. (2011). Sexting: A typology. *Crimes against Children Research Center*.
http://unh.edu/ccrc/pdf/CV231_Sexting%20Typology%20Bulletin_4-6-11_revised.pdf.
- Wolak, J., Finkelhor, D., & Mitchell, K. J. (2012). How often are teens arrested for sexting? Data from a national sample of police cases. *Pediatrics, 129*(1), 4–12.

Appendix

Original Italian version of the Sexting Motivations Questionnaire (SMQ)

Il sexting può essere definito come: inviare o ricevere messaggi/foto/video a sfondo sessuale o provocanti tramite telefono cellulare, Facebook o altri social network. Per favore, leggi attentamente le seguenti affermazioni sul “sexting” ed indica quanto corrispondono alle tue esperienze.

Per rispondere alle domande utilizza la seguente scala:

1= *Mai* 2= *Raramente* 3= *A volte* 4= *Spesso* 5= *Sempre*

*Mi capita di **inviare** sexts ...*

-
- 1- ... per capire se il mio corpo va bene
 - 2- ... per vedere se sono abbastanza carino/a
 - 3- ... per provare se sono attraente sessualmente
 - 4- ... per sentirmi desiderato
 - 5- ... per sentirmi eccitato
 - 6- ... per flirtare o rimorchiare
 - 7- ... per aumentare l'intimità nella relazione di coppia
 - 8- ... per aumentare la passione nella relazione di coppia
 - 9- ... in cambio di qualcosa che mi serve
 - 10- ... per ottenere piccoli favori dagli altri
 - 11- ... in cambio di soldi o regali
 - 12- ... per ferire o far del male a qualcuno
 - 13- ... perché sono obbligato da qualcuno
-