



Does body dissatisfaction influence sexting behaviors in daily life?

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ABSTRACT

Background: The current study explores the effect of body dissatisfaction (both stable, trait-level and specific, state-based instances in daily life) on sexting behaviors, and the impact of sending and receiving sexts on body dissatisfaction levels in daily life.

Method: One hundred and forty-seven women aged 18–42 years completed baseline measures of body dissatisfaction and sexting (i.e., trait-level), and took part in a 7-day experience sampling period measuring sexting behaviors and body dissatisfaction 10 times daily (state-level data).

Results: No relationship was found between trait body dissatisfaction and general tendency to send sexts. However, participants were less likely to sext in general or as a result of pressure when they experienced heightened states of body dissatisfaction. When participants sent or received sexts, they experienced a momentary decrease in body dissatisfaction states.

Conclusion: Affective factors associated with sexting behaviors may prove useful for understanding what perpetuates and prevents sexting.

Sexting constitutes a widespread form of digital, sexual communication that has increased in prevalence in tandem with the proliferation and accessibility of mobile phone technology (Gordon-Messer, Bauermeister, Grodzinski, & Zimmerman, 2013; Lenhart, 2009). Previous studies have predominantly focused on the prevalence, correlates, and outcomes of sexting behaviors (Klettke, Hallford, & Mellor, 2014; Kosenko, Luurs, & Binder, 2017; Madigan, Ly, Rash, Van Ouytsel, & Temple, 2018; Walker & Sleath, 2017). Yet, little research has explored how subjective levels of body satisfaction may contribute to this behavior. Given sexts constitute visual representations of senders' nude bodies, it is possible that they invite considerations of one's physical appearance. These may vary from positive evaluations and improved body image to more negative appraisals, poorer body image, and potentially self-prohibition of sexting behaviors. The current study explores this link in greater detail in the context of everyday life experiences.

1. Sexting behavior

Sexting refers to the act of sending, receiving, or forwarding sexually suggestive materials – photos or text messages – via mobile phones

(Diliberto & Mattey, 2009). Research has shown that men and women engage in sexting to a similar extent, and that the behavior is most common among young adults, with prevalence rates estimated to be above 50% for both sending and receiving sexts (Klettke et al., 2014). In addition, sexting can range from being a consensual behavior to being a non-consensual one. The latter has been noted to be similar in nature to intimate partner violence (Klettke, Hallford, Clancy, Mellor, & Toumbourou, 2019), especially when individuals resort to pressure or manipulation to obtain nude images within the context of a romantic relationship. Previous studies have revealed that up to one-third of respondents had experienced sexting coercion from their current or recent romantic partners, and some consented to sending sexts even though they did not want to (Drouin, Ross, & Tobin, 2015; Ross, Drouin, & Coupe, 2016). Body dissatisfaction has been linked to lower sexual self-efficacy (Blashill & Safren, 2015) broadly defined as self-perceived ability to take control of one's sexual behavior (Rosenthal, Moore, & Flynn, 1991). Therefore, it may be the case that lower body satisfaction leads to greater susceptibility to send sexts under pressure or coercion. On the other hand, a positive relationship may exist between body appreciation, voluntary sexting, and other variables such as sexual functioning. In a study by Drouin, Coupe, and Temple (2017),

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consensual sexting was associated with positive sexual and emotional relationship outcomes, and greater comfort with sending sexually explicit images and videos in approximately 50% of sexters. This finding suggests that sexting among consenting adults may enhance positive body image.

Research so far has illustrated that the majority of individuals who engage in sending sexts tend to hold favorable attitudes towards this behavior (Ferguson, 2011; Hudson, Fetro, & Ogletree, 2014). However, determinants of sexting behavior and their consequences may vary as a function of context and individual factors. Specifically, people with more negative body image may exhibit different motivations for and patterns of sexting behaviors compared to those who hold more positive evaluations of their physical appearance.

In order to explain consensual sexting behavior, the majority of research to date has focused on intra-individual motivating factors. These include the initiation of sexual activity, flirting, having fun, and gaining attention (Bianchi, Morelli, Baiocco, & Chirumbolo, 2017, 2016; Dir, Coskunpinar, Steiner, & Cyders, 2013; Henderson & Morgan, 2011; Yeung, Horyniak, Vella, Hellard, & Lim, 2014), the enhancement of intimacy in a romantic relationship (Champion & Pedersen, 2015; Henderson & Morgan, 2011; Yeung et al., 2014), sexual liberation, and self-expression (Liong & Cheng, 2018). Conversely, extra-individual motivations for sexting, such as obtaining body image reinforcement, have received little research attention. This is surprising given more than half of the respondents in Bianchi et al.'s (2016) study had sent sexually suggestive messages in order to obtain feedback regarding their body. This finding indicates that many sexters exhibit preoccupation with their physical appearance. For these individuals, sexting may serve as an avenue for seeking external evaluations to appease body dissatisfaction.

2. Body dissatisfaction as a motivator for sexual behavior

Body dissatisfaction is a negative appraisal of one's body appearance (Thompson & van den Berg, 2002), and appears to affect people's sexual functioning and behaviors. People dissatisfied with their physical appearance are more likely to avoid sexual activity (La Rocque & Cioe, 2011; Woertman & van den Brink, 2012). When they do engage in sex, individuals with elevated body dissatisfaction often report feeling pressured and coerced into it (Ramsey & Hoyt, 2014). Body-dissatisfied individuals also tend to have lower self-efficacy to control the context (Blashill & Safren, 2015; Parent & Moradi, 2015), and exhibit more anxious self-focus and exposure avoidance during sex (Cash, Maikkula, & Yamamiya, 2004). Conversely, greater body satisfaction has been associated with more frequent sexual activity and hence sexual experience, a higher proclivity to initiate, and to try new sexual behaviors, overall greater enjoyment of sex, and more comfort with nudity (Ackard, Kearney-Cooke, & Petersen, 2000; Merianos, King, & Vidourek, 2013; Pujols, Meston, & Brooke, 2010).

In light of these findings for sexual activity in general, it is possible that body-dissatisfied individuals will be less likely to sext. Yet, if they do, the motivation and context for engagement in this behavior may be different in comparison to those who are satisfied with their appearance, and feel at ease with nudity. Research on the relationship between sexting and body image, although very limited, illustrates that subjective level of body satisfaction is implicated in some sexting behaviors. Liong and Cheng (2018) have found that some sexters exhibit heightened preoccupation with their physical appearance and report greater body dissatisfaction, while others feel increased comfort with nudity. Bianchi et al. (2017) have examined sexting behaviors in relation to body-esteem attributions, objectified body consciousness, and the internalization of beauty ideals. Their study has revealed that individuals who engage in comparing their bodies against culturally established standards are also more likely to send sexts in order to receive body image reinforcement (Bianchi et al., 2017). Although the aspects of body image measured in Bianchi et al.'s research are distinct to

subjective, negative appraisals of physical appearance, they have been previously linked to the development of body dissatisfaction (Grabe, Ward, & Hyde, 2008; Parent & Moradi, 2015). Together, these findings suggest that the experiences of sexting may be different for various individuals, and that body satisfaction may help explain this difference.

3. Gaps in existing literature and present study

Preliminary evidence, derived from cross-sectional studies, suggests that levels of body satisfaction may be associated with engagement in sexting behavior. However, the design of these studies does not allow us to determine whether these variables are causally related, nor the direction that this causal relationship may take. Further, these prior studies have relied on trait-based measures of body image and sexting which ask about these attitudes and behaviors in general. Yet, research shows that body image, although often measured as a stable trait-like property, is also prone to fluctuations in daily life (Fuller-Tyszkiewicz, 2019). Variations in body image satisfaction could therefore be measured from moment to moment (at the state level) to evaluate how momentary experiences of body (dis)satisfaction may influence subsequent sexting behaviors. The acts of sending and receiving sexts may also temporarily influence one's contentment with his or her physical appearance. Given these possibilities, dynamic patterns of fluctuation in body image states and sexting behaviors require a methodological approach capable of capturing their potentially complex and time-dependent interrelationships.

To address these gaps, we have implemented the ecological momentary assessment technique, (EMA) (Csikszentmihalyi & Larson, 1987). This data collection method consists of a repeated sampling of psychological and behavioral variables as experienced by the participants in their daily lives (Csikszentmihalyi & Larson, 1987). As such, it is sensitive to fluctuations in experience over time and allows for examination of the momentary consequences of exposure to a target event (e.g., sexting or body dissatisfaction). Using the EMA technique, the current study will address how often sexting occurs in daily life, the motives for sexting, whether individuals are less likely to sext when dissatisfied with their appearance, and the body image related consequences of engaging in sexting.

In light of the prior knowledge demonstrating a link between negative body image and sexual behaviors in the offline world, it is hypothesized that (1a) participants with greater trait body dissatisfaction in general will be less likely to send sexts voluntarily, (1b) but more likely to feel pressured to send sexts in comparison to respondents who are satisfied with their physical appearance. Moreover, (1c) sending sexts among body-dissatisfied individuals will be motivated by body image reinforcement.

This study also hypothesizes that when individuals report heightened state body dissatisfaction in their daily lives, they will be (2) less likely to subsequently send a sext, and (3) if they do sext in such instances, they will be more likely to do so because they felt pressured into it. Finally, as sexting is often motivated by having fun, flirting, and verifying body attractiveness, the present study explores whether participants will experience a decrease in state body dissatisfaction (4) following sending of sext(s), and (5) when they receive sexts.

4. Method

4.1. Participants

For eligibility, participants were required to be female, aged 18 or older, currently own an iOS or Android device in order to be able to take part in the ecological momentary assessment (EMA) phase of the study. Firstly, participants completed an online questionnaire collecting data pertaining to demographic information, general sexting behaviors, motivations, and trait body dissatisfaction. Then, respondents were issued ten EMA surveys a day via a smartphone application, over a period

of one week, which recorded sexting and state body dissatisfaction experiences in participants' daily lives. Subjects who completed at least 50% of the EMA surveys were retained in the study analyses. The decision to limit to women was based on prior evidence of qualitative differences in body satisfaction across gender, with higher dissatisfaction among women (Feingold & Mazzella, 1998). With these inclusion/exclusion criteria in place, the final sample for the present study was 147 women. Previous simulation work conducted by Maas and Hox (2005) indicate that a sample of 147 participants is sufficiently powered to produce accurate estimates of parameters and their standard errors for null hypothesis significance testing.

The sample consisted of predominantly young participants ($M = 22.23$, $SD = 4.95$), with 83% of respondents aged between 18 and 25. The average BMI fell within the normal range ($M = 22.64$, $SD = 4.20$, range 15.05–43.09), with 19% of the sample classified as overweight or obese. The majority of participants were Australian (52.4%), followed by Asian (27.9%), and British/European (13.6%), and identified themselves as only heterosexual (60.05%), mostly heterosexual (21.8%), bisexual (11.6%), or other (6.55%). Over 82% of respondents spoke English as the primary language, 49.7% completed Year 12 and 27.2% obtained a bachelor's degree. Over 60% of the sample were currently employed.

4.2. Materials

4.2.1. Trait-based measures of variables

Sexting behavior. Three dichotomous questions ($0 = no$, $1 = yes$) measured sexting behavior (Reyns, Henson, & Fisher, 2014). Participants were asked whether in the past year they had sent, felt pressured to send a nude or nearly nude photo or video of themselves, and whether they had received a sexually explicit image or video from someone else.

Sexting motivations. A 3-item subscale of Sexting Motivations Questionnaire was used to examine sexting for body image reinforcement purposes (Bianchi, Morelli, Baiocco, & Chirumbolo, 2016). Respondents indicated whether they sometimes send sexts to e.g. "test if they are attractive enough" on a 5-point rating scale ranging from 1 (*never*) to 5 (*always*). A total score was derived by calculating the average, with higher scores reflecting greater frequency of engaging in sexting for body image reinforcement. Psychometric analysis of the subscale revealed excellent internal consistency ($\alpha = 0.94$).

Trait body dissatisfaction. Participants' trait body dissatisfaction was measured by the Body Shape Questionnaire (BSQ-8C) (Cooper, Taylor, Cooper, & Fairburn, 1987; Pook, Tuschen-Caffier, & Brähler, 2008). Respondents were asked eight questions scored on a 6-point rating scale ranging from 1 (*never*) to 6 (*always*) that relate to the feelings about one's appearance in the past four weeks. The overall body dissatisfaction score was obtained by summing participants' responses, with scores ranging from 8 to 48 and higher values indicating greater trait body dissatisfaction. Previous validation studies illustrated that the instrument possesses excellent test-retest reliability and high convergent validity (Welch, Lagerström, & Ghaderi, 2012). Internal consistency was excellent in the current sample ($\alpha = 0.92$).

4.2.2. State-based measures of variables

State body dissatisfaction. Respondents were asked "How satisfied they are with their appearance right now?" and recorded their responses on a scale ranging from 0 (*completely dissatisfied*) to 10 (*completely satisfied*). Scores were reversed so that higher values represent greater state of body dissatisfaction. This single-item measurement approach was used in previous literature on body image in daily life, and has shown to be sensitive to momentary fluctuations in body satisfaction and to correlate with theoretically relevant constructs, such as appearance-based comparisons and appearance preoccupation (Fuller-Tyszkiewicz, Dias, Krug, Richardson, & Fassnacht, 2018; Rogers, Fuller-Tyszkiewicz, Lewis, Krug, & Richardson, 2017).

Sexting. Participants were asked, as separate items, whether they had: (1) sent sexually explicit images of themselves using their cell phone, (2) sent a sext as a result of pressure, and (3) received a sext since the last time they were signaled. Answers were scored on a dichotomous scale ($0 = no$, $1 = yes$) for each item.

4.3. Procedure

After obtaining ethics approval from the Human Research Ethics Committees of two Melbourne-based universities (Deakin University and University of Melbourne), the study was advertised on social media (Facebook, Instagram, and Reddit), online learning portals, and staff newsletters at the two participating universities. The advertisement prompted potential participants to click on a URL link that opened up with a plain language statement outlining research aims and method, and emphasizing that participants had the opportunity to withdraw from the study at any stage. After providing consent to participate in the research, respondents were redirected to the baseline questionnaire which took approximately 15 min to complete. Data were collected using Qualtrics. The baseline survey included instructions to download a free smartphone app, Instant Survey, available for iOS and Android users (Richardson, 2015a; 2015b). Instant Survey generated a unique code for each respondent, which participants entered to finish the baseline survey, allowing linking of baseline data with subsequent EMA data from Instant Survey.

Instant Survey was programmed to commence signaling the day after downloading, with participants being prompted to complete ten 1-min assessments per day over a 7-day testing period. The assessments were issued approximately every 1–1.5 h between 9am and 10pm, and respondents were required to complete them within 30 min of being signaled. If the allocated timeframe expired with no response, the surveys were made unavailable and were counted as missing. Respondents who completed the entire study received a \$10 gift voucher, and those who finished over 80% of the EMA assessments were given the option to enter a draw to win one of five \$50 vouchers.

4.3.1. Statistical analyses

Prior to undertaking the main analyses, the quality of baseline and EMA data was examined. Overall, less than 1% of data was missing for the baseline variables which was imputed using expectation maximization (Tabachnick & Fidell, 2007). Although no data within time-points were missing from the EMA phase, participants differed in the number of surveys submitted across the 7-day testing period. To assess potential biases in the amount of EMA surveys completed, compliance was correlated against baseline variables (demographics, sexting behaviors and motivation, and trait body dissatisfaction). Bias in data obtained from the EMA surveys was further checked by evaluating whether obtained scores on state-based measures (sexting and state body dissatisfaction) systematically varied as a function of time of day, day of week (coded as weekday vs weekend), or how many assessments the participant had already completed (i.e., reactivity effects). Any significant time or reactivity effects were retained in final models as covariates to account for their influence on modelled outcome variables.

All analyses were conducted in R Studio version 3.5.1 (R Core Team, 2015). Hypotheses 1a-1c were tested by correlating trait body dissatisfaction with sending sexts, feeling pressured to send sexts, and sexting motivation for body image reinforcement purposes respectively. Hypotheses 2–5 were tested using multilevel modelling via the *lme4* package (Bates, Mächler, Bolker, & Walker, 2015) to account for clustering due to the repeated measures nature of the EMA data. Consistent with the prospective nature of our research questions for these latter hypotheses, analyses were structured so that scores on the IV conceptually preceded the timeframe for the DV. That is, since state body dissatisfaction referred to the current moment, but sexting referred to the time interval between the last survey and current moment, state

body dissatisfaction at time t could not be used as a predictor of sexting reported at the same time-point (which would reflect sexting prior to the current moment). Hence, Hypothesis 2 was tested by regressing sending sexts at current time-point t (Yes vs No) on state body dissatisfaction at the previous time-point $t - 1$; Hypothesis 3 was tested by regressing feeling pressured to send sexts at current time-point t (Yes vs No) on state body dissatisfaction at the previous time-point $t - 1$; Hypothesis 4 was analyzed by regressing state body dissatisfaction at time t on sending sexts at t (Yes vs No); and Hypothesis 5 was tested by regressing state body dissatisfaction at time t on receiving sexts at time t .

For Hypotheses 2–5, the predictors were group-mean centered to disentangle within and between-individual effects (Enders & Tofghi, 2007). Both the group mean and the centered predictor were entered into the model, though only the centered predictor directly relate to our hypotheses. Time lag between assessments was also included as a covariate given that the random interval schedule for the EMA phase meant elapsed time varied across adjacent surveys. Finally, scores on the DV at the previous timepoint were included as a covariate so that the hypothesized predictor variable was predicting *change* in the DV.

5. Results

5.1. Preliminary analyses

Compliance. In total, 6315 surveys were included in the analysis based on the gender of the respondents (females) and a minimum of 50% of surveys completed. The average number of EMA surveys completed per participant was 52.15 ($SD = 10.95$). The number of EMA surveys completed was significantly associated with sending sexts due to feeling pressured ($t(1,141) = 2.064, p = .041$), and weakly correlated with BMI ($r = .185, p = .025$), but was unrelated to age ($r = .021, p = .801$), ethnic background ($F(7,139) = 0.918, p = .494$), language spoken ($t(1,145) = 0.219, p = .827$), sexual identity ($F(6,140) = 0.956, p = .457$), education ($F(4,142) = 0.690, p = .600$), employment status ($t(1,145) = 0.173, p = .862$), or number of hours worked per week ($r = .039, p = .722$), trait body dissatisfaction ($r = -.062, p = .457$), sexting for body image reinforcement purposes ($r = -.133, p = .110$), sending sexts ($t(1,141) = 0.634, p = .527$), and receiving sexts ($t(1,141) = 0.588, p = 557$).

Descriptive statistics. Table 1 provides descriptive information for sexting activity, trait and state body satisfaction, and sexting motivation measured at baseline and during the EMA phase. Sexting measured at baseline occurred relatively frequently, with approximately one-third of the sample reporting either sending or receiving sexually suggestive messages. The means and standard deviations for trait and state satisfaction indicate respondents' moderate satisfaction with their physical appearance and a relatively large dispersion of the scores relative to the means. As shown by the ICC values, 68% of variance in state body dissatisfaction, 88% in sending sexts, 93% in sending sexts as a result of pressure, and 94% in receiving sexts was across participants. In all

cases, there was sufficient variance within participants for the aforementioned variables to justify their exploration at the state-level.

Sexting for body image reinforcement was not a frequently endorsed motivation for sexting. The majority of respondents reported that they never sent sexts to verify their physical attractiveness (65.2%), body (64.1%), or sexual attractiveness (58.9%), whilst only a fraction of the sample (between 1.4% and 2.8%) reported having done so often/always.

5.2. Main analyses

Effect of trait body dissatisfaction on sending sexts. A series of correlational analyses were conducted to test Hypotheses 1a-1c. These revealed a non-significant association between trait body dissatisfaction and general tendency towards sexting, $r_{pb} = .080, p = .171$ (one-tailed). However, trait body dissatisfaction was positively correlated with feeling pressured to send sexts $r_{pb} = .187, p = .013$ (one-tailed), and sending sexts for body image reinforcement purposes $r = .243, p = .002$ (one-tailed). These results suggest that as participants reported higher levels of trait body dissatisfaction, they also experienced greater pressure to send sexts, and were more likely to engage in sexting behavior to increase body image.

As an exploratory analysis, we also examined with multilevel models whether trait body dissatisfaction predicted frequency of sexting during the EMA phase and likelihood of reporting sexting due to pressure. These results revealed that trait body dissatisfaction was unrelated to overall frequency of sexting ($b = 0.043, p = .201$, one-tailed) and sexting because the participant felt pressured ($b = 0.061, p = .166$, one-tailed).

State-level associations. As shown in Table 2, participants were less likely to send sexts when they experienced a heightened state of body dissatisfaction; $b = -0.245, p = .019$ (one-tailed). Participants were also less likely to send sexts under pressure when they experienced a heightened state of body dissatisfaction; $b = -0.252, p = .033$ (one-tailed).

We reasoned that this unexpected latter effect may be due to moderate (rather than severe) levels of dissatisfaction. As such, we reran the analysis with body dissatisfaction dichotomized into high vs low dissatisfaction, using a cutting point of 5.5 as per Fuller-Tyszkiewicz et al. (2018). This exploratory analysis returned a similar result to the continuous form, with individuals being less likely to send sexts under pressure when they experience high levels of state body dissatisfaction; $b = -1.088, p = .015$ (one-tailed). Thus, Hypothesis 2 was supported but Hypothesis 3 was not.

Consistent with Hypotheses 4 and 5, both sending and receiving sexts were associated with decreases in state body dissatisfaction ($b = -0.655, p = .035$, one-tailed, and $b = -0.607, p = .023$, one-tailed, respectively). These results for the full models (with covariates) are summarized in Table 3.

Table 1
Sexting, body satisfaction, and sexting motivation at baseline and during EMA phase.

Phase	Variable	Yes (n, %)	No (n, %)	<i>M</i>	<i>SD</i>	Range	ICC
Baseline	Sent sext	60 (42%)	83(58%)	n/a	n/a	n/a	n/a
	Received sext	68 (47.6%)	75 (52.4%)	n/a	n/a	n/a	n/a
	Pressured sext	26 (18.2%)	117 (81.8%)	n/a	n/a	n/a	n/a
	Trait body dissatisfaction	n/a	n/a	25.32	9.14	8–48	n/a
	Sexting motivation	n/a	n/a	1.75	1.04	1–5	n/a
EMA	State body dissatisfaction	n/a	n/a	4.48	2.33	0–10	0.679
	Sent sext	17 (11.56%)	130 (88.44%)	n/a	n/a	n/a	0.880
	Pressure sext	15 (10.20%)	132 (89.80%)	n/a	n/a	n/a	0.925
	Received sext	9 (6.12%)	138 (93.88%)	n/a	n/a	n/a	0.935
	Requested sext	9 (6.12%)	138 (93.88%)	n/a	n/a	n/a	n/a

Note. Frequencies for baseline variables based on ($N = 143$), and for EMA based on ($N = 147$).

Table 2
Multilevel modelling for predicting sending of sexts (N = 147).

Parameters	b	SE	z	p
Outcome: sending sexts				
Intercept	-11.695	1.887	-6.197	< .001***
State body dissatisfaction <i>t</i> - 1	-0.245	0.118	-2.068	.019 ⁺
Sent sexts at <i>t</i> - 1	1.041	0.535	1.994	.026 ⁺
Time lag <i>t</i> - 1 and <i>t</i>	0.184	0.172	1.071	.142
Dar Order	0.225	0.090	2.509	.006**
State body dissatisfaction <i>t</i> - 1_M	0.133	0.270	0.494	.311
Outcome: sending pressured sexts				
Intercept	-11.256	1.984	-5.674	< .001***
State body dissatisfaction <i>t</i> - 1	-0.252	0.137	-1.836	.033 ⁺
Pressured sexts at <i>t</i> - 1	1.695	0.450	3.764	< .001***
Time lag <i>t</i> - 1 and <i>t</i>	0.003	0.165	0.018	.493
State body dissatisfaction <i>t</i> - 1_M	0.204	0.320	0.638	.262
Outcome: sending pressured sexts				
Intercept	-10.645	1.385	-7.688	< .001***
State body dissatisfaction ^a <i>t</i> - 1	-1.088	0.498	-2.187	.015 ⁺
Pressured sexts at <i>t</i> - 1	1.666	0.452	3.686	< .001***
Time lag <i>t</i> - 1 and <i>t</i>	0.009	0.162	0.056	0.478
State body dissatisfaction ^a <i>t</i> - 1_M	0.774	1.641	0.472	0.319

Note. All *p* values one-tailed; ⁺*p* < .05, ^{**}*p* < .01, ^{***}*p* < .001; *t* = at current time-point; *t* - 1 = at previous time-point; *M* = mean. ^a State body dissatisfaction as a categorical variable. Covariates differ for the two models as preliminary testing revealed different patterns of significance for these constructs with the two DVs.

Table 3
Multilevel modelling for predicting the decrease in state body dissatisfaction following sending and receiving sexts (N = 147).

Parameters	b	SE	t	p
Outcome: State body dissatisfaction				
Intercept	2.510	0.174	14.469	< .001***
Sent sexts at <i>t</i>	-0.655	0.328	-2.001	.035 ⁺
State body dissatisfaction at <i>t</i> - 1	0.408	0.021	19.615	< .001***
Time lag <i>t</i> - 1 and <i>t</i>	0.016	0.021	0.778	.219
Day order	0.026	0.016	1.615	.053
Time of assessment	0.003	0.011	0.269	.394
Sent sexts at <i>t</i> - 1_M	-0.292	2.549	-0.114	.455
Outcome: State body dissatisfaction				
Intercept	2.503	0.173	14.452	< .001***
Received sexts at <i>t</i>	-0.607	0.304	-2.000	.023 ⁺
State body dissatisfaction at <i>t</i> - 1	0.409	0.021	19.698	< .001***
Time lag <i>t</i> - 1 and <i>t</i>	0.015	0.020	0.737	.231
Day order	0.025	0.016	1.563	.059
Time of assessment	0.003	0.011	0.295	.384
Received sexts at <i>t</i> - 1_M	0.026	5.612	0.005	.498

Note. All *p* values one-tailed, ⁺*p* < .05, ^{**}*p* < .001; *t* = at current time-point; *t* - 1 = at previous time-point; *M* = mean.

6. Discussion

Levels of subjective (dis)satisfaction with physical appearance have been found to impact offline sexual behaviors and functioning. Yet, the potential link between negative appraisals of one's body with online sexual communication such as sexting has received limited attention. The aim of the current study was to explore whether trait body dissatisfaction is related to sexting behaviors and motivation, and to examine how states of body dissatisfaction relate to sexting behaviors in the context of everyday life experiences.

Findings provided mixed support for the proposed trait-level associations between body dissatisfaction, sexting behaviors, and motivation for sexting. Contrary to expectation, the current study revealed that trait body dissatisfied individuals were not less likely to send sexts in general than people who were content with their appearance. Furthermore, trait body dissatisfaction was unrelated to the frequency of sexting in general and sexting as a result of pressure in the EMA part of the current study. However, respondents who held overall negative

evaluations of their appearance reported a greater tendency to feel pressured to sext, or to send sexts for appearance-motivated reasons, which is consistent with our predictions.

The current results of a null relationship between trait body dissatisfaction and frequency of sending sexts is consistent with Liong and Cheng's research (2018), whereby some sexters reported greater body dissatisfaction, whilst others reported increased comfort with nudity. However, the fact that body dissatisfied individuals did not exhibit restraint in terms of sharing their nude images through sexting is incongruent with previous research on the relationship between body dissatisfaction, exposure, and sexual avoidance (Cash et al., 2004; La Rocque & Cioe, 2011; Woertman & van den Brink, 2012). In light of this broader literature in relation to sexual activity offline, the null finding with respect to sexting may reflect a relative increase for body dissatisfied individuals in engagement in online sexual activity (sexting) compared to other forms. This may arise due to the less threatening nature of engaging with others online as a potentially lower risk form of interaction.

Although the current study revealed that trait body dissatisfaction has no bearing on the frequency of sexting behaviors, exploration of additional hypotheses revealed a pattern whereby body dissatisfied individuals felt more pressured to send sexts. This finding illustrates that the previously demonstrated association between lesser sexual agency and increased negative evaluations found in the offline world (Blashill & Safren, 2015) may also be true in digitally mediated sexual communication. Moreover, respondents who expressed greater dissatisfaction with their physical appearance in this study were also more likely to send sexts to obtain body image reinforcement. This result is similar to that of Bianchi et al.'s research (2017), and implies that sexting might be used by some individuals as a tool to appease body anxieties. Together, these findings are consistent with the notion that sexting constitutes a popular form of sexual communication among young people, but those who hold negative evaluations of their physical appearance in general may be more prone to engage in this behavior in certain contexts (pressure), and for specific reasons (verification of body attractiveness).

The current study was also the first to explore the associations between body dissatisfaction states and sexting behaviors in daily life using EMA. Interestingly, several results at this state-level were inconsistent with what was found at the trait-level for the same participants. While trait body dissatisfaction was unrelated to overall sexting frequency (in both at baseline and as an average over the EMA phase), in daily life participants were less likely to report instances of sending sexts (whether pressured or not) when they experienced heightened states of body dissatisfaction. It is possible that this pattern of findings signals that individuals with higher and lower body dissatisfaction differ in the circumstances of their sexting in daily life. As trait body dissatisfied individuals have more frequent experiences of dissatisfaction, the state-based findings (when coupled with the association at the trait-level) suggest that they may actually sext more frequently during periods of state body satisfaction than low trait body dissatisfied individuals. Such an explanation is consistent with a broad trend observed in EMA data for individuals with trait body dissatisfaction. Notably, they are simultaneously as variable in state body dissatisfaction as low trait dissatisfied individuals and yet also tend to engage in behaviors more frequently that have impact on their state body dissatisfaction. Fuller-Tyszkiewicz (2019) argues that this may signal periods of relative stability or inaction that balances out these periods of state body dissatisfaction volatility. Alternatively, it could simply be that the periods of relative body satisfaction are freeing for trait dissatisfied individuals, and they feel comfortable to engage in otherwise prohibited sexual behaviors during this time.

Present findings also showed the influence of sending and receiving sexts on state body dissatisfaction. Specifically, the current study found that sending and receiving sexts was related to subsequent lesser dissatisfaction with physical appearance among participants. Previous

research identified that the most frequent motivations for sexting constitute flirting, initiating and enhancing sexual intimacy, or obtaining attention from a love interest or a partner (Bianchi et al., 2017, 2016; Henderson & Morgan, 2011; Makgale & Plattner, 2017; Yeung et al., 2014). It is possible that those who sent sexts in the current study received positive feedback in the form of a compliment, an invitation for a date, or an offer for sexual relations. A favorable response would therefore have a boosting effect not only on the senders' self-esteem, but also on lowering body dissatisfaction. Interestingly, the decrease in body dissatisfaction states might have not been a result that the participants consciously desired to achieve, as body image reinforcement was not identified to be a primary motivation for sending sexts. Similarly, the decrease in body dissatisfaction among respondents who received sexts might be associated with the fact that these individuals potentially perceived the receipt of a naked image from a third party as flattering and indicative of their social and physical desirability.

6.1. Study implications

The current study illustrates that body dissatisfaction appears to have an inhibitory effect on some sexting behaviors such as sending sexts in general or under pressure. However, in some instances the sending and receiving of sexts temporarily improves evaluations of one's physical appearance, potentially leading to more expansive online and offline sexual practices. Placing a spotlight on the affective factors underlying sexting behaviors may prove useful in educational campaigns regarding cyber security and sexting prevention, especially in cases where the engagement in this activity is less likely to be consensual or wanted. The majority of sexting prevention programs to date have focused on the potential illegality of this behavior, and hence recommend abstinence as a solution (Döring, 2014), yet relatively little attention has been given to the intra- and extra-individual factors underlying this practice. Drawing attention to the emotional states underlying the decisions for and against sexting, along with the reminder of the ramifications that can ensue, may motivate some individuals to self-examine and be more mindful of the reasons behind their sexting practices.

6.2. Limitations and considerations for future research

The current study has focused on women as this population has been known to indicate persistently lower levels of body image satisfaction than men (Feingold & Mazzella, 1998), and hence is prone to more negative outcomes resulting from unfavorable self-evaluations. However, research suggests that men engage in sexting at similar rates as women (Klettke et al., 2014), and are also susceptible to experiencing dissatisfaction especially with regards to muscle mass or height (Bergeron & Tylka, 2007). Future research should therefore investigate whether body image affects and/or is affected by sexting behaviors in a male population.

Moreover, the current study has measured motivations for sexting cross-sectionally, yet it is possible that motives for this behavior differ across and within individuals themselves. It is possible that the null findings at the cross-sectional, trait level are due to varying motives for sexting that people experience in daily life. As such, when people engage in sexting to gain attention, the outcome may be different to when they sext because they would like to feel better about their physical appearance.

Finally, the methodological approach undertaken in this research has progressed the evidence-base regarding the relationship between body (dis)satisfaction and sexting behaviors from cross-sectional associations to prospective associations in daily life. Further investigations could implement experimental designs to establish causal links between body dissatisfaction and sexting behaviors with greater certainty. Qualitative research could also prove beneficial as it may identify potential covariates in the relationship between body image

dissatisfaction, sexting behaviors, and motivations for sexting. Knowledge of these variables would increase the accuracy of measurement models employed in future studies.

7. Conclusion

The current study demonstrates that sexting is a popular form of digital, sexual communication among young people, and is related to overall and in-the-moment appraisals of body image among those who sext. Individuals with trait body dissatisfaction engage in sending sexts to an equal extent as those who express greater content with their appearance. However, trait body dissatisfied individuals are more likely to feel pressured to send sexts or to engage in the behavior for appearance-motivated reasons. This finding provides insight into the determinants of sexting among people who tend to be generally less satisfied with their appearance. Specifically, it suggests that these individuals may be at an increased risk of falling victim to sexting coercion or manipulation, which in turn can negatively impact on their mental health.

Exploration of body image at a state level, on the other hand, has revealed that heightened states of body dissatisfaction appear to inhibit sending sexts in general and as a result of pressure regardless of the individual's level of trait body (dis)satisfaction. These results illustrate that repeated sampling of variables and data analysis at a granular level may provide information for the relationship between body image and sexting that otherwise would be obscured if they were measured cross-sectionally only. Sending and receiving sexts is associated with a decrease in body dissatisfaction states, which potentially constitutes a rewarding experience that may explain, to a certain degree, the popularity of the sexting phenomenon. The current study also illustrates that EMA is a viable procedure for measuring affective correlates of sexting, and thus opens opportunities for future replication studies and exploration of other variables.

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