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*Published in:*  
Current Psychology

*DOI:*  
[10.1007/s12144-022-02766-z](https://doi.org/10.1007/s12144-022-02766-z)

*Licence:*  
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*Recommended citation(APA):*

Hussain, S., Zhou, R., Siddiquei, A., Anwar, M. A., & Asmi, F. (2022). Why women avoid sexting: Mediating role of depression and guilt. *Current Psychology*. <https://doi.org/10.1007/s12144-022-02766-z>

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## Why women avoid sexting: Mediating role of depression and guilt

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**Conflict of Interest:** the manuscript holds no conflict of interest among all contributing authors.

**Funding Acknowledgement:** The research funded by the Key Laboratory of Immersive Media Technology (Anhui Hinhua Media Co, Ltd.), Ministry of Culture and Tourism, Hefei, China

**Availability of data and material:** Data will be available on reasonable request.

**Ethics approval:** Ethical clearance from the ethical committee from the Department of Science and Technology of Communication – University of Science and Technology of China provided.

**Acknowledgement:** Authors would like to appreciate the respected reviewers as their guidance helped us to revise the manuscript. Moreover, thanks for the efforts of Ms Saria Shabbir (Multan-Pakistan), Ms Nimra Usman (Multan-Pakistan), Ms Aima Saleem (Lahore-Pakistan), Ms Ayesha Aslam (Lahore-Pakistan) and Ms Nazia Farrukh (Lahore-Pakistan) for helping in data collection process.

## Why women avoid sexting: Mediating role of depression and guilt

Sexting is a challenging cyberpsychological phenomenon in today's digital world. This challenge especially resonates among women, as they face severe pressures from social, psychological, and technological fronts, thus pulling them away from getting involved in the phenomenon. The current research initiative adopted the Theory of Planned Behavior (TPB) and underlined the role of guilt and depression driven by the fear of social exclusion (as a social influence), gymnophobic attitude, and fear of being scammed (as a deficiency in IT self-efficacy) as exogenous factors to measure its position in mapping women's intentions to avoid sexting (in the hypothetical scenario). The study used convenience sampling to draw 472 (women) respondents from Pakistan with the mean age of 29 years old to measure the socio-psycho-techno-driven fears and their relationship with the mediating variables of depression and guilt. This information was used to map out the intentions to avoid sexting among women. The study found that social threat was the most significant construct, and depression was twice as influential as guilt in mapping women's intentions to avoid sexting. The study suggested that if women engaged in sexting, gymnophobic attitude and the social threat posed challenges for their psychological well-being. Moreover, the threat of being scammed as a factor needs to be more effectively communicated in society to map intentions to avoid its related challenges in sexting victimization.

Keywords: sexting, women, depression, guilt, gymnophobia

### 1. Introduction

The digital revolution has transformed communication modes and media with the popularity of innovative technologies and communication tools in society (Cornwell 2013). In the context of Metcalfe's law, social networks have transformed into hyper-excited node-to-node media-rich communication (Paat & Markham 2021). Consequently, within the research area of cyberpsychology, the revolution of tools, technologies, and behaviors in the context of ICT has led to the creation, evolution, and development of several social and psychological fronts, including sexting (Ngo et al. 2017). Controversies have been associated with sexting since its inception owing to two rationales, with the first one being the sexualization context, which can caption sexting as a harmless and positive activity (Perkins et al. 2014). It could give an outlet to inner desires based on the consensual agreement between two individuals (Cornelius et al. 2020; Cruz & Soriano 2014). Similarly, sexting plays a positive role among the LGBT and other sexual minorities, as the subject can hide their identity through technology-mediated sources. Conversely, the second reason pierces with the rigorous negative effects that could appear as an outcome of sexting behavior, such as humiliation (Nilsson et al. 2019), cyberbullying (Rodríguez-Castro et al. 2021), harassment (Lewis et al. 2020), revenge porn (Van Ouytsel et al. 2017), and dating violence (Lemke & Rogers 2020). Therefore, keeping in view the scarcity of literature on the negative aspects of sexting, this study develops the arguments on the darker aspects and intentions to avoid sexting among women.

Accordingly, the definitional circumference of the sexting behavior entails enormous breadth (Barrense-Dias et al. 2017). It resonates in academia from legal implications to socio-psychological, health, and technological grounds but has not received a consensus for a unanimous

definition (Van Ouytsel et al. 2018). Some researchers use the broader definition, which comprises diverse sexual or seductive communication, whereas others take sexting in a narrower spectrum, containing image-based content (Ricketts et al. 2015). Accordingly, within the legal framework, sexting is treated under the pornographic statutes and is defined in terms of graphical sexual intercourse with any sexual entity, bestiality, masochistic abuse, masturbation, and graphic depiction of the pubic area of any person, including genitals and breasts (Strasburger et al. 2019). Similarly, in the sex education perspective, sexting is the sending, receiving, and forwarding of sexually explicit messages, full or half nudes, or other sexually proactive digital messages via email, internet, phone, or SNS (Dake et al. 2012). Lastly, evidence from cyberpsychology (Döring 2014) postulates that “sexting refers to the exchange of self-created sexual text, photo, and video through cell phone or internet.” In the current research, the stance of Döring (2014) will be put forward to understand women’s sexting avoidance behavior in developing regions.

Further, some research indicates sexting as a voluntary behavior (Van Ouytsel et al. 2014), while others concede coerced sexting as being part of sexual behavior (Howard et al. 2019). Additionally, studies posit the variations in the results of sexting behavior owing to the difference in population samples (teens vs. adults). Correspondingly, the literature appears in two streams of the classical (Ostrager 2010) and the contemporary (Kriege 2016) perspective, taking into account the overall sexting behavior ranging from legal aspects to dating violence.

In the context of developing economies and rigid normative settings, sexting has exerted grave impacts in terms of its social and psychological outcomes. Brar et al. (2018) remarked that the leakage of erotic images may have led to the severity of suicide rates in developing regions (i.e. India). Rafi (2019) conducted a study in Pakistan and found that cyberbullying forges vulnerable situations and psychological concerns, thus leading to suicide attempts. The aftermaths of new social media technologies have been observed in the social settings of Pakistan (Zaheer 2018), in which suicides and murders have been reported at the mere cost of even having friendships with the opposite gender. Literature on sexting has culminated in the diverse range of academic circles (Currin et al. 2020; Morelli et al. 2019; Stonard 2018) inquiring about the prevalence of sexting, motivation of sexting, correlation of sexting, attitudes toward sexting, and perceived outcomes of sexting (Cruz & Soriano 2014). However, a gap exists in the literature in terms of determining the individual’s intentions to avoid sexting. On the basis of the preceding discussion, the authors carve out the diverse phenomenon of sexting avoidance among the women segment, especially in developing regions (i.e., Pakistan). The core objective of the study can be depicted through the two basic research questions (RQS): RQ1 How are the persuasive behavioral attributes combined to map women’s intentions to avoid sexting? RQ2 What role do guilt and depression play (as mediator) in mapping women’s intentions to avoid sexting, as a part of persuasive behavioral modeling? Correspondingly, the study responds to the above-discussed research questions by devising and testing a behavioral model adapted by Ajzen’s Theory of Planned Behavior (TPB) as the prime theoretical framework.

The current study will probe and contribute to the potential implications to fill this gap. The research will underline factors that play a critical role in sexting avoidance behavior and will have the novel contribution of measuring the strategic (mediating) role of guilt and depression in the avoidance of sexting among women. In the following subsection, each of the proposed theoretical stances for RQ1 and RQ2 will be discussed concerning sexting as a research area.

## 2. Theoretical Framework and Hypothesis Building

Extensive sexting-based research on examining the postulates of TPB exists (de Leeuw et al. 2015). Hence, on the basis of the review of relevant theories, the theoretically grounded conceptual model was developed. The exploration of extant literature on the intentions of individuals revealed that the TPB has been used in such kinds of studies (Branley & Covey 2018; Pelletier Brochu et al. 2018). Notably, the approach may be considered a more appropriate theory. The pivotal themes of the TPB revolves around the three components of attitude, subjective norms, and perceived behavioral control, which influence and formulate the intentions of individuals blending into their behavior (Alzubaidi et al. 2021; Liong & Cheng 2017). Eventually, the TPB puts forward a framework depicting the possible factors that shape an individual's behavior regarding specific issues and allows the investigation of the effect of other significant variables (Abbasi et al. 2021). This concrete basis has laid the TPB as a foundation to explore the socio-psychological and technological factors of individuals' anticipation of their intentions toward sexting (Liong & Cheng 2017). On the basis of the extensive pieces of evidence indicated through the literature, the TPB has been used as a theoretical basis to determine sexting intentions (Turchik and Gidycz 2012). As conceptualized, the socio-psychological and technological concern (Van Ouytsel et al. 2014, 2021) was specifically focused toward gymnophobia because the fear of being nude can be encapsulated as attitude. Similarly, Perceived Behavioral Control (PBC), captioned as "fear of being scammed," has driven the related ICT efficacy. Bandura (1977) defined self-efficacy as the ability of one to deal with any environment. Moreover, on the darker side, the lack of efficacy drives fear and stress among individuals (Keren et al. 2021). Subjective norm (SN) drives the cognitive pressure among individuals to define and formulate certain behaviors (Friedman et al. 2017; Zulfiqar et al. 2019). Therefore, the current study adopted the TPB's cognitive, social, and efficacy bases as factors into psychological, social, and techno-driven attributes. In other words, the current study expanded the concerned fears over the spectrum of the classical TPB, as each of the independent factors addresses the social, cognitive, or technological aspect, which can potentially define women's intentions to avoid sexting. In the following subsection, each of the exogenous factors for the adapted version of the TPB will be discussed on the contextual grounds of literature related to sexting.

### 2.1. TPB based hypotheses

Attitude can be a unified view of beliefs, sentiments, and behavior toward a certain thing, social event, specific object, or person (Wu 2021). In the broader aspect, the socially acquired tendency is to evaluate or assess things or an action in a particular manner (Valiullina 2020). It has been spurred largely by social psychologists since the 1980s, who have focused on the attitude to predict any general behavioral phenomenon (Corneille & Hütter 2020). In the context of the current research, gymnophobia is the individual's fear of being nude (Bindesbøl Holm Johansen et al. 2019), which is a bi-dimensional phenomenon of being seen nude and accentuates the fear of seeing others naked. This fear emanates from generalized anxiety about sexuality (Friedman et al. 2017). It can be due to physical inferiority complex or the fear of being unprotected or exposed (Weisskirch et al. 2017). Gymnophobia can be classified as the attitude within the proposed research framework, which encapsulates the fears, distress, and complexities that become rampant in the behavior. To some extent, the gymnophobic attitude is more complex and challenging in the case of women than in males. Further, culture plays a vital role in evolving and creating the attitude of shaming and being nude, which is displayed in the behavior when women interact within cyberspace (Mert 2012). Gymnophobia can be correlated with the suppressed and conservative

social or religious environment as well (Mert 2012). Consequently, it emerges from the fear of intimacy, social anxiety, body dysmorphic disorders, and specific milieu, thus making individuals more critical about their bodies (Brenick et al. 2019). Women with gymnophobia do not participate in sexting (Patchin & Hinduja 2019). Nonetheless, a dire association exists between gymnophobia and sexting, as the literature indicates that people avoid exchanging sexting owing to different socio-culturally constructed fears (Weisskirch et al. 2017). Moreover, gymnophobia as an attitude triggers a behavioral change that leads to psychological issues, i.e., anxiety or stress (Zeigler-hill & Shackelford 2020). Therefore, the following hypothesis has been proposed.

*H1: Gymnophobic attitude positively influences women's intention to avoid sexting.*

Social influence can be featured as the pattern in which individuals modify their behavior to submit or conform to the prevailing social order (Spears 2021). It is a coercive social norm that can be observed within various forms, such as obedience, peer pressure, socialization, existing mores, and conformity (Gass & Seiter n.d.). In the extreme setting, it can lead to social exclusion, which is a multifaceted phenomenon that can be categorized in terms of the absence or the denial of rights and resources commonly available to different individuals in a particular society (He et al. 2020). In the current research, the fear of social exclusion (social threat) is considered an attribute of social influence in the theoretical grounds of the TPB. In the context of cyberpsychology, social influence has a pivotal role in individual behavior. Various communication and interacting trends created over the internet are still subject to cyberpsychological influence. Therefore, individuals may modify their behavior in the cyberpsychological arena due to normative pressure. Several studies have captioned social influence, which pulls individuals away from sexting (Rey et al. 2019). On the same slice of time, fear of social exclusion that is grounded as the social influence poses the risk of leakage of sexts, which can have severe consequences of shame or bullying for women (Lloyd 2020). The fear of social influence operates as a constraint concerning participation in sexting. The longitudinal research has highlighted that descriptive norms (what peers perform) are more influential than injunctive norms (approval of behavior) (Walrave et al. 2015). The encounter of social influence and sexting can lead to challenging circumstances for the psychological condition, well-being, i.e., stress (Klettke et al. 2019), depression, and anxiety (Temple et al. 2014). Although sexting is a new normal in digital sexual relationships, social influence triggers behavioral avoidance patterns in society because women are afraid of the marginalized and disenfranchised cost of sexting (Englander & McCoy 2017). Thus, in the present research, the following hypothesis is narrated.

*H2: Fear of social exclusion (as a social influence) positively influences women's intention to avoid sexting.*

Self-efficacy is an individual's belief in their capabilities to execute a specific action. It asserts one's self-confidence over their skills to act. It affects human decision-making in every endeavor and can be accounted as one of the leading factors that assist in perceiving and responding to different situations. Scamming is accompanied by a wide range of illicit and illegal actions in cyberspace (Whitty & Buchanan 2016). It is different from traditional fraud because it involves individuals willingly participating in the process of providing information and access to critical resources (Coluccia et al. 2020). The digital model of sexual gratification as a part of sexting encounters online scams in romantic relationships (Kopp et al. 2016). Fear of being scammed is framed as a part of IT-based self-efficacy in the present study, as the current research emphasizes technologically facilitated communication. Extensive literature in cyberpsychology underlines

women's self-efficacy to encounter the technology. Self-efficacy fosters the least realization of the threats among women while they are having virtual communication with their counterparts. Women's victimization or fear of being compromised while engaging in sexting can be the outcome of their lack of IT self-efficacy. Specifically, women's involvement in sexting indicates that they possess the risk to encounter the possible hazards assumed from the sexting (i.e., identity theft or hacking). Meanwhile, avoidance behavior has also depicted their rational choice depending upon their IT self-efficacy. However, the exchange of erotic photos, regardless of the motivations or pressures, can potentially accelerate scamming, breach privacy, lower the social status, distort identity, and bring shame to the content creator (Whitty 2013). The literature argues that scams can lead to psychological issues and challenges, i.e., depression and anxiety (Paat & Markham 2021). In severe cases, this phenomenon is related to life-threatening circumstances, i.e., suicide (Keles et al. 2020). In the context of the above-discussed arguments, the following hypothesis is taken into account.

*H3: Fear of being scammed (as a deficiency in IT self-efficacy) positively influences women's intention to avoid sexting.*

## 2.2. Depression and sexting

Depression is a mental ailment that impacts the thinking, feeling, and acting of the individual. It appears in various forms, such as mood disorder, loss of interest, overwhelming guilt, reduced energy, feeling less worthy, loss of appetite, lack of sleep, and poor concentration (Nie et al. 2020). Based on the presence or absence of a manic episode, depression has several variations. Depressive episodes comprise the loss of enjoyment, interest, and depressive mood (Domaradzka & Fajkowska 2018). In the sphere of cyberpsychology, depression has gained ample literature and has also been researched under the theoretical stance of the TPB (Bohon et al. 2016). For instance, depression has been researched with gymnophobia. Literature argue that receiving sexts without consent can trigger a gymnophobic attitude and can negatively affect the emotional well-being of women. Similarly, Englander (2012) argued that women experience emotional and psychological pressure when women are pressured to share their sexts. In other words, such social influence-based depression can be in the form of depressive moods, anxiety, and self-harm. Moreover, depression and its correlation with self-efficacy and depression among women have also been researched.

Specifically, depression has also been researched under the hood of cyberbullying and the victimization of sexual scams (Hornor 2020). Notably, the findings on depression and sexting have been inconsistent. For instance, some of the studies reflected the non-significant relationship of depression with sexting (Rey et al. 2019). Contrarily, some studies depicted a positive association between depression and sexting (Gámez-Guadix et al. 2017). Further, several studies have demonstrated mixed results after examining the impact of depression while including demographic variables, such as age, race, gender, education, and ethnicity as control variables (Van Ouytsel et al. 2014). Therefore, on the basis of the above-discussed relatedness of depression with TPB-based proposed factors and intentions of women to avoid sexting, the following hypotheses have been proposed.

*H4: Gymnophobic attitude, fear of social exclusion, and being scammed positivity influence depression among women.*

*H5: Depression positively influences the women's intentions to avoid sexting.*

*H6: Depression mediates the relationship of gymnophobic attitude, fear of social exclusion, and being scammed with women's intentions to avoid sexting.*

### 2.3. Guilt and sexting

Guilt is an emotional state that arises when an individual violates moral laws and deviates from one's parameters of right or wrong. Tilghman-Osborne et al. (2010) argued that it is a complex construct and holds both cognitive and affective components. Shame can also be related to guilt distinctively, as shame is reared after violating social and cultural values. It emerges when one breaks personal morals (Rice et al. 2020). Eventually, guilt is correlated with the regret of executed actions. Sense of guilt appears when one performs wrong actions or encounters the consequences of certain actions. Conversely, this sort of guilt fosters destructive actions. In fact, feelings of guilt arise under certain conditions that are contrary to an individual's yardstick of right and wrong. ("All About Depression" 2001). The intensity of guilt varies with unique individual experiences (Etxebarria et al. 2002). These experiences of guilt are subject to the culture, religion, or family environment of the individual. However, individuals attempting to control their guilt are at a higher risk of anxiety and depression. A person with depression may have guilty sentiments (Stompe et al. 2002).

Guilt is associated with gymnophobic attitudes (Etxebarria et al. 2002), thus hindering women's participation in sexting within rigid cultures (Etxebarria et al. 2002). Additionally, guilt has also been subject to social influence, which has a basis over societal moral codes. These codes create restraint patterns. Violating such ethical standards, i.e., participating in sexting (within the rigid cultural setting), can trigger guilt among participants (O'Keefe 2000). Further, the scamming or lack of self-efficacy is a significant variable with the mediating role of guilt, as the ramifications of sexual scams induce guilt and shame among women (Owen et al. 2017). In other words, the correlation of guilt with the social stigma and violation of cultural expectations regarding sexting exists in the literature (Cruz and Soriano 2014). Englander (2012) revealed that sexting is associated with guilt when an individual is pressed to engage in this activity. Similarly, individuals who feel guilty about sexting avoid participating in this kind of activity (Gibson, 2016). Hence, on the basis of the above-discussed relatedness of guilt with TPB-based proposed factors and women's intentions to avoid sexting, the following hypotheses have been proposed.

*H7: Gymnophobic attitude, fear of social exclusion, and being scammed positively influence guilt among women.*

*H8: Guilt positively influences women's intentions to avoid sexting.*

*H9: Guilt mediates the relationship of gymnophobic attitude, fear of social exclusion, and being scammed with women's intentions to avoid sexting.*

## 3. Method

### 3.1. Instrument

The authors collected demographic details (age, education, and sexual preference) based on an ordinal scale set with close-ended questions. The study adapted instruments for each construct from well-established and pre-existing sources. All responses for each question related to the constructs were scored on a five-point Likert scale, where 1 represented strong disagreement and 5 entailed strong agreement. Before the data collection, the authors approached two experts from gender studies and sociology to evaluate the questionnaire's face and content validity. The authors revised the questionnaire as per the recommendations advised by experts regarding the sentence structure and linguistic issues of 12 items. Moreover, the authors conducted a pilot survey including 10 volunteer respondents from the university to evaluate the questionnaire's validity and face validity. The pilot survey assures that the questionnaire is easy to understand and valid in the



context of current research. Table 1 includes all sources and adapted instruments for the final survey.

Table 1: Instrument of scale with adapted sources.

| Construct   | Items   | Source                    |
|---|---|---------------------------|
| Fear of social exclusion (as a social influence) (ST)             | Imagine if my social circle was aware of my sexting (as an action) <ul style="list-style-type: none"> <li>○ I would be worried about being ignored.</li> <li>○ I would feel displeased with myself.</li> <li>○ I would be concerned about the impression I am making.</li> <li>○ I would feel inferior to others.</li> <li>○ I would feel concerned about my impression.</li> </ul> | (Tams et al. 2018)        |
| Gymnophobic attitude (Gymn)                                       | About capturing and sharing my nude photos... <ul style="list-style-type: none"> <li>○ I would feel uncomfortable.</li> <li>○ I would be annoyed.</li> <li>○ I would panic.</li> <li>○ I would be nervous.</li> <li>○ I would be scared.</li> <li>○ I would feel awkward.</li> <li>○ I would feel anxious.</li> </ul>   | (Yildirim & Correia 2015) |
| Fear of being scammed (as a deficiency in IT self-efficacy) (FBS) | <ul style="list-style-type: none"> <li>● I am afraid to become a victim of sexting.</li> <li>● I am afraid to become a victim of blackmail.</li> <li>● I am afraid to become a victim of identity theft.</li> <li>● I am afraid to become a victim of cybercrime.</li> </ul>  | (De Kimpe et al. 2020)    |
| Depression  | Imagine you performed/experienced sexting. <ul style="list-style-type: none"> <li>○ I would not enjoy my life afterward.</li> <li>○ I would feel that all joy would suddenly disappear.</li> <li>○ I would feel sadness afterward.</li> <li>○ I would feel worthless.</li> </ul>  | (Dhir et al. 2018)        |
| Guilt   | Imagine you performed/experienced sexting. How would you feel? <ul style="list-style-type: none"> <li>○ Guilty</li> <li>○ Sorry</li> <li>○ Bad</li> <li>○ Ashamed</li> </ul>  | (Jiang et al. 2020)       |
| Intention to Avoid Sexting  | <ul style="list-style-type: none"> <li>● In the future, it is very unlikely that I will do sexting.</li> <li>● In the future, I have no intention to practice it.</li> <li>● I am not interested in sexting.</li> </ul>   | (Hwang & Zhang 2018)      |

### 3.2. Participants and procedure

After securing approval for the current research from the ethical committee for human research studies by the affiliated university of the author, participants were recruited digitally by using the convenience sampling method. Specifically, the authors targeted closed groups over Facebook

(close-groups) and WhatsApp. The shared hyperlink for brief details about the purpose of the research was posted and shared. To communicate the instrument's purpose to the potential respondents, the definition of sexting and each construct added in the cover letter and the survey to make and communicate each question relevant to each construct and research context. The cover letter also comprised the data non-disclosure policy on the web link. The consent for participation was shared after pre-checks regarding a lower age limit of 18 years and the gender, as the current research emphasizes women only for interested participants. All 472 volunteer women participants were requested to fill the questionnaire survey, which took approximately 15 minutes to complete. The summary of the demographic profile of the collected respondents is listed in table 2.

Table 2: Descriptive summary of the response set.

| Characteristic            | Detail                | Frequency | In Percentage(%) |
|---------------------------|-----------------------|-----------|------------------|
| Age                       | 18 to 24              | 194       | 41.10            |
|                           | 24 to 35              | 211       | 44.70            |
|                           | Above 35              | 67        | 14.20            |
| Last attended institution | Primary/Vocational    | 95        | 20.13            |
|                           | Secondary/Higher Sec. | 238       | 50.42            |
|                           | University            | 139       | 29.45            |
| Sexual preference         | Heterosexual          | 412       | 87.29            |
|                           | Homosexual            | -         | -                |
|                           | Bisexual              | -         | -                |
|                           | Not answered          | 60        | 12.71            |

As the current research was conducted in a developing region (Pakistan), and only women were accounted as the target segment for the research. Notably, homosexuality is not highly visible and accepted in the normative setting of the country. This factor can be one of the reasons why none of the respondents recorded bisexuality or homosexuality as their sexual preference. In addition, more than 10% of the respondents deliberately ignored to respond to this attribute.

The authors examined the non-response bias of the collective response by computing the chi-square scores of the initial and the later response sets of the survey suggested by Armstrong and Overton (1977). The non-significant difference in the responses indicated the collected data free of non-response bias—specifically, the data collected in the first quarter of 2021.

#### 4. Results

The authors adopted structural equation modeling by the partial least-square method. PLS provides quantified settings to propose, test, and develop a theoretical model (Gong et al. 2019). The present research followed a two-stage approach to examine the collected data. In the earlier stage, instruments' reliability and internal and external validity were reviewed as part of the measurement model. In the later analysis stage, the hypothesized research models under the hood of RQ1 and RQ2 were tested by using the structural equation model (PLS-SEM) in ADANCO 2.0.1.

##### 4.1. Measurement model

The confirmatory factor analysis was conducted to test the collected data's internal and external reliability and validity, as suggested by the existing literature (Kaur et al. 2021). Specifically, the instruments' loadings, Cronbach's alpha scores, constructs' composite reliability, and average

variance were computed (listed in Appendix A). The acceptable Cronbach's alpha scores were recorded in each construct as recommended by Hair et al. (2014). Moreover, in the collected data, each item's permissible lower limit of factor loadings and composite reliability of every construct satisfied the recommended value of .70 as suggested by Pallant (2016) and Henseler (2017) respectively. Furthermore, each construct's variance extracted (average), which helps to underline the data's internal and external validity, was noted to be above the lower cut-off limit of .50. Hence, the collected data for the proposed research study eliminated the challenge of convergent reliability.

As mentioned above, the average variance extracted also helps to examine divergent validity. Therefore, the square root of average was measured and compared with the correlation scores as advised by Fornell and Larcker (1981). The tabular results are listed in Table 3. Moreover, the acceptable score was recorded in the Hetro-Trait and Mono-Trait (HTMT) analysis of the collected data as recommended by Henseler (2017).

Table 3: Divergent validity of the proposed constructs.

| Construct                        | Gymn       | FBS        | ST         | Dep        | GT         | IAS        |
|----------------------------------|------------|------------|------------|------------|------------|------------|
| Gymnophobic Attitude (Gymn)      | <b>.81</b> | .41        | .43        | .36        | .55        | .35        |
| Fear of Being Scammed (FBS)      | .13        | <b>.80</b> | .30        | .30        | .33        | .22        |
| Fear of Social Exclusion (ST)    | .14        | .06        | <b>.79</b> | .59        | .54        | .79        |
| Depression (Dep)                 | .11        | .07        | .28        | <b>.92</b> | .51        | .63        |
| Guilt (GT)                       | .25        | .08        | .22        | .22        | <b>.89</b> | .52        |
| Intention to Avoid Sexting (IAS) | .09        | .03        | .44        | .31        | .20        | <b>.85</b> |

Note: The lowered diagonal is the correlation scores, and values (as underlined bold) are the square root of the average variance extracted as suggested by Fornell and Larcker (1981). The upper diagonal (in italic) is the Hetro-trait and Mono-trait scores as recommended by Henseler (2017).

The collected data for the current study are self-reported. In terms of statistical data validity for model testing, common method bias (CMB) traces must be tested. Therefore, the authors adopted three methods to examine this possibility. First, Harman's single factor test examined the maximum variance extracted by a single construct. The study comprised six constructs. The most significant conflict recorded by a single construct was 37.46%, which was observed under the recommended upper cut-off limit of 50% as advised by Podsakoff et al. (2003).

Furthermore, the common-latent-factor (CLF) was measured as suggested by Song et al. (2019), where the standard regression scores of a model with and without CLF were compared. However, no difference was recorded above .200. Therefore, the quantified results eliminated the issue of CMB in the research. Moreover, the multi-collinearity was computed by calculating the variance inflation factor (VIF) for each item of the study; all VIF scores were recorded over the continuum of 1.48 and 2.85, which fell under the upper cut-off, as recommended by Zhang and Leidner (2018) and as listed in Appendix B. Therefore, the current research eliminated the risks of CMB and multicollinearity.

#### 4.2. Goodness of fit testing for RQ1 and RQ2

While using ADANCO 2.0.1, the fitness indices were measured to compute model fitness in the case of RQ1 (Model 1) and RQ2 (Model 2) as proposed in Section 2. The standardized version of residuals' square root (SRMR), least-squares of unweighted scores (ULS), and its discrepancy ( $d_{ULS}$ ) were measured, as suggested by Henseler (2017). The lower scores of SRMR, ULS, and its discrepancy ( $d_{ULS}$ ) highlighted the good-fit of the proposed persuasive psychological research. All fitness scores at 95% and 99% (listed in Appendix C) implied that the research model significantly explained the sexting avoidance behavior among women in the case of RQ1 (Model 1) and RQ2 (Model 2). Besides the model fitness estimation through ADANCO, authors also computed the goodness of fit indices through SPSS-AMOS; the goodness of fit indices in case of Model 1 and Model 2 were observed to be above the lower cut-off limit as suggested by Hu and Bentler (1999). Particularly, the goodness of fit indices are recorded as follows: Model 1 fitness of good indices = (chi-square ( $X^2$ ) / degree of freedom (df) = 4.39, CFI = 0.96, TLI = 0.96, RMSEA = .07), and Model 2 fitness of good indices = (chi-square ( $X^2$ ) / degree of freedom (df) = 4.51, CFI = .96, TLI = .97, RMSEA = .07).

#### 4.3. Results related to RQ1 (Model 1)

While performing the path analysis of the proposed RQ1 (Model 1), the study found that all three proposed hypotheses were significant: H1 ( $\beta = .12, p < .01$ ), H2 ( $\beta = 0.09, p < .05$ ), and H3 ( $\beta = .64, p < .001$ ) (listed in Table 4). The graphical view of the proposed model for RQ1 is shown in Figure 1.

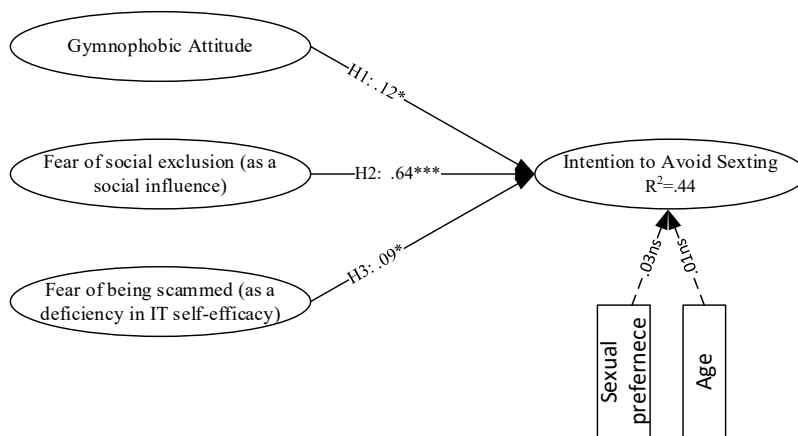


Figure 1: TPB-based model's (RQ1) path analysis.

Moreover, the  $R^2$  in the case of Model 1 was noted as .44, which highlighted the significant explanatory power of the proposed TPB-based exogenous factors to define women's intentions to avoid sexting. Therefore, the RQ1 was supported by the current study, as stated in Section 2.1.

#### 4.4. Results related to RQ2 (Model 2)

Before analyzing the mediating role of depression and guilt (the core objective of the RQ2), the path analysis was also performed, where the impact of TPB-based exogenous factors on depression and guilt was computed. Moreover, the relationship of depression and guilt with women's intentions to avoid sexting was also examined. While exploring the path analysis of the proposed Model (Study) 2, H4, H5, H7, and H8 were observed to have significance, as listed in Table 4.

Table 4: Structural path analysis of model 1(for RQ1) and model 2 (as a part of RQ2)

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### Model 1

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| Sr.            | Effect  | Original coefficient | t-value | p-value (2-sided) |
|----------------|---|----------------------|---------|-------------------|
| H1             | Gymnophobic Attitude -> Intention to Avoid Sexting    | .12                  | 2.37    | .038              |
| H2             | Fear of Social Exclusion-> Intention to Avoid Sexting | .64                  | 18.33   | .000              |
| H3             | Fear of Being Scammed -> Intention to Avoid Sexting   | .09                  | 2.94    | .043              |
| <b>Model 2</b> |   |                      |         |                   |
| Sr.            | Effect  | Original coefficient | t-value | p-value (2-sided) |
| H4(a)          | Gymnophobic Attitude -> Depression                    | .12                  | 3.81    | .000              |
| H4(b)          | Fear of Social Exclusion-> Depression                 | .46                  | 14.0    | .000              |
| H4(c)          | Fear of Being Scammed -> Depression                   | .11                  | 3.32    | .000              |
| H5             | Depression -> Intention to Avoid Sexting              | .44                  | 13.65   | .000              |
| H7(b)          | Gymnophobic Attitude -> Guilt                         | .35                  | 11.02   | .000              |
| H7(b)          | Fear of Social Exclusion-> Guilt                      | .32                  | 9.88    | .000              |
| H7(b)          | Fear of Being Scammed -> Guilt                        | .08                  | 2.19    | .002              |
| H8             | Guilt -> Intention to Avoid Sexting                   | .24                  | 6.91    | .000              |

Moreover, the  $R^2$  in the case of Model 2 was noted as .31, .35, and .36 in the case of depression, guilt, and intentions to avoid sexting, respectively, which highlighted the significant explanatory power of depression and guilt as mediators in the case of the proposed scenario of Model 2. The graphical explanation of the structural path analysis in the case of Model 2 is shown in Figure 2.

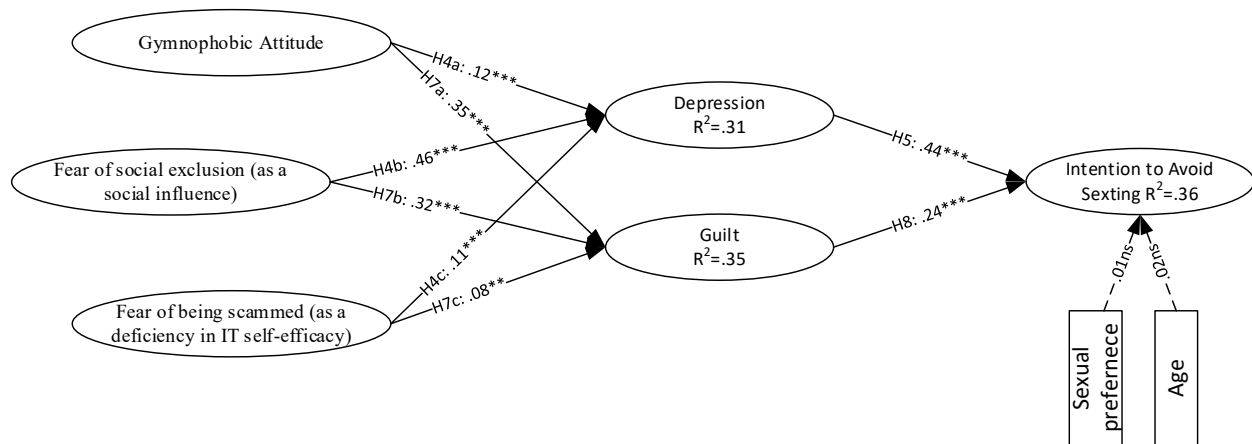


Figure 2: A path analysis of RQ2 based Model 2.

H6 and H9 were tested, which were initialized as RQ2 in Section 1 and hypothesized in sections 2.2 and 2.3, respectively. The authors examined the indirect effect of the proposed TPB-based factors (gymnophobic attitude, fear of social exclusion (as a social influence), and fear of being scammed (as a deficiency in IT self-efficacy) on the intentions of avoiding sexting while taking depression and guilt as the mediator into consideration. Thus, the mediating relations were tested by using Preacher and Hayes’s (2008) approach. Specifically, the bootstrap sampling method with a count size of 1,000 was observed to examine the confidence intervals asymmetrically. The findings concluded that mediation exists in the H6 and H9 as no-confidence intervals recorded with zero within the continuum of upper and lower limits. The tabular results are listed in Table 5. Table 5: Bootstrap mediation results.

| Hypo  | IV   | M   | DV  | Effect of IV on M | Effect of M on DV | Direct (c') | Indirect (a*b) | Total effect (c) | 95% (CI)  | Mediation |
|-------|------|-----|-----|-------------------|-------------------|-------------|----------------|------------------|-----------|-----------|
| H6(a) | Gymn | Dep | IAS | .29***            | .44***            | .15*        | .13**          | .27***           | (.09,.16) | Supported |
| H6(b) | ST   | Dep | IAS | .63***            | .25***            | .58***      | .16**          | .79***           | (.12,.21) | Supported |
| H6(c) | FBS  | Dep | IAS | .22***            | .44***            | .09*        | .10**          | .15***           | (.07,.19) | Supported |
| H9(a) | Gymn | GT  | IAS | .54***            | .18***            | .15*        | .10**          | .27***           | (.06,.14) | Supported |
| H9(b) | ST   | GT  | IAS | .69***            | .09*              | .58***      | .06*           | .79***           | (.02,.10) | Supported |
| H9(c) | FBS  | GT  | IAS | .20***            | .20***            | .09*        | .06*           | .15***           | (.04,.08) | Supported |

Note: \*\*\* = Significance level of 0.001, \*\* = Significance level of 0.01, \* = Significance level of 0.05  
 Gymnophobia (Gymn), Fear of Social Exclusion (ST), Fear of Being Scammed (FBS), Depression (Dep), Guilt (GT), and Intentions to Avoid Sexting (IAS)

Interestingly, the findings from Table 4 and Figure 2 concluded that depression ( $\beta=.44$ ) held a more significant role than guilt ( $\beta=.24$ ) while mapping women’s intentions to avoid sexting. To examine the nature of mediation (as partial or complete), Baron and Kenny’s (1986) approach was adopted, where the three-stage regression model was tested to investigate (1) the impact of the independent construct (IC) on the dependent construct (DC) (in the absence of mediator), (2) the impact of the IC on the mediator, (3) and the influence of the IC and the mediator on the DC simultaneously. The tested hypotheses were recorded with partial mediating effect in H6 and H9, as listed in Table 6. Thus, RQ2 is supported, as proposed in Sections 2.2 and 2.3. In other words,

the study reported that depression and guilt can play important role in mapping women’s intentions to avoid sexting.

Table 6: Mediating effect measured by Baron and Kenny (1986).

| Hypo  | IV   | M   | DV  | IV→DV  | IV→M   | IV+M→DV |        | Mediation |
|-------|------|-----|-----|--------|--------|---------|--------|-----------|
|       |      |     |     |        |        | IV→DV   | M→DV   |           |
| H6(a) | Gymn | Dep | IAS | .27*** | .29*** | .12***  | .51*** | Partial   |
| H6(b) | ST   | Dep | IAS | .79*** | .62*** | .61***  | .29*** | Partial   |
| H6(c) | FBS  | Dep | IAS | .15*** | .22*** | .07*    | .55*** | Partial   |
| H9(a) | Gymn | GT  | IAS | .27*** | .54*** | .10**   | .32*** | Partial   |
| H9(b) | ST   | GT  | IAS | .79*** | .69*** | .69***  | .14*** | Partial   |
| H9(c) | FBS  | GT  | IAS | .15*** | .29*** | .06*    | .35*** | Partial   |

Note: \*\*\* = Significance level of .001, \*\* = Significance level of .01, ns = Not significant

Gymnophobia (Gymn), Fear of Social Exclusion (ST), Fear of Being Scammed (FBS), Depression (Dep), Guilt (GT), and Intentions to Avoid Sexting (IAS)

## 5. Discussion and implications

### 5.1. Discussion

This research venture has been executed in the context of Pakistani society where the social fabric is woven in the patriarchal norms. The dominating patriarchal values govern the social structure of society, which is explicitly manifested through the sexual division of labor. Although women have a higher proportion than men, they are still striving for emancipation. It includes negative social biases, restrictions on women's mobility, and the concept of honor embedded within women’s sexuality, which formulate the basis of discrimination, inequality, and disenfranchisement in all the spectrum of life for women. The current situation also brings challenges for the LGBT and transgender segment of society, i.e., these segments are dejected, denied, and devalued within society. Moreover, uncertainty avoidance (as a cultural attribute) has been immersed at the highest level in the social, economic, cultural, and political spheres (Waqar et al., 2021). This divide has widened women’s subjugation and fluctuates across the regions, classes, and rural-urban areas. Further, the labor force participation has not gained a substantial presence of women across different fields. Perhaps, masculinity has transgressed women and forged uncertain attitudes. The nexuses of unequal patterns have blended the complexity of women’s behavior so much so that they have developed avoidance behavior in terms of their sexual tendencies. The severe consequences, i.e., depression, anxiety, blackmailing, honor killing, and suicide, resulting from women’s involvement in sexting have made this sector vulnerable, perhaps leading them to foster uncertainty avoidance within cyberspace (Zaheer 2018;Rafi 2019).

The findings derived from the RQ1 (Model 1) have reflected that the fear of social exclusion (as a social influence) has weighed the most significant role in determining the intentions to avoid sexting. Burén, Gattario, and Lunde (2021) have shed light on the rising inclination of sexting owing to social influence because women participate under the threat within this digital romantic activity. The decision-making of women is subject to the social frame of reference that spurs from social influence. Thus, women develop the intention to participate or avoid such kinds of activities. Eventually, patriarchal values and norms have labeled sexting as a taboo in the particular rigid culture (Naezer & Oosterhout 2021). Such kinds of taboo operate as impediments in women’s participation across various fields of life, from economic activities to their personal lives. Surprisingly, fear of being scammed as a lack of IT self-efficacy has demonstrated a less effective role in mapping intentions to avoid sexting. The study has framed out this tragic fact because the

less effective role of fear of being scammed indicates that women do not weigh scamming as much as other factors concerning sexting. In contrast, Hong et al. (2020) unveiled that scamming is highly alarming because it has severe consequences for the women population in emerging cyber era values. Similarly, gymnophobic attitude has appeared as a second influential variable in predicting sexting avoidance intentions. It contributes vital aspects of behavioral complexity and body shaming. The basis of gymnophobic attitude lies within the coercive norms and the personality traits of women. Somehow, the gymnophobic attitude lets out the sentiments of hesitancy to share the sexts.

While exploring the findings from RQ2 (Model 2), the research concludes that depression plays a more prominent role than guilt in predicting the intentions to avoid sexting. The reason behind this factual result can be the subjugating role of women in male-dominant societies over the centuries. Wachs et al. (2021) revealed the dominating role of depression for several reasons, i.e., taboos and pressure from sexting. Additionally, guilt is weaker than depression due to the two potential reasons, that is, guilt depends upon the subjective approach, and the personal conscience of the individual varies. Second, guilt attains a weaker effect from the fear of being scammed to define the intentions to avoid sexting. Guilt and shame have also been noted to create subsequent harassment and bullying as well due to sexting. The other psychiatric outcomes of sexting and cyberbullying have appeared in cases of suicide (Friedman et al. 2017). While examining the mediating role of guilt and depression, the role of social threat and fear of being scammed posed more explanatory power while defining depression compared with guilt. Conversely, the gymnophobic attitude has a stronger effect on guilt than depression. Moreover, the control variables were observed to be non-significant for Models 1 and 2, as reported in Figures 1 and 2, respectively.

Notably, the proposed set of fears were inquired by proposing hypothetical scenarios from the collected respondents designed within the context of the incidents that occurred in the country in recent years, where women have become victims of sexting (includes in cyberbullying). Moreover, the incidents that can possibly be related to any of the proposed fears that cause women to avoid sexting recorded in the news and print media in recent years are listed in Appendix D.

## 5.2. Implications

The study puts forward several theoretical and practical implications for the researchers, policymakers, and academicians. First, the present literature in the domain of cyberpsychology is first of its nature, which conceptualizes the sexting avoidance intentions among women. Although sexting has received researchers' attention in the recent couple of years (Rodríguez-Castro et al. 2021), no behavioral modeling initiative has been carried out in mapping sexting avoidance. The present study would be insightful in filling the literature gap of modeling sexting and enriching the cyberpsychology literature. Second, gymnophobia has already been discussed in behavior research but has never been adapted quantitatively in the case of sexting. In sexting-related literature so far, gymnophobia is unexamined as a construct. Notably, gymnophobic attitude in the current research satisfied all internal and external statistical reliability tests. Therefore, gymnophobic attitude as a construct in sexting-related literature is the novel contribution of this study. Thirdly, the study implies that guilt and depression have not been explored in the case of sexting-related literature to underline any avoidance behavior. However, it has been investigated in psychology (Sekowski et al. 2020) and cyberpsychology separately (Lenton-Brym et al. 2021; Przepiorka et al. 2021). The current research examined guilt and depression simultaneously with reference to TPB. Furthermore, it also underlined these constructs as the mediator in accentuating



intentions to avoid sexting among women, which can be counted as a contribution in cyberpsychology and gender studies. Our findings illustrate that the combination of TPB and fears drives the cognitive change among women (namely, guilt and depression), which pulls women away from sexting. Precisely, the partial mediating role of guilt and depression also stretches further the new discernments into the literature of psychological well-being and cyberpsychology. Depression and guilt have been identified as partial mediators in cases of women's intention to avoid sexting.

The practical implication of the study comprised the following argument: First, the study collected most of the data from a developing region (Pakistan). Findings concluded that among TPB exogenous factors, social influence was embedded within norms and taboos and proved to be most influential as exogenous factors for sexting avoidance. The study implies a dire need to address the discussion of sexting as a taboo in our society's formal and informal settings to increase public awareness of its dark aspects. Second, gynophobic attitude has been regarded as a source of complex psychological problems, embarrassment, and body shaming. The study puts the practical implications of the counseling and alternation of the attitudes through informal socialization agents. Third, as the less significant effect of fear of being scammed, the authors assume that women have a lower degree of self-efficacy to deal with information communication technologies, which can drive to severe situations, i.e., harassment, cyberbullying, and sexual scams. Hence, the current study implies that the awareness level must be increased among women to avoid and report such kinds of scams (by arranging ICT awareness campaigns and by communicating cyber-laws in the country).

## **6. Conclusion and future studies**

As far as the study's limitations are concerned, the research explored guilt and depression as mediators to women's avoidance of sexting. Future study can address the moderating role of depression and guilt in the case of TPB-based sexting avoidance modeling. The study also finds a dire need to examine other factors, i.e., regret, and spectrum of self-efficacies (i.e., decision making self-efficacy), to cope with social-psycho-technological fears. Further studies can examine the relationship among anxiety, wellbeing, and avoidance of sexting. The current research emphasized women only. Hence, future studies can probe the avoidance behavior among the LGBT and males. In addition, the current study adopted a quantitative approach where the hypothetical scenarios shared with the respondents to map their intentions to avoid sexting. However, qualitative research can also be conducted i.e. experiment or biometric instrument based research. Future research can be conducted in cross cultural environment. As the current research conducted in the specific (Pakistan's) cultural and normative setting, findings generalizability still demands to examine the proposed model in the other cultural settings. Besides the cross-cultural examination, the greater count of sample size can also help to examine the currently non-significant influencer (control variables which includes sexual preference and age). Lastly, future studies can also underline the factors that motivate the practice or avoidance of sexting in heterosexual and homosexual segments of society.

## **Acknowledgement**

Authors would like to thank the Reviewer 1 and Reviewer 2, as their valuable comments really helped authors to improve the manuscript.

## **Consent to participate**

For the current study, all respondents freely provided their informed consent to participate in the research (within the cover of the questionnaire survey). Furthermore, a brief cover letter about the scope and the meaningfulness of each construct was adapted in the current research survey.

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