Online Sexual Harassment over Anonymous Social Media in Bangladesh

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ABSTRACT

Prior research on anonymous social media (ASM) has studied the issue of sexual harassment and has revealed its connections to stereotyping, aggression, interpersonal relationships, and mental health among others [16, 24, 60]. However, the characteristics of such harassment in the context of low and middle-income countries (LMICs) in the global south has not received enough attention in the literature. This paper presents our findings on the use of ASM in Bangladesh based on an anonymous online survey of (n= 291) participants and semi-structured interviews with (n= 27) participants. Our study shows a wide prevalence of sexual harassment on anonymous social networks in Bangladesh, the relationship between a closely-knitted communal culture and anonymous harassment, and the lack of infrastructural support for the victims. We also propose a set of design and policy recommendations for such anonymous social media to extend the current ICTD literature on ensuring a safer online environment for women, especially in an LMIC.

CCS CONCEPTS

• **Human-centered computing** → **social media**; *Information systems*; Social networking sites;

KEYWORDS

Anonymity, Anonymous Social Media, Harassment, Suspicion, Non-use

1 INTRODUCTION

Most mainstream online social media, including Facebook, Twitter, Instagram and Quora, often do not provide their users with a convenient and normative way to communicate with each other while hiding their identities [103]. Anonymous social media (ASMs) like *Ask.fm*, *Yik Yak*, *Secret*, and *Sarahah* have brought changes to that practice by allowing people to express their thoughts and opinions anonymously. Several studies have been conducted to identify the motivations of using anonymous applications [22, 26, 56]. These studies show that some people prefer ASM for achieving protection against their socially disapproved behaviors, including online harassment [26, 56], while some may seek it to share anything on the internet without the fear of social retaliation [22]. Hence, anonymous social media provide their users with a rostrum for safely expressing their opinions. Although previously ICTD, HCI communities studied online harassment focusing on developing context [3, 6, 15, 71, 105], most studies on anonymity and anonymous social media situate itself around western context [26, 27, 37]. Prior studies have shown that the expectations and experience of using different online platforms are often very different in LMICs than those in the developed western counties [6, 25, 100]. The differences are often rooted in the structure and functioning of local communities, their culture, geography, history, and economy [81]. These differences are important to learn in order to understand the impact of ICT in developing countries.

In this particular study, we have focused on the ASM experiences of Bangladeshi users. Bangladesh is a developing country that has recently achieved notable improvements in its ICT sector [50]. Due to such development in the ICT sector, desktop computers, mobile, wifi, and broadband internet are gradually becoming more available and affordable to the citizens of Bangladesh [29, 50]. By April 2018, there have been around 85.9 million internet subscribers in Bangladesh [9]. Like many other countries in the world, social media, like Facebook, have become very popular in Bangladesh in the last decade [89]. According to a recent study, in Bangladesh's capital, Dhaka, there were around 22 million active Facebook users in 2017, who constitute almost 1.1% of the total monthly active users of this social networking site across the globe [67]. Among the ASMs, Ask.fm and Sarahah are the most popular in Bangladesh, and these are getting attention not only from the mass users, but also from the national media as well [33, 92]. Although previous

studies on ASMs show how often these platforms promote online harassment [22, 26], no proper study has been done in Bangladesh to investigate such events from this contextual background. This creates a gap in the existing literature of ICTD, where understanding on the situated experiences of sexual harassment through ASMs in a developing country like Bangladesh is almost absent.

To understand the severity of harassment associated with using ASMs in the context of LMIC, it is important to take into account the local practices of misogyny, patriarchy, and gender-based violence [58, 94] that often reform how people behave on social media [10, 52]. In this study, we investigate different harassment experiences that are triggered by different socio-cultural norms, users' expectations, and suspicion about harasser's identity while using ASMs in Bangladesh. We also instigate, how these users respond to such harassment, and continue to participate on ASMs. We conduct a mixed methods study that includes an anonymous online survey consisting of 291 respondents and an interview study with 27 participants. Although our survey and interviews mostly include participants from mid to high socioeconomic status (SES) (due to convenience and snowball sampling and also higher Internet access among urban population [13]), the experience of harassment through ASMs and its relationship with different socio-cultural practices of Bangladesh was undoubtedly severe to the victims, regardless of their SES. Our study reports -

- A large portion of the ASMs users in our study, mostly women, face harassment through ASMs, which can be grouped into sexual proposition, sexually objectifying contents, romantic messages, and dating inquiries. According to the majority of our participants, the most prevalent harassment they faced through ASMs is sexual harassment
- The study also suggests that, although the harassment happens anonymously, a majority of the times, it is suspected or found to be done by someone they know, which further causes emotional distress and misery among the victims
- The study also implies that, although these harassing experiences sometimes result into resistance, due to the lack of proper social support, and social practice of victim blaming and humiliation, it also a majority of the times causes technology withdrawal and non-use among our users in Bangladesh

These findings provide us a good understanding on the use of ASMs in the Bangladeshi context and the prevalence of harassment through such platforms. Based on such findings, we insinuate that sometimes different cultural norms and traditional practices, distinct to Bangladesh, not only have an effect on the forms of harassment that happen through ASMs there, but also have an impact on how some of the users react against such events and continue their participation in this contextual background. We also discuss how these findings are connected with ICTD's broader concerns with contextual design, and policy.

2 RELATED WORK

2.1 Anonymity and Anonymous Social Media

To understand anonymity and different user experiences of using ASMs in LMIC, it is important to first define what anonymity means in these social platforms. The definition of anonymity varies from context to context. According to Gary Marx's earlier analysis, anonymity means being absolutely untraceable in every sense [55]. But while addressing anonymity associated with online communication today, Marx brought in a few additional contextual aspects that may redefine anonymity more broadly [64]. He suggested that online anonymity broadly involves the concepts of availability and unavailability of the person's physical existence rather than ensuring a true traceability [64]. In online discourse, people often care a lot about their privacy (for different purposes) and prefer to be unidentified by hiding any traceable identifier [55]. Anonymity here can be defined as *"unlinkability between the initiator and respondent, where these two entities cannot be identified as communicating with each other"* [87]. However, hundred percent anonymity on the Internet can never be ensured due to the possibility of leaving traceable clues (user's attributes, time frame, subject matter etc.) while communicating with someone [51, 76].

Commonly used anonymous and semi-anonymous online social media that have frequently been referenced in ICTD related fields are Yik Yak (now defunct) [88], Whisper [85] and Ask.fm [12]. Sarahah is one of the newest and most famous additions to this list of anonymous applications [62]. There are differences in the features and levels of anonymity provided by these applications [30]. For example, while some applications provide options for managing the level of anonymity (like Ask.fm) to a certain extent, some applications have the default option of anonymity implemented in them (like Sarahah, Whisper). These anonymous applications allow people sharing messages with other users hiding their actual identity [56]. With anonymity, people can discuss or share unconventional or unwanted messages with others that may receive stricter scrutiny if discussed on other traditional platforms [26]. These unconventional or unwanted messages through different ASMs often becomes online harassment [98].

2.2 Anonymity and Harassment over the Internet

Online sexual harassment is prevalent across different kinds of communication channels and social media [16, 66]. Such harassing behaviors include (but not limited to) sending sexually explicit messages to someone without their prior consent, using private pictures to blackmail, demeaning someone because of their gender, attacking someone using explicit words before the public, etc [19]. Although both sexes engage in and experience online harassment, research has shown that women are the primary target in cyberspace and sexual harassment is one of the most prevalent forms of online harassment against them [9, 86]. ASMs are often reported to be a safe hub for online harassers [99]. Because of its nature, online anonymity may lead a user to either unusual acts of kindness or generosity, or misbehavior, such as using harsh or rude languages and acts that are illegal or harmful [55]. In one study, people on *Ask.fm* were found to behave more negative than the people on some other mainstream non-anonymous social media apps (like Instagram) [47].

Researchers have tried to explain the increased prevalence and severity of harassment over ASMs in various ways. For example, in computer-mediated communication, anonymity has been linked to less accountability [44] and more disinhibition [54, 93]. These

disinhibitions might lead to negative behaviors such as bullying and flaming [44]. According to another study, online anonymity can encourage people to behave deviant that they would not do otherwise [85] like attacking others or engaging in socially unacceptable and undesirable activities [55], as anonymity provides them a freedom from "being held accountable for inappropriate online behaviour" [23]. It has been well-reported that violence, aggression, trolling, hostile commenting, deception, and cyberbullying are more common to many people who are in disguise on these platforms [26, 60]. Such online harassment may not cause any physical damage initially, but may slowly trigger devastating psychological impacts including depression and low self-esteem among the victims, and even sometimes leads to suicide [59]. Anonymous application, Yik Yak, was banned from the market due to its massive reputation on cyberbullying that included sexual defamation [77] and yet, new ASM platform emerges time to time that provides a similar environment for communication.

An ongoing effort argues for an active organizational involvement to intervene in online harassment issues [104]. Recently, a group of researchers at MIT have developed a tool, named Squadbox [14], that aims to fight harassment by involving the help of family, friends or coworkers [63] in online. Despite its potential to combat harassment to some extent, most challenges of online harassment are yet to be addressed, especially over ASMs.

2.3 Gender Inequality, Patriarchy, and Harassment Against Women in Bangladesh

Women who face sexual harassment, often prefer to be passive, pretend to not notice, walk away rather than giving any response or reaction to the harassment [41, 70, 102]. This preference of being passive is often shaped by the contextual traditions, socio-cultural norms and unwritten expectations from women [41]. Some women seek social support to break their silence and secrecy of being harassed by involving family, friends or co-workers [1]. If such support is not available, they feel unsafe and vulnerable to go through the stressful experience, which holds them back from protesting [1]. The hesitation of how they will be perceived, or how the support will be provided may also be a reason why many female victims feel uncertain or ashamed in seeking social support online [20].

The cultural values and social practices in most communities of Bangladesh are discriminatory against women [106]. For example, only a 58.7% of women in Bangladesh participate in the labor force and their participation is mostly concentrated in lower-level jobs and wages are about half of the male wage rate [38]. Woman's education is also neglected, stigmatized, or even prohibited in many rural communities [97]. Sexual violence against women is also widely prevalent in the country [91]. There were 818 rapes followed by 41 murders and at least 141 murders of women for dowry have been reported in 2017 in Bangladesh [91]. Harassment is often a way of exerting power [96]. When a person feels the urge to make a person feel powerless by demonstrating a superior power, they often take the path of harassment - as evidenced in many cases of sexual harassment [61]. Such a demonstration of power is not new in the patriarchal society of Bangladesh.

Several ICTD studies have reported how the practices around digital technology are heavily impacted by the strong patriarchal social structure and cultural values, and a venomous misogyny prevalent across the country [3, 6, 94]. Among 85.9 million internet users in Bangladesh, everyone in three persons is a woman [9]. With the rapid growth of internet use and access to communication, the prevalence of online or cyber harassment against women has also increased [9]. According to a study, 73% of women in Bangladesh have reported online harassment [107]. Such online harassment cause depression, guilt, embarrassment, and self-blame in the victims as well as affect the victim's family [9]. While these online harassment incidents mostly happen over media where normative practice includes non-anonymous identity (like Facebook) [9, 79], it is important to understand the severity of this issue over ASMs - where identity is not revealed, especially when such applications are often becoming popular in Bangladeshi online sphere.

Although there are studies done on such occurrence of harassment through the online social network in Bangladesh, the focus on anonymity and ASMs is critically absent there. The existing studies on ASMs and associate harassment (done on western or developed context) have potentially provided information on the severity and consequences of using ASM platforms, and as researchers we believe that it is important to study and understand such events in the context of Bangladesh as well, due to its growth in Internet access and related existence of severe contextual harassment.

3 METHODS

We followed a mixed method strategy combining an online anonymous survey and semi-structured interviews for our study. All but one member of this research team were born and raised in Bangladesh, and all the members speak Bengali as their first language. The survey was prepared in Bengali on an institutional Qualtrics platform [90] and was distributed by the members of the research team through their online social networks (Facebook and Twitter) by making public posts. The survey was open to all anonymous respondents to get a better understanding of the concepts of anonymity among the users. The survey consisted a total of 47 questions combining numeric, categorized and also open-ended questions for the participants. The questions were designed to collect the respondents' demographic information, the pattern of using ASMs, and different experiences of using ASMs. The survey was open to collecting responses for 2 weeks. A total of 291 participants responded to the survey. The quantitative portion of the data was analyzed using basic statistical tools. The qualitative portion of the data was coded to extract the main themes [39].

Next, we conducted a semi-structured interview based study to deepen our understanding regarding this issue. The participants for the interviews were selected with snowball sampling method [43]. The criterion for selection was having the experience of using at least one ASM. We first started hiring participants from our own social network. Then we recruited more participants using the help of our existing participants. We kept conducting interviews until we reached the point of theoretical saturation [39]. The interviews were conducted at public meeting places (parks or restaurants) that were convenient both for the participants and the interviewer. The questions of the interviews were designed to understand the individual insights and opinions. The interviews were conducted in Bengali. The interviews were about 30 minutes long on average. The

participation in this study was voluntary and the participants were not given any compensation for their participation. The interviews were audio recorded with the consent of the participants. Later, the interviews were translated and transcribed by two Bengali speaking members of our team.

A total of 27 semi-structured interviews were conducted, where 14 were women and 13 were men. Their age ranged from 22 to 32 years. The interview questions asked about the participant's motivations, target audience, positive and negative experiences, strategies, and overall feelings surrounding ASMs, which helped us get a deep understanding of the pattern of usage of ASMs in Bangladesh. We opted grounded theory approach [39] for analyzing the qualitative data. While using a pre-existing theoretical framework might provide us with a vocabulary that is more accessible to a wider audience, we emphasized more on the contextual nuances that are closely associated with the use of technology by Bangladeshi people. This has motivated us to use the strength of grounded theory to better capture the experiences of this fairly under-studied population of the global south. First, the raw data was coded by one of the team members based on some similar keywords, which were later grouped into different categories. The codebook was created through several iterations of coding, based on the collected data until we reached a theoretical saturation. The categories formed from the codes were later grouped into different themes that helped us construct our findings from this study.

4 FINDINGS

4.1 Online Survey

Among the 291 survey participants, 55% was male and 41% was female, and the rest did not share their gender. The basic demographic information about the participants is given in Table 1.

Gender	M (55%), F (41%), Didn't Share (4%)
Age	21-32 years (93%)
Location	Dhaka (69%), Sylhet (17%), Others (14%)
Occupation	Students (73.27%)

Table 1: Description of Survey Participants

Among our 291 survey participants, 143 (49.14%) used Sarahah, 115 (39.66%) used Ask.fm, and the rests used Yik Yak, Secret, and Whisper. A majority of them (89.17%) learned about these ASMs over Facebook when their friends either were using those or invited them to use. The rests learned about these ASMs from email, blogs, and other online sources. More than half of our participants (58.14%) started using these ASMs because they wanted to hear from people in their known social network. 21.51% started using those for connecting with unknown people who had an interest in them and etc. Not everyone received an equal number of anonymous messages through their ASM. The number varied from 1 to 30 with an average of μ=15.5 and a standard deviation of σ=8.80. We found that almost half of our participants (50.34%) often shared their received messages over Facebook and other social networks.

We also asked our participants about the kind of messages they received over their ASM apps. Among 291 participants, 72 said that they received messages or questions that were 'uncomfortable' - of them 56.5% were women and 43.5% were men. Moreover, 104 participants said that they were harassed over messages - of them

69.3% were women and 30.7% were men. These data are demonstrated in Figure 1. Responding to an optional open-ended question regarding the nature of such disturbing messages, 29 participants shared their experiences. Of them, 14 received messages that were so "personal" or "irrelevant" that they found those objectionable. One such participant said,

> Someone was trying to flirt with me...they were asking me questions regarding my morale and ethics. That was totally annoying. (male, age between 21-25 years)

Eight of them said the nature of the message was "sexual", and "offensive". For example, one of the participants (female, age between 21-25 years) mentioned that, through ASM, she was threatened to be raped and have unnatural sexual acts with the harasser. About one-third of these 29 participants did not respond to these offensive messages and ignored, while another one-third responded with angry messages. The remaining one-third either tried to guess the sender of the message, shared the message over Facebook to express their grief or uninstall the application. Besides these, a separate 23 participants said that they blocked one or more senders from their app for sending inappropriate messages.
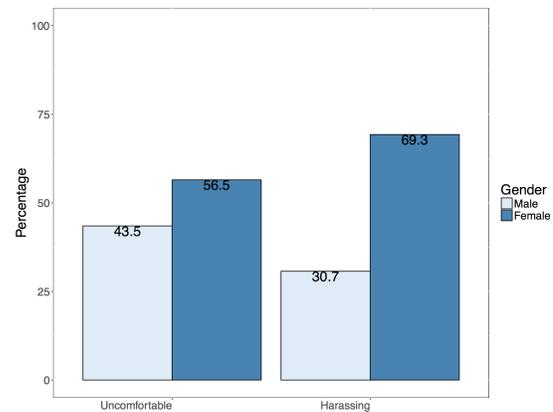

Figure 1: Experiences of Using ASMs Based on Gender

We found that many of our participants tried to guess the sender of a message using various techniques. A total of 43 participants shared with us their techniques. 20 such participants have said that they tried to guess the sender based on the pattern of language, choice of words, use of punctuation, use of emoticons, and tone of the message. Seven participants have said that they also factored in the timing of the message and the context. Five participants have said that the content of the message allowed them to guess the sender.

While many participants reported receiving abusive messages, some of them also said how ASM actually helped them. Four participants said ASM also helped them to anonymously raise their voice to powerful entities of the society - including political parties, academic institutions, religion, etc. Eight participants said that Sarahah helped them to secretly express their romantic feelings to the person they liked. One such participant said,

> It was difficult for me to share my feelings directly to the girl I like. So, I sent her messages. That helped. (male, age between 21-25 years)

Finally, we found that most of our participants stopped using ASMs actively. Among 291 participants, 221 have either uninstalled those applications from their mobile phone and computer, or they stopped checking the messages that they receive. The rests said they use those application 'very few and far between'. We asked them the reason behind abandoning the ASMs, where among other popular reasons (faded fame of the ASM, friends stopped using etc.), 12.18% of the participants mentioned bad experiences of receiving offensive messages on ASMs as one of the reasons.

Our online survey data have revealed some important aspects of ASM usage in Bangladesh. We have seen that most of our participants started using ASMs by being influenced by their friends and wanted to receive 'funny' messages from people among their known social circles. However, over the time, the platform started to become less interesting to them. What more alarming is, a good number of our participants (especially women) received disturbing messages and sexual abuses through these ASMs. These, along with some other issues, forced them to stop using ASMs. While these data thus gave us an idea about the prevalence and severity of sexual harassment on ASMs among Bangladeshi users, we also wanted to know more about the feelings of the participants, their reactions, and resistance to sexual harassment over ASMs. To get that insight, we conducted a set of semi-structured interviews described in the following section.

4.2 Semi-structured Interviews

4.2.1 Various Kinds of Harassment. 13 out of 14 female interviewees were harassed through ASM. 11 out of 13 male interviewees said that at least one of their female friends, relatives, or acquaintances had been harassed over ASM. Although there were various ways our participants said harassment happened to them or to the people they knew, a few patterns emerged from their responses. For example, 19 out of 24 participants (who faced harassment or knew someone who did) mentioned about receiving messages that were purely 'sexual' in nature. In such messages, the sender expressed their desires to have sexual acts with the receiver. This kind of sexual harassment comes in the form of sending sexually explicit jokes, stories, or pictures. One of our participants said that, she was sexually harassed through ASM when,

> Someone told me that he would f*ck me in a particular style (doggy), and he described the whole thing how he would f*ck me. (female, age 22 years)

A related (and some participants identified those as 'lighter') kind of harassment includes sending messages with romantic proposals. In some cases, the sender even proposed the receiver for a wedding. Such messages often include flirts, sexual remarks, and other flattering contents that our participants did not feel comfortable with.

> Someone tried to flirt with me, instead of being married, by asking random questions which was lowering my social ethics or morality. (female, age 24 years)

The third kind of sexual harassment happened when the sender sent messages that described the physical parts of the receivers in a derogatory way. 11 out of 24 received such messaged. In most of the cases, our participants suspected that those messages came from people who were in there close social circles and the sender

had observed the receiver on a regular basis. This kind of messages again had two sub-categories. In the first sub-category, the sender described a certain body part of the receiver in a 'praising tone'. These kind of messages were often accompanied by a description of what the sender thought after seeing them. One such message was shared by one interviewee -

> My friend got a text from an unknown source which talks about the shape and size of her lips, how beautiful they are and how juicy it would be to kiss. (male, age 23 years)

In the second sub-category, the sender body-shamed the receiver by demeaning their body parts. In such cases, the sender tried to make the receiver feel bad about their body. Once such message was shared by one of our interview participants,

> Why don't you have boobs? Didn't anyone touch you? (female, age 22 years)

Another participant (female, age 29 years) mentioned that she was sexually harassed by the messages that talked about her big breast or used similar derogatory contents.

The fourth kind of sexual harassment that our participants received over ASMs was connected with their past or present relationship. 5 out of 24 received uncomfortable questions regarding their past relationship, which made them feel bad. They found those questions to be mean and attacking. For example, one of our participants said,

> Someone asked me why I was in a relationship with my boyfriend and if there was a lack of boys out there... Other messages were like if I kissed my boyfriend, if I use dildo, if I was interested to give a blow job to the sender (female, age 26 years)

Such derogatory messages not only offended the female users about their past relationships but also tried to make them feel embarrassed about current relationships. Men also received messages regarding their past and present relationships, but one major difference between those messages from the one women received was, their messages did not contain many sexually explicit words. One of our male participants said,

> I got a message that had a story similar to my story with my ex, and I cried after reading that. (I am sure) She wrote it with all her good wishes. (male, age 26 years)

The differences in quality and content of messages received by men and women on similar issues portray how women are often valued by their sexual appeals by the typical men in Bangladesh, and how that social construction is vividly visible over ASM as well.

4.2.2 Suspicions and Known Links. : We found a common trend across all of our interview participants that they tried to guess the sender after receiving an anonymous message. In most cases, they suspected someone from their social circles to be the sender. The reason laid in the way they shared the information of their ASM profiles over their social network. Most of our interview participants (23 out of 27) wanted to receive messages from their social peer through ASM. Hence, in most of the cases, they shared the link of their ASM profiles on their Facebook profiles with their friends and family and invited them to send them messages anonymously.

Hence, when our participants received a harassing message over their ASM, they suspected that someone from their Facebook friend list had sent that message. Although theoretically the ASM profile link can reach to a stranger and the harassment might come from them, all of our participants who received harassing messages were suspicious that someone they knew had sent those messages. One of them (female, age 23 years) mentioned about sharing her personal Sarahah link only with friends on Facebook, which meant someone she knew sent her the dirty messages she received. The suspicion became stronger when the content of the message had some information that required close observation, something a person from a close social circle could only have. For example, one of our participants said,

> I got messages that talks about my specific body parts and my dress size, how it was made, etc. So, it must be someone from my very close circle who stays around me (female, age 24 years)

After being suspicious, our participants tried to guess the harasser using different strategies. Common phrases, mutual memories, slangs, word choices were used to devise strategies that were then used to discover the identity the anonymous sender. According to one interviewee,

> Basically, my friends used slangs in their messages. They are very close to me so I know their tone. From that I guessed who sent that messages. (male, age 26 years)

Some other participants tried to guess the harasser based on the content of the message. For example, one of them female, age 23 years) said, she received a message that talked about her personal insecurities that only her close people knew and so it was easy for her to guess who could send her such message.

Sometimes, the harassing messages were also the result of a past animosity that the receivers could guess based on the content of the message. The receiver tried to guess the harasser based on a number of 'signals' from the language of the text, their history, and the present context. For example, one of our participants said,

> I could identify the name who called my ex a slut. This word 'slut' can only be used by "X" - he is one of my ex's friends ... I could totally get the tone of his vengeance (male, age 24 years)

It shows that negative associations also have a strong influence on the user experience as they associate a specific channel of strong emotions toward each other.

4.2.3   Resistance and Obstacles. We found that our participants felt hurt, embarrassed, shocked, insecure, angry, and frustrated after receiving the messages that contained sexual harassment. One of the participants said,

> I was very shocked. I couldn't get the point why they sent me a message like that?... I deleted my Sarahah account as I couldn't take that anymore. (female, age 24 years)

Where harassment itself was a horrifying experience for a person, the suspicion that a known person was harassing them with dirty language and vengeance increased the level of tremor and disgust in the victim. According to one of our participants,

> It is really shattering for me to think that, someone from my Facebook friend-list could send me messages about having sick sexual desires with me...that was beyond my imagination. (female, age between 21-25 years)

We found that many of our participants and their friends strongly responded to such harassment. One of our participants (male, age 28 years) mentioned about her friend who shared the screenshots of the harassing messages on Facebook to protest such harassment. Another participant mentioned about fighting such harassment,

> I aggressively answered 2/3 harassing messages. I did not want to sit down and accept those embarrassing messages because of some 'social shame' and fear! (female, age between 21-25 years)

While some of our participants resisted and tried to combat harassment as much as they could, unfortunately, they seldom got the necessary support from the society, or from their friends and family. In fact, in many cases, people around them silenced them directly or indirectly. One of our participants said,

> If someone tries to protest publicly, there's a chance that she'll get harassed again. Still, some girls protest in public ... probably their family is very understanding. But everyone's family is not the same. (female, age 28 years)

There are some incidents where the victims were brave enough to protest against it through sharing in their existing social media (e.g. Facebook) but many of them reported that after their protesting against the harassing posts, the level of harassment only increased. As the senders were often hidden in their existing social media network, their protests only worked as a symbol of success and topic of gossip for the harassers and others. While sharing her experience regarding this, one of our participants mentioned,

> I got some dirty messages where sender marked me as a prostitute and asked me to publish it into the social media if I have the courage to post it. I roughly took that challenge and did post into my Facebook... Then I realized they were enjoying this as a game. (female, age 29 years)

Many times, not only the fear of social humiliation kept our participants from raising voice, but also the lack of social help, justice, and law in the country silently worked against them. Through our interviews, we noticed that the frustration due to the lack of social support and justice is one of the reasons why some participants did not protest harassment. One interviewee (female, age 29 years) shared her frustration of such event saying that, the result will always be zero, even after protesting, as society does not care about such events.

While sharing abusive messages over Facebook was a practice that some of our participants adopted to shame the anonymous sender and make others aware of the anguish and pain that those messages had delivered to them, that had limitations, too. For example, the words used in some messages were so offensive and sexually explicit for some of our participants that they hesitated and later decided not to share those in public. One of our participants shared her perspective on this in the following way -

> *We girls, aren't going to show those kinds of body sham-*
> *ing messages. Because if we share, people who will read*
> *those and will start thinking about our body rather than*
> *being supportive to us.* (female, age 24 years)

Not only the frustration of not having the support but also 'victim blaming' contributed to the silence about harassment. Many a time, our women participants were blamed or had observed that women were blamed when they shared their bad experiences with their friends, family, and acquaintances. One of our participants (female, age 29 years) shared such frustration saying, she was blamed for opening Sarahah at the first place, *giving* people chance to harass her. Because of such experiences, it is difficult for women in Bangladesh to confront such offensive harassment publicly and stand against it with a proper moral and social support. This also led majority of our interviewees to leave ASMs for good or delete the application. 17 out of 27 participants (10 women, 7 men) mentioned about such event where the participants had to stop using it to stay away from harassment. For example, one of the participants mentioned, she had to stop using Sarahah to stay away from getting *dirty* sexual messages that were humiliating and insulting to her (female, age 29 years). These kinds of experiences frustrated our participants and forced them to stop using ASMs.

5 DISCUSSION

5.1 Understanding Harassment, User Expectation, and Suspicion Through ASMs

5.1.1 Sexual Harassment in ASMs. Through the survey and interviews, we shed light on the severity of the harassment in Bangladesh, where a majority of our women participants have complained about being harassed over ASMs. Our data suggest that, the harassing messages received by our participants can be categorized into 4 groups: 1) sexual propositions (*having sex in doggy style*), 2) sexually objectifying contents (*big breast, juicy lips*), 3) romantic messages (*trying to flirt randomly*) and 4) dating inquiries (*kissing boyfriend or giving him blow job*). The participants, who received messages containing any sexual content or derogatory tone (*big breast, doggy style, sex, fuck, blow job, prostitute* etc.) specifically considered those as sexual harassment. This perception can be explained through the invisible socio-cultural norms of Bangladesh. In Bangladesh, public discussion on sex or any topic containing sexual contents (including sexuality and sexual health) are considered taboo and frowned upon [68, 80]. ASMs provides a safer way to break these invisible norms of society without being judged or scrutinized. Although in Bangladesh, online harassment is a widespread event [9], these ASMs offer an easier way to amplify it. Previous studies defined similar events under *technology as amplifier* where technologies often increase inequalities or undesirable incidents [101] in the developing context [95]. These forms of harassment, that were humiliating and insulting to our women participants, can be conceptualized through power imbalance [96] and De-individuation [26] theories that we discuss below.

A critical component of harassment is power [96]. In the case of Bangladesh, this concept of power imbalance in gender is much more evident due to its contextual norms and patriarchal practices against women [106]. The socio-cultural context of Bangladesh can influence how women are treated both in offline and online

platforms, which often ends up with sexual harassment- evident through our collected data. According to a study, as of 2017, among all the reports filed against online harassment in Bangladesh, 70% of them were against women [9]. If through traditional social media or online platforms, women get harassed so massively in this social context, the possibility of such events happening through ASMs should be higher. As an ASM provides one kind of unaccountability to some extent, it is possible and easier for the people in Bangladesh to exert power over women through ASMs. This unaccountability and increased possibilities of harassment in Bangladeshi context can be further explained through the concept of "De-individuation" [26]. De-individuation is a psychological state where an individual becomes a part of an anonymous crowd and displays more anti-normative and dis-inhibited behavior due to the feeling of unaccountability [78]. Some researchers call it cyber-disinhibition when this kind of behavior happens online [108]. The anonymous platform and demonstration of power over women, influenced by the social understanding and practices impact a lot on how and why women get harassed through ASMs in Bangladesh. While most ICTD research encourages technology as a tool for development [17, 69, 105], in the global south, we should be reflective of the fact that, these same technologies can preserve [82] or amplify [95] existing social inequities.

5.1.2 User's Expectation and Suspicion about Harasser's Identity. One interesting aspect associated with harassment in the context of Bangladesh was the expectation and suspicion about the identity of the harasser by the victims of our study. Majority of our survey participants (58.14%) and interviewees (23 out of 27) have mentioned that, their preferred or expected audience on ASMs was the set of people they already knew or had connection in other social media. This expectation or preference influenced them to share their personal Ask.fm or Sarahah link within their existing social network with a certain preferred audience, rather than publicly. The reason behind choosing familiar known connection over unknown links, even in anonymous platforms, can be explained from multiple perspectives. Some parts of Bangladeshi society have a collectivist perspective where there exists closely knitted cultural and communal norms and relationships among social ties [49]. Some people tend to stay within groups, and value known and closer ties more than individual links. Hofstede has claimed that most of the "Western" culture tends to be more individualist (independent) while "Indian" culture tends to be more collectivist (interdependent) [46]. Prior work in ICTD research [4, 5, 32, 83] have explored different social phenomena through the lens of collectivism theory to understand the contextual influences on these issues. Although we do not claim to be the first one to instigate this concept in interpreting the interaction preferences in a specific community, connecting collectivism theory to our finding certainly provides an understanding why in some communities, users in Bangladesh expect and connect with known links through ASMs.

Although Hofstede's collectivism theory is a popular concept to explain the contextual impact on communication preferences in ICTD, there can be other ways to explain such behavior and one such way is homophily [65]. According to McPherson et al. [65] homophily *"is the principle that a contact between similar people occurs at a higher rate than among dissimilar people"*. This principle

or inclination to connect with similar people limits how people interact with each other socially and with whom they interact. Research has been done on how homophily can also be observed in online platforms such as location surveillance network [42]. Although the concept of homophily is not unique to any specific country, it is possible to implement such concept in our ASMs study, where some Bangladeshi users have a certain expectation of being connected with a similar group of people on social media who they already know or have the previous link with. Our data suggest that as Bangladeshi people expect to be connected with familiar people even over anonymous applications and act upon that, it is natural for the victims to guess or suspect that the harasser is someone known to them. The suspicion gets stronger based on the shared contents, language, tone, and personal inquiries that often are not pleasant to the receiver.

Due to these collectivist or homophilous practices, "invisible yet known contacts" can be guessed over ASM. Although we agree that, homophily is not particularly unique to Bangladeshi context, our perspective over collectivism theory can add more to the prior literature in ICTD to understand the expectations and experiences of the users through ASMs in some communities of Bangladesh.

5.2 Reaction Towards Harassment and Future Participation on ASMs

5.2.1 Distress and Resilience. Whereas harassment itself is a distressing experience, the suspicion of being harassed by someone known increased the severity of such distress among many of our survey participants and interviewees. A similar research was done by Pew Research Center [11], where it shows that, those who knew their harasser "tend to be more deeply affected by their experience and to express greater concerns for their safety". Although this research was done focusing on the western context, we found a similar association of distress and known perpetrator through our study in Bangladesh as well. The victims of sexual harassment were *shattered*, *shocked* and *extremely sad* being harassed by someone who is known to them. Previous studies on harassment suggest that, to cope up with the distressing feelings of being harassed, many of the victims seek for social support from friends, families, acquaintances or coworkers [1, 11]. This tendency of seeking social support from close links can cause both positive and negative consequences that may or may not comply with the victim's expectations of seeking social support online [1, 34, 48]. We also observed a similar association of seeking social support by the victims of sexual harassment through our study. Although the participants shared such expectations, a majority of them shared their frustration of not being able to get social support after sharing their experiences; they rather got blamed and harassed further.

Such responses of seeking social support many times affected the way women reacted against such harassment. Majority of our data suggest women being less resilient against sexual harassment they face through ASMs in Bangladesh. Lack of social support, victim blaming, social humiliation and norms, less expectation of social justice and adverse reactions after protest lead to many women in Bangladesh being silent [68], even though they face extreme sexual harassment through ASMs. In a previous study on sexual harassment and silence against it on online platforms in Bangladesh,

the author mentioned mistrust on the social system as a reason why many women do not want to get hurt while protesting [2]. Although a majority of women victims in our study shared their experiences of being silent against such harassment, there are cases where women raised their voices on online platforms to protest. Being challenged to protest, unable to indulge the insult and humiliation are some of the reasons why few of our women participants mentioned to protest against their harassment on their other social media like Facebook. While these protests certainly deserve appreciation and shows the bravery of those women even in this adverse situation, their experiences were also not satisfactory and appreciated on online after the protest. They were further harassed through ASMs followup posts or became topics of gossip to the mass people in Facebook. Such an incident can be coined as "second assault", "secondary victimization" where the victims of harassment are further harassed or victimized due to their experience shared [8]. Besides, whereas there are previous reports on women formally filing complaints against their online harassment [9], in case of ASMs, it is often not possible due to the lack of direct link or proof against the harassers. Such events led many of our participants to technology refusal and non-use.

5.2.2 Technology Withdrawal and Non-Use. Our study also contributes to the growing discussion within ICTD and HCI around technology withdrawal and 'non-use' of technology [18, 21]. Though many of the victims could identify or guess their harassers, for receiving less support from the society, they never protested. Those who did, got further harassed. These bitter and distressing experiences forced many of the participants to withdraw themselves from using ASMs and stop using those applications for good. This phenomenon supports the previous literature that suggests that negative experiences online increase the possibility of withdrawal from a social communication technology [18]. Due to being the primary victim of harassment through ASMs, women tend to leave the application more often than others, as per our results.

This forced non-use is particularly important to ICTD literature who emphasize on a wider use of technology in marginalized populations [72, 73]. Sexual harassment is mostly targeted toward women which often leads them to stop the using of an online platform. This way, sexual harassment is limiting woman's use of the Internet and digital technologies, and contributing toward widening the digital divide between men and women. This raises two major concerns - a) the efforts of empowering women through Internet service (online education, business, social networking) will be highly impeded, and b) online communities will lose a democratic environment with a lesser presence of women. Both of these are detrimental to the development of a community through the use of ICT. We argue that ICTD researchers should focus more on stopping sexual harassment over ICT platforms in order to ensure a balanced growth and development.

5.3 Design Implications

Various technical interventions can be designed and implemented to make anonymous platforms more usable and harassment-free for its users, especially for women. One way can be implementing an efficient algorithm (like Linear SVM [84] or LSF Framework [28]) that can detect negative or vulgar words and restrain the users

to avoid writing negative messages. Different customized filters can also be added at the receiver's end to restrict specific types of messages to be received through the anonymous applications. We can also incentivize positive behavior on anonymous social media through our design. For example, a 'positive user interface' can be introduced where the sender will be asked to write a few good things about the receivers and based on the receivers' feedback the sender will be honored. Such persuasive design can bring a change in perspective and bring out positivity among the users [35, 36]. Another approach can be more adversarial - limit the user activities if their posts get reported by others. If a message gets reported and reviewed as profanity or harassing, the post will be flagged or the sender will be reported [74]. Each of these technical interventions has their own limits, and implementing these in a developing context like Bangladesh will require a lot of technical efforts that may not be readily available.

However, research on designing and building such technologies may contribute heavily to making online safer for women. There are some existing work, where scholars and researchers built some online systems that can ensure a non-harassing online environment for the users to a certain level (Squadbox [14], Hollaback [31], Protibadi [7] etc.). Although these systems exist, very less focus has been given to analyze their accessibility, efficiency and challenges in the context of global south. ICTD and HCI communities should put more focus to understand and promote these platforms to ensure a comparatively safer environment in ASMs and other social media for the users, especially women.

5.4 Policy, Law and Social Awareness

An LMIC often lacks proper or efficient standard in their government, civil society, education, and law and order [40]. So, it is not very unlikely that it may fail to support the victims of online harassment, and that is what we have noticed through our survey and interviews. Lack of efficient social awareness, policy, and law against online harassment have made it easier for the harassers to harass someone online, and not to be held responsible for it. Although Bangladesh has ICT Act, 2006 that does address cyber harassment, it does not identify events like anonymous harassment [9]. On top of that, the social media policies are not generally clear enough to prescribe cases of online harassment by law enforcement agencies [75]. On the other hand, the latitude of the social media platforms to design their own policies makes the situation vaguer. This study of the LMIC, along with other studies on sexual harassment (for example, [7, 31, 57]) point out to the connected bodies of responsibilities to combat with harassment generally. A holistic set of policies connecting social media platforms, government, law enforcement agencies, and social support bodies of harassment victims can foster cooperation and collaboration among the stakeholders. Previous studies have given parallel emphasis along with design and practice because of their interdependencies [53]. While ICTD projects often provide policy recommendations (see projects of such here [45]), the policy is often a sidelined actor or comes during the assessment of a technological system. In our study of LMIC, we recommend for parallel policy updates LMICs use.

Besides the emphasis of policies, social support groups should be created to find, reach out to, and support online harassment victims.

Educational institutions and workplaces could introduce training for educating people on how to respond to an online harassment. Rooting the initiatives into the cultural and religious values of the communities may help properly implement and scale up campaigns in an LMIC, too.

6 LIMITATIONS AND FUTURE WORK

While our study reveals many important aspects of sexual harassment over ASM, there are several limitations in this study, too. First of all, all of our interview participants and most of the online survey participants were from the capital, Dhaka. Also, most of them fall into the age range 22-32 years. As a result, the findings of our study should not be generalized over the whole country across people of all ages. Besides, our findings were primarily focused on women although some men also mentioned of facing harassment through ASMs in Bangladesh. Due to convenience sampling and huge data set on women victims, we decided to focus on women in our study, which also limited our findings to a certain extent. For our future work, we intend to focus on LGBTQ community and male victims to address their experiences of harassment over online social platforms. We expect that more research will be conducted in this space in future to address these limitations and to obtain a more comprehensive knowledge regarding online sexual harassment in Bangladesh. However, despite all these limitations, we believe that our study still delivers some important insights into the harassment experiences through ASMs in many closely knitted Bangladeshi communities.

7 CONCLUSION

Cyberbullying or online harassment is contextual, that is, it relies largely on the social context and the audience of participation. This is what we largely observed as well through our survey and interviews. Our study suggests that, the most prevalent harassment our participants, mostly women, faced through ASMs was sexual harassment and the contents of the harassing messages broadly can be grouped into four major categories: sexual proposition, sexually objectifying contents, romantic messages and dating inquiries. The study also implies that, often users expect to be connected with known social links through ASMs that leads their suspicion of identifying the harasser as someone they know. This suspicion causes further distress and misery among them. We also noticed that, although some of the participants seek social support in order to cope up with the harassment, due to the socio-cultural norms and biases against women in Bangladesh, they were often more victimized, shamed and humiliated. These experiences led many of our participants in Bangladesh to be silent against these harassment and at one point, stop using ASMs for good. These findings extend the current literature on online harassment, technology non-use, and most important anonymity and ASMs in the context of an LMIC, where we observe the notable impact of context on the way people experience ASMs. We believe, our proposed design policies and framework to address harassment through social media, especially ASMs, can particularly benefit the ICTD community due to its wide emphasis on technology and harassment in a marginalized community.

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