

What Makes Doxing Good or Bad? Exploring Bystanders' Appraisal and Responses to the Malicious Disclosure of Personal Information

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Abstract

Doxing, the disclosure of an individual's personal information with malicious intent, has emerged as a global phenomenon aimed at punishing, threatening, and silencing individuals. The response from the public and media to doxing varies widely, ranging from condemning it as a harmful practice that disregards the fundamental right to privacy to regarding it as a means to hold wrongdoers accountable. However, research on how and why individuals observing a doxing incident (i.e., bystanders) form their opinions is scant. This study focuses on bystanders' appraisal of and reactions to doxing incidents. Drawing on a qualitative vignette study (n=14) employing two doxing scenarios (person-based and issue-based), we identify crucial factors that influence bystanders' evaluation of doxing attacks. Additionally, our research sheds light on the motivations and circumstances that prompt bystanders to take action when witnessing a doxing incident. The findings of this study have important implications for both research and practice.

Keywords: Doxing, bystander perspective, doxing appraisal, qualitative vignette study

1. Introduction

Doxing is the act of publicly revealing personal information about an individual with malicious intent, often with the aim to threaten, intimidate, or punish them (Douglas, 2016). For example, the disclosure of individuals' identities, contact information, sexual orientation, or employer can be weaponized to erode their privacy and make them the target of public censure and physical threats (Eckert & Metzger-Riftkin, 2020). Doxing has permeated public discourse and has received significant attention in media coverage (e.g., Baker, 2012; Davison, 2012; Munsu, 2022).

Interestingly, public and media reactions toward doxing incidents are twofold. On one side, doxing is viewed negatively as a harmful practice that infringes

on individuals' privacy and humiliates the doxees by disregarding their fundamental rights and dignity (Brake, 2017; Douglas, 2016). For example, the doxing and harassment of pro-democracy activists in Myanmar have predominantly been portrayed in negative light by Western media (Munsu, 2022). Similarly, the public release of personal information about an innocent individual suspected to be involved in the Boston Marathon bombing, which led to their suicide, has been widely perceived as highly critical (Shontell, 2013).

In contrast, doxing is also depicted positively as a legitimate form of vigilantism in the public interest, as it holds malicious actors accountable for their misconduct (Chia, 2020; Davison, 2012; Douglas, 2016). For example, the unmasking of the identities of several anonymous Reddit users known for their racist and misogynist content resulted in them losing their jobs, which was seen as a favorable outcome by certain media outlets (Baker, 2012; Chen, 2012). Likewise, the public's response to the doxing of participants in the 2017 Charlottesville white supremacist marches was largely positive, with several universities issuing statements condemning racism upon identifying their own students among the marchers (Judkis, 2017).

While prior research has primarily focused on conceptualizing doxing based on the doxers' motives (e.g., Anderson & Wood, 2021) and exploring its implications for doxees (e.g., Douglas, 2016; Q. Chen et al., 2018; Franz & Thatcher, 2023), scholarly work on this emerging phenomenon remains sparse (Fang et al., 2023). Specifically, research concerning the role of bystanders in doxing incidents is missing: Unlike other forms of cyber harassment, which typically involve a bilateral exchange between perpetrator and victim, doxing incorporates the active engagement of others with the disclosed information as a central component of the attack (Trottier, 2020). By revealing the doxee's personal information, doxers facilitate interactions between the doxee and the audience. Bystanders to the doxing incident can access the disclosed information and, based on their appraisal of the incident, make choices to further disseminate the disclosed information

or utilize it to harass and physically threaten the doxee. Conversely, if bystanders perceive the doxing incident as harmful and unjust, they may opt to report it and thereby mitigate its impact. Consequently, bystanders and their appraisal of a doxing incident play a critical role in shaping its trajectory. However, research on how bystanders form their opinions and respond to doxing incidents is missing. In light of this research gap, we raise the following research questions:

RQ1: What factors influence a bystander's appraisal of a doxing incident?

RQ2: What motivations and conditions prompt a bystander to take action in response to a doxing incident?

To address our research questions, we conducted a qualitative interview study. Drawing on Franz & Thatcher (2023), we developed two vignette scenarios that portray issue-based doxing (where the doxee is targeted due to their association with a specific issue or group) and person-based doxing (where the doxee is targeted for personal reasons like revenge or bullying), respectively. These scenarios were designed to elicit diverse perspectives and appraisals of such incidents from our interviewees. Through our study, we aim to identify and analyze the key factors influencing bystanders' formation of opinions in doxing incidents. By focusing on the under-researched group of bystanders, our work contributes to the existing IS literature and provides valuable insights into their role in doxing incidents.

2. Conceptual Background

2.1 Doxing

The term “doxing” originates from the phrase “dropping dox [documents]” (Anderson & Wood, 2021). It refers to the act of publicly disclosing an individual's “private, proprietary, or personally identifying information” (Anderson & Wood, 2021) to the internet, making it readily accessible to a wider audience without the consent of the affected individual (Cheung, 2021). The purpose behind conducting a “dox” is often to humiliate, intimidate, harass, or punish the affected individual (Douglas, 2016). Doxing can have severe implications for both individuals (e.g., doxeees being fired from their jobs or threatened at their homes) and societies (e.g., when doxing shapes sociopolitical discourse around certain issues) (A. Chen, 2012; Travis, 2022).

Doxing can involve various types of personal information, ranging from social media usernames to more sensitive details like addresses or social security

numbers. The extent of information disclosed in a single incident can vary greatly, ranging from isolated data points to comprehensive dossiers with extensive details (Franz & Thatcher, 2023). It is important to note that the information disclosed during a doxing attack is not necessarily acquired illegally. Often, it is sourced from publicly available resources, like social media accounts, and then repurposed with malicious intent. This sets doxing apart from practices like hacking or data breaches. Furthermore, while other forms of online adversarial behaviour such as cyberbullying typically involve a bilateral exchange between perpetrator and victim, doxers harness the weaponization of doxeees' personal information, tapping into the power of the crowd to cause harm.

Previous literature has employed several approaches to categorize doxing incidents. One classification by Douglas (2016) focuses on the loss experienced by the doxee, distinguishing between “deanonymizing doxing”, where the doxee's formerly anonymous identity is exposed, “targeting doxing”, which involves the release of an individual's location, making them more vulnerable to physical harassment, and lastly “delegitimizing doxing”, which aims to undermine doxeees' credibility. Another perspective, presented by Anderson & Wood (2021), examines doxing categories based on the intentions of the doxers. These include, among others, “silencing” (using doxing as a means to suppress or silence individuals), “retribution” (seeking revenge by exposing personal information), or “reputation-building” (utilizing doxing to enhance one's own reputation). Furthermore, doxing has been differentiated based on the underlying motives for targeting individuals. This distinction primarily encompasses “person-based doxing”, which is conducted for personal reasons such as seeking revenge or punishing misconduct (e.g., the doxee embezzling money or cheating on a romantic partner) and “issue-based doxing”, where the doxee is targeted due to their association with a specific group (e.g., a racist network) or involvement in polarizing issues (e.g., abortion care) to harm that group or issue (Franz & Thatcher, 2023; MacAllister, 2017). However, evidence from practice suggests that both categories are not mutually exclusive but can overlap.

2.2 The Role of Bystanders in Doxing

In a doxing incident, the term ‘doxer’ refers to the individual who collects and discloses others' personal information, while ‘doxee’ describes the person whose information is exposed (Anderson & Wood, 2021). Within the related context of cyberbullying, existing literature has recognized a third party known as ‘bystanders’, that is, observers who neither participate

as doxers nor become victims as doxees (Chan et al., 2022; Wong et al., 2021). This stream of literature has seen emerging research into, for example, the responses of bystanders towards victims on social media (Petter & Giddens, 2023), their motivations for reporting online harassment (Wong et al., 2021), and the role of information technology in propelling bystanders to partake in cyberbullying (Chan et al., 2022). Regarding doxing incidents, in particular, bystanders perform a pivotal role in their development, since the active engagement of bystanders with the disclosed information of the doxees represents a central facet of the attack as intended by the doxers. Drawing on the literature mentioned above and taking into account the particularities of doxing, we characterize a bystander in a doxing incident as an individual who observes the event without actively partaking in the searching, aggregating, and disclosure of information about the doxee. However, the actions of bystanders can yield significant repercussions. Actions such as liking, commenting on, or sharing the doxer’s post enhance the diffusion of the doxee’s personal data. Furthermore, the utilization of this disclosed information to interact with the doxee – for example, by contacting them or their employer or sending threatening messages – endows bystanders with the capacity to exacerbate the consequences for doxees. Given that the weaponization of personal information is a distinct feature of doxing, it affords the bystander with more influence than in cases of cyberbullying, thereby rendering bystanders a crucial determinant of a doxing incident’s trajectory. However, research on the role of bystanders specifically to doxing incidents, specifically their appraisal of and responses to such events, is largely missing.

3. Methodology

To address our research questions, we designed an interview vignette study. We developed two distinct doxing scenarios – person-based and issue-based (see Figure 1) – to invoke a variety of perceptions about doxing. However, a direct comparison between these two types of doxing was not the primary focus of our study. Our scenario was inspired by a real-world doxing incident (Travis, 2022) and revolved around an online forum called “Cooking with Friends”, where members exchange recipes and arrange meetups. To foster interviewees’ immersion, each scenario was embedded within a realistic replica of a Facebook forum webpage. Our webpage comprised three subpages. The first two, “Recipes” and “Meeting Up”, served to familiarize the study participants with the context of the vignette scenario. Here, we introduced them to two key forum members: a well-known cook, Chris.Cook, and an engaged member, Baking.Anna. In the *person-based*

doxing scenario, participants were informed that Baking.Anna had been coordinating a fundraiser for a charitable cause, with numerous group members, including themselves, contributing funds. Subsequently, they were directed to the third subpage, “Conversation”. Here, Chris.Cook had posted a screenshot of a chat, which provided evidence that Baking.Anna had embezzled the donated funds. Being personally affected by this misconduct, Chris.Cook felt compelled to seek revenge, classifying the incident as a person-based dox. In contrast, the *issue-based* scenario informed participants that the forum members cherish diversity and inclusion. It was then revealed that Chris.Cook had shared a screenshot from a group chat suggesting that Baking.Anna was promoting racist views, marking the onset of an issue-based dox.

For both scenarios, Chris.Cook subsequently posted the previously mentioned screenshots along with Baking.Anna’s Instagram account and phone number. As a result, other users started commenting on Chris.Cook’s post, progressively unearthing and disclosing more of Baking.Anna’s personal details, escalating in sensitivity by including her real name, home address, and personal photographs. Concurrently, the repercussions of the initial dox intensified, with group members resorting to offensive language and physical threats against Baking.Anna, ultimately leading to one user posting a photograph of Baking.Anna’s car that they had vandalized. As such, the doxing scenarios encompassed all three types of doxing – deanonymizing, targeting, and delegitimizing – as classified by Douglas (2016).

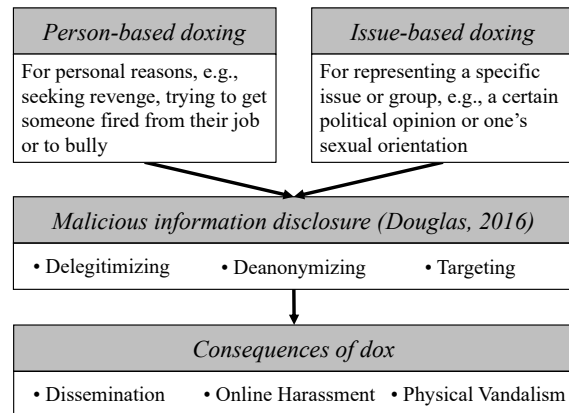


Figure 1. Doxing vignette scenario structure

On the “Conversation” subpage, we gradually unveiled the progression of the doxing incident to our study participants. We asked them to read aloud the respective posts as they scrolled through the Facebook page, ensuring they fully absorbed the scenario. For each post, we encouraged participants to articulate their thoughts, enabling us to capture their perceptions of and reactions to the different stages of the incident. Upon

completion of the scenario, we utilized a semi-structured interview guide to engage in a discussion about the scenario. We explored various facets and permutations (e.g., information sensitivity, personal involvement and consequence severity) associated with the doxing incident and their relevance to our interviewees' perspectives.

Our sample comprised 16 interviewees from 9 different nationalities, half of whom were German, with a mean age of 25 (median: 23). The majority of our interviewees were university students, evenly split between 8 women and 8 men. In total, we recorded and transcribed 987 minutes of interview material. We removed two interviews from our analysis due to the interviewees' difficulties in relating to the scenario, leaving us with a total of 14 interviews.

To analyze our interviews, we adopted an iterative, inductive approach following the methodology proposed by Kuckartz (2023). Using the software MAXQDA, two authors meticulously analyzed the material line-by-line and developed 85 unique first-order codes. In subsequent coding iterations, we derived second-order categories and overarching themes from our coding structure.

4. Results

4.1 What factors influence a bystander's appraisal of a doxing incident? (RQ1)

Investigating our first research question (what factors influence bystanders' appraisal of doxing), we identified three overarching themes within our interview data as shown in Table 1: (1) the **actors** within the doxing incident, (2) the **actions** taken during the progression of the incident, and (3) **information-related factors**. In the following, we describe our coding structure along these three overarching themes.

Table 1. Factors influencing bystanders' appraisal of a doxing incident

First-order codes (PB/ IB/ SUM)	Categories
<p>Personal motives of doxer (7/7/14) I think it's a personal problem of Chris. [...] And that's why he now wants to take revenge on her. (IP09)</p> <p>Fame leads to suspicion about doxer (1/0/1) [...] but if this is a well-known person, I would think twice – what ulterior motive could he have? (IP04)</p> <p>Fame improves credibility of doxer (3/5/8) Yes, it definitely makes a difference [...] if a famous person has written it, you instinctively believe it to be true. (IP02)</p> <p>Doxer acting in the heat of the moment (4/2/6) [...] that this was [...] an impulsive, emotionally driven action and that's why he wrote this, I would understand that. (IP02)</p>	<p>Doxer</p> <p>Actors</p>

<p>Doxer has responsibility to inform (5/6/11) [...] but at the end of the day, he somehow carries a certain responsibility due to the knowledge he has. Yes, he has an obligation to inform people [...] (IP03)</p> <p>Truthfulness of accusations against doxer (2/5/7) I don't know if the information that he's providing is real. How could I know that he didn't make all of this information up? (IP14)</p> <p>Doxer's importance within the community (4/6/10) I also find [the dox] acceptable because [the doxee] was like one of the biggest figures in our community. (IP14)</p> <p>Weighing of doxee's misconduct vs doxer's action (7/6/13) At the end of the day, she was the one who triggered it. Therefore, she kind of deserves the consequences. (IP04)</p> <p>But looking back, [the doxee] increasingly becomes the victim, while [the doxer] becomes increasingly guilty. (IP09)</p>	Doxee	
<p>Bystander's emotional involvement in dox due to being affected by doxee's actions (3/3/6) As an outsider, I would naively say that it's bad to post something like this. But as a person concerned, I would say 'thank you for the information'. (IP01)</p> <p>Bystander's previous domain knowledge (1/1/2) [...] but to go ahead and dox that person and basically cause a witch hunt reminds me of the [...] Boston Marathon bombing. (IP06)</p> <p>Bystander's inner conflict (6/3/9) On the one hand [...] I am trying to evaluate this morally correctly. On the other hand, I am a part of this [...] I am having this inner conflict. (IP01)</p>	Bystander	
<p>Other bystanders' engagement (4/2/6) [...] for me as a group member it becomes worse the more people engage with this, because even more people will bombard her with hateful messages. (IP04)</p> <p>Bystanders inciting others to dox (5/5/10) [...] to explicitly call for further private data to be published is absolutely inappropriate. (IP03)</p> <p>Number of doxers (4/5/9) If there was only one person, I would write them off [...] But as the quantity increases [...] I'd be getting more and more concerned. (IP05)</p> <p>Radicalization of harassment (7/7/14) I wouldn't have thought that this [vandalism] would really happen. [...] I had given it a 1% chance [...] (IP02)</p>	Progression of the incident	Actions
<p>Online harassment and threats (6/5/11) This [threatening message] constitutes a concrete announcement of a crime. I perceive this as having a different level of severity compared to someone venting a threat out of frustration. I differentiate between the two. (IP04)</p> <p>Potential physical-domain harm to the doxee (7/7/14) I think that if it stays online, it might damage her career. (IP14)</p>	Doxing consequences	
<p>Foresight for malicious use of aggregated information (3/6/9) It feels more threatening because now he has to all the other information, and he's writing this [threat]. It's basically just a ticking time bomb. (IP07)</p>		

<p>Irreversible loss of anonymity (2/2/4) <i>The information will forever be in the forum. Given the number of members on the forum, it only requires one sufficiently bored person to misuse this information. (IP10)</i></p> <p>Potential risk to third parties (4/6/10) <i>[The Doxer is] putting uninvolved third parties in potential danger, either because the published information is wrong, [or they] find out who the family is. [...] Be it boyfriend, husband, parents or children. (IP11)</i></p>	Negative appraisal of information disclosure Information-related
<p>Information useful to protect community (4/3/7) <i>I found that totally ok because he might have been worried about the other members' safety and that's why he gave the information about where she lives. (IP14)</i></p> <p>Trust in community to use disclosed information responsibly (3/1/4) <i>I think you have to differentiate what the info is going to be used for. If it is used in a constructive, facts-based [...] discussion, that would be perfectly fine. (IP04)</i></p> <p>Previous accessibility of disclosed information (5/5/10) <i>Whatever you post online is your choice most of the time. So if you post it, then you want people to see it, then I don't see a problem with more people seeing it. (IP07)</i></p>	Positive appraisal of information disclosure Information-related
<p>Bystander's own privacy values (4/2/6) <i>In my opinion, [personal information] is something that simply belongs to a private individual, they basically have a right to it. (IP03)</i></p> <p>Perceived difference between online and physical domain privacy (5/6/11) <i>But if you give someone their real name and their address, it gives them more power. Not only that, if she has a family, if she has kids [...], it affects them as well. (IP07)</i></p>	Appraisal of privacy rights Information-related

'PB' and 'IB' display the number of coded statements made in interviews with our person-based and issue-based scenario, respectively, while 'SUM' represents both scenarios combined. The first-order codes displayed in the above table are selected examples; additional first-order codes not listed here for space reasons are similar in character to the ones displayed.

Actors

Taking a closer look at the overarching theme of the actors within a doxing incident, we first found five **doxer-related factors** influencing a bystander's appraisal of a doxing incident. Most interviewees consider the doxer's initial disclosure of information as crossing a red line. Two factors that lead to negative appraisal of doxing are the **personal motives behind the dox** (e.g., interviewees suspect the doxing incident to be caused by a personal feud between doxer and doxee (e.g., IP09)) and the **doxer being famous**, that is, holding a prominent position within the online community. Such fame raises suspicions about the personal interests of the Doxer (IP04), such as a hidden agenda. In contrast, several interviewees reported that the **fame and engagement of the Doxer** within the community had a positive influence on their appraisal of the incident, stating that doxers with a large following can have a larger impact on their audience, and a famous doxer is perceived to be more credible (e.g., IP06, IP12).

Furthermore, many interviewees felt empathy with the doxer. By seeing the doxer as **acting in the heat of the moment**, interviewees argue that the doxer acts impulsively without considering the consequences of their actions (e.g., IP02). Given the doxee's misconduct, several interviewees even consider it as the doxer's **responsibility to share the doxee's information** with the group (e.g., IP14, IP03).

Second, we found several **doxee-related factors** influencing bystanders' appraisal for the incident. The **truthfulness of the accusations** made by the doxer against the doxee holds significant weight for bystanders, as some interviewees stress the necessity of supporting claims with evidence (e.g., IP06). Conversely, IP14 argues that disclosing the doxee's information is acceptable due to the **doxee's importance within the community**, asserting that the community has the right to know about the doxee's misconduct and ways to hold them accountable. Many interviewees **weigh the doxee's misconduct against the severity of the doxer's actions**, concluding that the doxee gradually becomes the victim over the course of the scenario (IP09). However, when looking only at the disclosure of information, excluding threats and vandalism, several interviewees assess that the doxee deserves to be doxed as the result of their own actions (IP04).

Finally, within the category of **bystander-related factors**, bystanders' **personal emotional involvement in the dox** is a significant factor influencing their opinion on doxing. Some interviewees suggest that the more they are personally emotionally involved (e.g., by being affected by the doxee's misconduct), the more they appraise the doxing incident as positive (e.g., IP01). The degree of personal involvement with the doxee, the group, or the victim of the doxee's actions also affects the appraisal of the doxing incident for some interviewees (e.g., IP14). Conversely, the interviewees' **domain knowledge** about doxing contributes to their negative appraisal of the incident, since they are aware of potentially severe consequences for the doxee (e.g., IP06). Taken together, many interviewees experience an **inner conflict** in their evaluation of the doxing incident.

Actions

Looking at the overarching theme of actions within a doxing incident, we divide factors into the two categories progression of the doxing incident and doxing consequences. First, regarding the **progression of the incident**, a high **engagement of other bystanders**, indicated by the number of likes and comments, and the speed of progression with which the doxing occurs can influence the perception of the doxing incident to be more negative (e.g., IP03). Furthermore, **inciting others to dox** the doxee is generally rejected by our interviewees, although some

interviewees find it acceptable for certain purposes such as collecting information for a lawsuit or for law enforcement (IP03, IP05). The **number of doxers** involved may increase the perceived potential danger and threat towards the doxee (IP09). **Radicalization of harassment** is considered a significant factor, with some interviewees noting its expected occurrence in the absence of a mediating voice (IP02, IP04), leading to a more negative appraisal of the doxing incident.

Second, the *consequences of doxing* are universally assessed as negative, particularly the **harassment and threats** made by doxers. Interviewees differentiate between light and heavy threats but agree that the threat severity influences how they, as bystanders, evaluate doxing incidents, with some suggesting that such threats can lead to actual future crimes (IP04, IP11). Concerns are expressed regarding the **potential physical-domain harm to the doxee** resulting from the incident (IP06, IP14), including mental health issues, physical violence, and a negative impact on the doxee's career (e.g., IP11). For some interviewees, these physical-world consequences prompt a re-evaluation of the doxing incident (IP07).

Information-related

In the third overarching theme, which focuses on information-related factors influencing a bystander's evaluation of doxing, we explore both negative and positive appraisals of the information disclosure, as well as considerations of privacy rights. When examining the *negative appraisal* of information disclosure, we found interviewees to express concerns about the **potential malicious use of the aggregated information**. They describe the combination of the disclosure of personally identifying information with threatening comments as a "ticking time bomb" (IP07) and describe the **loss of anonymity** for the doxee, including the publication of images, addresses, and names, as a problem with potentially violent consequences (IP09). Moreover, interviewees highlight the potential **risk posed to uninvolved third parties** due to the doxed information. For instance, relatives could become targets based on the already published information, and unaffiliated individuals might be inadvertently targeted due to misinformation by the doxer (e.g., IP11).

With respect to interviewees' *positive appraisal* of information disclosure, some interviewees perceive the information disclosed in a doxing incident as **useful to know to protect the community**, regardless of whether the doxee is believed to have acted against the community's interests (person-based) or expressed unconventional views (issue-based). For example, IP01 finds the possibility of directly contacting the doxee useful, as the doxee could otherwise "simply delete their profile, with no way to reach out to her". Similarly, IP14 argues that such information can serve as a means of

safeguarding both the community and oneself. Additionally, **trust in the community to treat the doxed information responsibly** is mentioned as a factor positively influencing their appraisal of doxing (IP14). Overall, the sentiment expressed by interviewees is negative, with concerns about information security and loss of anonymity. However, several factors highlight that the appraisal of doxing can be shifted towards positive by various contextual factors, such as the position of the doxee within the community and the level of trust among community members. The previous **accessibility of the information**, prior to the dox, is also factoring into bystanders' perception, with some interviewees viewing previously public information as acceptable to be shared (IP07, IP02).

Shifting the focus to the *appraisal of privacy rights*, interviewees draw on their **own privacy values** to shape their perspectives. On the one hand, some interviewees believe that the group has the right to know about the doxee as a form of compensatory justice, assuming the doxee has committed worse offenses in the past (IP14). This assessment applies to the initial dox as well as to the ongoing aggregation of personal information. On the other hand, several interviewees argue that every individual has the right to privacy, and suggest that the act of disclosing the doxee's personal information makes the doxer just as bad as the doxee's initial misconduct (IP03, IP07). Finally, we note that the disclosure of **different types of information** is assessed differently. Thereby, offline information (e.g., a legal name or a physical address) is often considered to be more sensitive than online information (e.g., usernames or email addresses), as offline information gives others "more power" over the doxee and potentially endangers their family (IP07).

4.2 What motivations and conditions prompt a bystander to take action in response to a doxing incident? (RQ2)

Our interviews provide insights into when and how bystanders become active in a doxing incident as displayed in Table 2. We categorized our results along the three steps of the doxing incident trajectory, from (1) pure information disclosure to (2) online harassment and ultimately (3) physical consequences. Based on Wong et al. (2021), we label actions as reinforcing and upstanding action. The fourth category contains factors that lead bystanders to remain passive when confronted with doxing. It is important to note that we only considered an interviewee as intending to take concrete action if it was proactively stated by the interviewee themselves, as opposed to asking whether the

interviewee would take action, which might lead to biased statements.

Table 2. Motivations for bystander action

<i>Categories</i>	<i>(PB/IB/SUM)</i>
Actions following information disclosure	
Support doxing by liking or commenting <i>Maybe I will give the post a "like", [...] maybe I would comment, but I would never publish their personal information. (IP02)</i>	Reinforcing (2/4/6)
Contact doxee <i>I would certainly message Baking.Anna and tell her to give me my money back. (IP01)</i>	
Report to police <i>I would be there for one reason only: if things go too far. I might report it to the police and then leave the group. (IP06)</i>	Upstanding (1/0/1)
Actions following online harassment	
Confront doxee in person <i>[After all this heated discussion,] if I recognized the car, perhaps I would even have the impulse to wait there for [the doxee] and confront her about it. (IP01)</i>	Reinforcing (1/0/1)
Comment to state disagreement with online harassment <i>I would consider commenting on one of the posts to state that I disagree with that kind of stuff. (IP13)</i>	Upstanding (0/3/3)
Actions following physical vandalism	
Comment to state disagreement with physical vandalism <i>I would maybe even get involved by writing a comment and saying 'Hey, you have to draw a line. That's enough. [...]' (IP01)</i> <i>This has now reached a point where the authorities should get involved [...] since it is apparently no longer resolvable within the group. (IP11)</i>	Upstanding (3/4/7)
Staying passive	
Give doxee a chance to speak (4/5/9) <i>I would rather wait and see what Anna has to say about it. Because so far only Chris has said something about the situation. (IP04)</i>	
Observe quietly out of curiosity (3/0/3) <i>I usually don't post, but sometimes I read things and I'm like 'oh, this is getting interesting', and I keep following. (IP05)</i>	
Sense of being powerless (0/1/1) <i>Someone should have approached the admins from the start. But [Chris.Cook] was [...] probably part of the admin group. (IP10)</i>	
Fear of becoming a target (1/2/3) <i>I would also be worried that it's going to affect me, too [...], which is a shame, really. (IP13)</i>	
Fear of legal consequences (1/0/1) <i>But I would not go and participate in this fight because [...] the law might come back and make me pay for this. (IP06)</i>	
No interest to protect doxee (1/0/1) <i>Going to the police to protect a person who has harmed me? I don't know. (IP01)</i>	
Does not know reporting is an option (1/0/1) <i>It's interesting, isn't it? During the last half hour [of the interview], I didn't even come up with the thought that I could have reported it. (IP01)</i>	
Leave the group (3/2/5) <i>Because I wouldn't want to be part of that group. It's supposed to be a friendly group, 'Cooking with friends'. (IP13)</i>	

During their assessment of the doxing scenario, interviewees showed different action tendencies. Regarding the **actions following information disclosure**, most interviewees who do mention to become active in the presence of doxing take on a reinforcing role by engaging with the incident directly. For instance, IP02 mentions the possibility of **liking a post or leaving a comment**, while emphasizing that they would refrain from disclosing personal information (Reinforcer, IP02). In addition, IP01 expresses the intention to **message the doxee** and confront them personally (Reinforcer, IP01). Similarly, many interviewees agree that action should be taken against the doxee. On the other hand, only one bystander takes an upstander stance following doxing. They express willingness to **report the incident to the police** if the situation escalates, without actively participating any further (Upstander, IP01).

When observing **actions following online harassment**, bystanders display varying reactions. One bystander, IP01, mentions the possibility of **personally confronting the harasser** if they were to recognize them in public, indicating a drive to confront and hold them accountable (Reinforcer, IP01). In contrast, several other bystanders express their inclination to **comment on the related posts, publicly disagreeing** with the harassing behavior (Upstander, IP13).

As the doxing incident evolves into **physical vandalism**, bystanders' responses notably shift towards upstanding, with interviewees stating they would comment in support of the doxee and **actively voice their concerns by demanding clear boundaries** (Upstander, IP01). They believe that the situation has escalated to a point where authorities should be notified (Upstander, IP11).

Since half our interviewees did not state any intention to become active at all, it is important to look at why bystanders choose to **remain passive** when observing doxing. Most interviewees prefer to **wait for the doxee to speak** up, thus giving them an opportunity to address the situation themselves before making any further judgments (IP04). Others prefer to **observe the incident quietly out of curiosity**, without actively engaging but continuing to read the unfolding events, while also mentioning they are not in favor of the actions they witness either (IP05). Interestingly, one doxee states that they were surprised by themselves to **not recognize reporting as an option**. Additionally, one interviewee suggests that one should have turned to the forum's administrators right from the start, but then notes that the initial doxer is presumably an admin himself, consequently expressing feelings of **powerlessness**. Other interviewees state that they **fear becoming a target** themselves, which inhibits their active involvement (IP10, IP13). **Fear of legal**

consequences also deters some bystanders from taking reinforcing action (IP06). Other interviewees express **no interest in protecting** the doxee due to being personally affected by the doxee's behavior. Finally, several bystanders prefer to **leave the online forum**, as they prefer to not be associated with a group involved in such harmful activities (IP13).

Taken together, bystanders show a range of action tendencies, including reinforcing harmful actions, actively opposing them, or choosing to remain passive due to various factors such as curiosity, fear, or a sense of powerlessness. Our results highlight the complexity of bystander behavior in doxing incidents.

5. Discussion

In our study, we investigated the factors that influence a bystander's appraisal of a doxing incident (*RQ1*) as well as the motivations and conditions that prompt bystanders to become reinforcers, upstanders, or remain passive (*RQ2*). With respect to *RQ1*, our analysis reveals several factors influencing both positive and negative appraisal of doxing. Regarding bystanders' overall perception of doxing, most of our interviewees reported a profound inner conflict. On the one hand, several factors contributed to a *positive* appraisal of the doxing incident, with interviewees weighing the doxer's actions against the doxee's alleged misconduct. For example, the violation of the community's trust by the doxee was viewed to justify the doxer's actions, particularly given the doxee's leading role in the community. Furthermore, the doxed information was deemed useful to hold the doxee accountable and protect the community. This tendency towards positive appraisal was exacerbated when the doxed information was being perceived as moderately sensitive (e.g., a social media account vs. a home address) and previously accessible. Moreover, interviewees who felt personal emotional involvement by seeing themselves as directly affected by the doxee's misconduct tended to appraise the doxing incident as more positive throughout the scenario.

On the other hand, many factors contributed to a *negative* appraisal of doxing, shifting those interviewees' perceptions who first viewed the incident as positive throughout the course of the scenario. This shift was mainly rooted in the increasing sensitivity of the disclosed information as well as the doxing consequences, such as online harassment, threats, and physical vandalism. For example, many interviewees strictly rejected the radicalization of the doxing incident trajectory, cautioning against potential endangerment of third parties (e.g., the doxee's family) and drawing on their own values regarding the privacy rights of each individual, no matter the previous misconduct. Taken

together, our data reveals that many bystanders experience an inner conflict between positive and negative appraisal when observing a doxing incident, with a strong tendency towards negative appraisal for increasingly drastic doxing consequences.

Addressing our second research question *RQ2* along the different stages of our scenario (information disclosure, online harassment and physical vandalism), we found that, following the doxer's initial information disclosure, only one interviewee expressed their intention to act as an upstander to mitigate the consequences of the doxing incident. In contrast, several interviewees displayed reinforcing intentions, such as liking doxing posts or contacting the doxee. Bystanders' upstanding intention (e.g., voicing one's disapproval by commenting on doxing posts) slightly increased following online harassment, finally yielding a clear shift towards upstanding behavior following physical-world vandalism. However, as only seven out of fourteen interviewees expressed their willingness to take any form of action throughout the scenario, it becomes apparent that many bystanders chose to remain passive when witnessing a doxing incident. Reasons included the fear of becoming a target, waiting for the doxee to speak up, or just showing no interest in protecting someone who they perceive to have violated the community's trust. Many interviewees who preferred to stay passive seemed to be primarily focused on the allegations against the doxee, trying to find strategies how the doxee could be punished for their actions, while leaving the doxing incident itself out of the spotlight.

Across different levels of analysis, two critical themes emerged as influencing bystander behavior. On the one hand, a bystander's **personal emotional involvement** significantly shapes their appraisal of and reaction to a doxing incident, driven by their own experiences (e.g., being personally affected by embezzlement or having personally encountered racism). While we did not find any significant differences in bystanders' appraisal of the person-based vs. the issue-based scenario – with both generally viewed negatively – we found that such emotional involvement can be triggered by either scenario depending on the bystander's personal context. As a result, bystanders with higher personal emotional involvement tended to be more likely to exhibit reinforcement behavior, such as disseminating the disclosed information or harassing the doxee.

On the other hand, our data indicates that bystanders' **previous domain knowledge** (i.e., their familiarity with the practice of doxing and awareness of potential consequences) leads to a more negative appraisal of the doxing incident. Bystanders with higher knowledge on doxing displayed a more nuanced

foresight of potential consequences including physical violence and mental health impact on victims. For example, one interviewee referred to the severe implications of the real-world case of the Boston Marathon doxing incident (Shontell, 2013) as a basis to form their opinion and guide their bystander behavior.

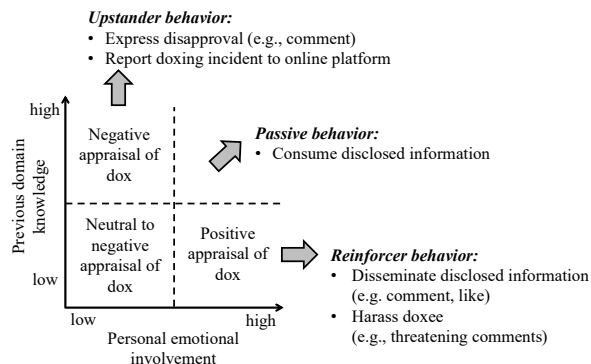


Figure 2. Personal involvement and domain knowledge as drivers of bystander action

Our observations are summarized in Figure 2, which displays the three identified types of doxing bystander behaviors. Overall, we found a primarily neutral to negative appraisal of the doxing incident, which mostly led to bystanders remaining passive during the entire incident. High personal emotional involvement elicits positive appraisal of doxing, and seems to be linked to a higher willingness to engage in reinforcer behavior (e.g., commenting or liking). In contrast, high previous domain knowledge shifts bystanders' appraisal of doxing towards negative, leading to upstander behavior (e.g., expressing disapproval or reporting the incident to the platform or authorities). For both reinforcer and upstander behavior, bystanders' fear of becoming a target, fear of legal consequences, or the feeling of powerlessness impeded their willingness to take action (see Table 2). The condition of both axes being high simultaneously was absent from our data. In conclusion, our analysis reveals personal emotional involvement and previous domain knowledge as two triggers of bystanders action, while showcasing that overall, bystanders' willingness to take action when observing a doxing incident is limited.

5.1 Theoretical and practical implications

Our study makes two significant theoretical contributions to IS literature. First, it addresses the lack of research on the appraisal of doxing incidents from the bystander perspective. Understanding how bystanders appraise doxing is crucial, as evidence from practice suggests that positive vs. negative appraisal significantly influences the progression and media portrayal of such incidents. This study provides an

important initial step in investigating how bystanders' opinions and appraisals are formed by revealing important influencing factors related to the actors, actions, and disclosed information in a doxing incident. Second, our research sheds light on bystanders' intentions to either reinforce or mitigate a doxing incident through taking action such as liking the doxing content, interacting with the doxee, or reporting the incident. Specifically, we identify personal emotional involvement and previous domain knowledge as two important drivers of reinforcer and upstander behavior, respectively. These insights are highly relevant since, in contrast to related phenomena such as cyberbullying, bystanders' interaction with the doxed information is an essential part of the dynamics of a doxing incident as intended by the doxers.

Moreover, our findings have important implications for practice. Bystanders speaking up against doxing and reporting such incidents to platforms and authorities significantly contribute to mitigating the severity of doxing for doxees. This is particularly important as doxees may not always be aware of their own doxing and hence may not have the opportunity to take mitigating action before experiencing consequences such as online harassment or physical violence. Our study suggests that bystanders' willingness to help to mitigate doxing incidents, particularly following the initial information disclosure, highly depends on their knowledge and awareness of doxing and its consequences. Online platforms and societies wishing to foster safe online spaces for individuals to discuss their issues and opinions should thus (1) raise awareness about doxing and its consequences to increase bystanders' willingness to take action against such practices and (2) provide accessible reporting mechanisms as well as fast and reliable content moderation.

5.2 Limitations and future research

We draw attention to some limitations that can be leveraged to inform future research. First, our study employs a qualitative approach building on a sample of 14 interviewees. This limits the generalizability and robustness of our results, calling for quantitative research to explore the connections between, for example, emotional involvement or domain knowledge and bystanders' doxing appraisal. Second, the two doxing scenarios employed in our vignette study involved very specific settings, events, disclosed information and word choices that may narrow down the range of possible opinions and assessments. For example, we cannot control for potential gender bias, as both of our scenarios involve a male doxer and a female doxee. Given the complexity and variety of real-world

doxing incidents, there may be other factors that influence a bystander's perspective in real-life situations that could not be captured in our study design.

Table 3. Research agenda

<i>Research agenda</i>
<ul style="list-style-type: none"> • Which factors influence bystanders' forming of opinions on a) the doxer and b) the doxee? • How are different types of doxing (e.g., person- vs. issue-based, deanonymizing vs. targeting vs. delegitimizing) appraised differently? • How do personal emotional involvement and previous domain knowledge influence bystanders' actual behavior in a doxing incident? • How does the public perception of a doxing incident influence its progression?

Finally, our research paves the way for future works on the appraisal and portrayal of doxing. In Table 3, we provide suggestions for future research on the highly relevant role of bystanders in doxing incidents.

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