"Giving a little 'ayyy, I feel ya' to someone's personal post": Performing Support on Social Media

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Social media platforms offer people a variety of ways to interact, ranging from public broadcast posts, to comments on posts, to private messages, to paralinguistic interactions such as "liking" posts. In 2015, the commenting function "replies" was temporarily removed from Tumblr, providing a unique opportunity to study the deprivation of a standard social media feature. We administered a survey to investigate Tumblr users' perceptions and use of replies. Respondents reported that they used replies to simultaneously support others' performance and their own. Respondents compared replies to other digital interaction channels such as paralinguistic interactions, the sharing feature "reblogs", and "direct messages" (DMs), citing social considerations and norms around each. We used Goffman's performance theory to draw insights on the perceived semi-public / semi-private space of replies, which enabled users to perform supportive actions that did not belong in their main blogging identity frontstage but that were not backstage either. We discuss the limitation of performance theory to describe a presentation to a limited but unknown audience, and we describe how replies enabled new frontstages such as the delicate ramp up to the performance of intimacy in DMs. We discuss implications for performing support and identity on social media with audiences that are perceived as limited but are unknown.

CCS Concepts: • **Human-centered computing** → **Empirical studies in collaborative and social computing**.

Additional Key Words and Phrases: social media; performance theory; comments; Tumblr

1 INTRODUCTION

Social networks typically have a dominant form of posting — the tweet, the status update, the blog post. One can comment on these or choose from a variety of mechanisms that allow for nuanced communication between friends, strangers, and strangers in the process of getting to know one another and perhaps becoming friends. A current saying 'Sliding into your DMs' refers to the bold action of privately messaging an acquaintance [32]. In choosing where and how to post, people find themselves in the position of managing identities and maintaining many types of relationships

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(cf. [27]), surfacing difficulties such as lack of awareness of who sees one's online content [59] and tensions around managing self-image between social circles that are otherwise kept separate, known as context collapse [12, 61]. This is especially true for identities that may be vulnerable or stigmatized [3].

Comments on posts are a core feature of most social media platforms and even predate social media as a core feature on the earliest online forums. Given how commonplace comments are, their function may be unremarkable and taken for granted in online communities. When do users choose to interact through comments versus other channels, given the wealth of other social media interaction options? What value do post comments provide? These are the questions we address in this paper.

Our research took advantage of a unique situation when Tumblr, an online community for sharing text, photos, GIFs, quotes, links, audio and video, removed the commenting feature "replies" for a period of six months: October 2015 to March 2016 [78–80].

The deprivation of this feature enabled us to ask users what they were missing with this core feature removed: a "natural experiment". Tumblr was an ideal platform for this research question because it offers other standard mechanisms for communication, interaction and identity performance: (1) creating novel blog posts visible to followers, (2) commenting on each others' posts through replies, (3) 'liking' a post, (4) 'reblogging' posts created by others, akin to 'sharing' another's post, and (5) contacting another privately through 'asks', 'fanmail' or direct messages (DMs). Tumblr houses vibrant online communities, such as fandoms [24, 40, 41] and queer communities [19], where the media content is particularly important and thus interaction around and in the context of media content is critical.

Our project investigates the value of commenting interactions in the context of media spaces where users are not familiar with each other, such as in interest-based communities like Facebook Groups, or pseudonymous communities like Twitter, Reddit and Tumblr. We focus on better understanding the "ordinary" interactions between users who do not necessarily know each other to better understand what people value when interacting with others, including strangers, online, how they are doing it, and what these interactions mean for the presentation of their online identity. We use Goffman's performance-based metaphor [33] to deconstruct the role of identity in online social interaction, distinguishing between performances of identity to an audience (frontstage) from unselfconscious expressions of self (backstage). Contemporary scholars have used Goffman's construction to characterize use of online networks [50, 57, 67]. On social media, performances can be 'live' and viewed real-time, but are often viewed later. Performances on social media include exhibitions of curated artifacts (e.g., images and other social media content) which are longer-term and meant for a more passive audience [43]. Exhibitions and performances are not mutually exclusive; individuals may engage in both on the same social media platform [90].

A natural deprivation study is research where a person or organism is prevented from having or using something to see effects of deprivation (e.g., [42]). The removal of replies was not perceived neutrally by many Tumblr users, and was described as a public outcry [66]. Users were upset and were calling for replies to be reinstated. For example, one user created a blog called "Bring back replies," with posts in early 2016 eliciting 80,000 and 40,000 total "notes", i.e., reblogs and likes [15]. During this time period, we wanted to better understand what users valued about replies and what aspects of replies became salient when they weren't available for use.

We explored Tumblr users' communication and identity presentation practices using replies by conducting a survey with Tumblr participants, where we asked for detailed stories around replies and what made them valuable from participants perspectives. We iteratively coded 650 responses for themes until we reached saturation. Our results section describes the five themes that emerged and stabilized. We interpret the themes using Goffman's performance theory. We

found that users considered replies a public but not too public space for a performance of support, one that doesn't belong on their main frontstage. Compared to other channels, the semi-private nature of replies provided a way to respond to others' performances without compromising their own main frontstage performances. We highlight the tension between frontstage performance and supportive behaviors, and that individuals are simultaneously performers and audience members on social networks, where each public action can converges or conflicts with their main public frontstage. We discuss implications for these results for social media platforms. We make three contributions in this work:

- This research contributes empirical findings on the only deprivation study of social media comments. The deprivation period enabled users to reflect on their use of this core functionality. We coded these reflections into five themes and applied performance theory to deepen understanding of identity presentation practices of today's users of pseudonymous social media platforms.
- This research contributes to social media literature by exploring the formation of new relationships in pseudonymous and interest-based communities. We found that the semi-private interactions possible through replies were a salient stepping stone to lead up to the private frontstage performance of direct messaging a new friend.
- This research provides insight into the theoretical gaps of performance theory when the audience is perceived as limited, but is also uncertain or unknown. Under conditions of audience uncertainty and limitation, performers may espouse behaviors that tradeoff between actions that enhance one's own frontstage performance and actions that enhance others' performances, which would ideally be backstage as to not impact one's own frontstage.

2 RELATED WORK

In 2018, 68% of Americans use social media. Use varies by age bracket: 88% of 18-29 of social media [76].

Comments on social media have been deemed powerful and destructive when used for nefarious purposes. Kang et al. analysed 81 thousand Reddit posts, 3 million associated comments and found that influential comments affected the topic similarity and revealed sentiment of follow-up descendant comments than the original post [48]. Similarly, Cheng et al. found that participants exposed to trolling comments in an online forum were more likely to post trolling comments themselves [18].

A primary purpose of social media "is to consume and distribute personal content about the self" (p.19 [28]). Public expressions of self can aid in goals such as identity management, affinity seeking, and image confirmation [20]. These notions of expression of self and concerns with impression management apply Leary and Kowalski's [54] impression management framework to today's social networking sites (e.g., Facebook, Instagram, Tumblr, etc.). Leary and Kowalski conceptualized impression management including two discrete processes:

I. Impression motivation: Refers to the desire by individuals to control how others see them. This is further conceptualized as a function of three factors: the goal-relevance of the impressions, the value of desired outcomes, and the discrepancy between current and desired images. In the context of social networking systems (SNSs), research has mostly focused on the motivational aspects [11].

II. Impression construction: Refers to strategies used by individuals for creating a desired impression. This aspect is further conceptualized as a function of five factors: the self-concept, desired and undesired identity images, role constraints, recipient's values, and current social image. People "package" themselves differently to meet the desired expectations of their audience [55]. This

becomes very hard to do in one-to-many communication on SNSs. Context collapse makes self-presentation even more complicated because people have to adapt their behaviors to different groups of audiences. This line of research is mostly concerned with investigating the actual tactics people employ to construct their impressions as they manage their different audience groups on SNSs. Hogan [43], for example suggested the principle of disclosing based on the lowest common denominator, one of the tactics of which is to only post things that one's whole network will deem appropriate.

Earlier work suggested that due to the lack of nonverbal cues, people could not gain impressions in computer-mediated contexts [75]. Other later work suggested that online impressions do happen, but function within different temporal frames [85]. CMC (computer-mediated communication) users engage in various strategies to optimize their self-presentation and promote desired interactions.

One way people engage in self-presentation and impression management is by using signals [22]. People want others to form positive impressions of them and thus engage in impression management like a performance [33], a concept we return to below. Sharing more positive posts and fewer negative posts has been linked to positive impressions [55]. These impressions are formed based on what the individual shares [60] or more indirect cues such as the responses one receives from their friends [87]. For instance, Voida and Mynatt use Goffman's performance framework when explaining participants' concerns around what others think of them when sharing their musical taste within a work group [84]. Concerns about what the audience thinks lead to "positivity bias" on networks such as Facebook, those that enforce "real name" policies, where people share what they deem to be non-controversial and positive [68]. In fact, most posts on Facebook are not very intimate, and tend to be positive and entertaining [8]. Users take more time to edit their messages, invest greater cognitive resources in doing so, and manage their language styles [26, 86]. In the context of online dating, users selectively choose photos for the view of their potential dates and emphasize their positive characteristics [26]. When online, users provide cues that illustrate that they are connected to certain people or are associated with specific symbols [46, 87]. Users can sometimes engage in deeper self-disclosures online than face to face settings [26].

The type and amount of the shared information in online social networks affects interpersonal relationships [53]. A study suggested that while people generally succeed at presenting a positive self-image, they are only partially aware of how they come across and tend to underestimate the strength of the impressions they make [8]. An early study of self-presentation in personal websites suggests four self-presentation strategies: constructing a digital self, projecting a digital likeness, digital association, and reorganizing linear narrative structures [46]. Kendall argues that it is important to examine not only online performances, but also people's interpretations of these performances [49]. Van House argues that, "in the process of doing what we do (including in front of a camera), as well as explicitly creating images (of ourselves, or of other subjects) and telling stories (including those around images, for ourselves and for others) we enact ourselves, individually and collectively" (p.1084 [44]).

More recently Yardi et al. [73] investigated impression management as a retrospective practice. Haimson looked at how transgender people engage in impression management over time and found that there are self-presentation, disclosure, and impression management challenges for people with complicated pasts [36]. In times of life transitions, people manage their identities across social media platforms such as Tumblr and Facebook through what Haimson calls the social transition machinery [35].

The social media features offered will constrain or encourage different kinds of use. Interactive affordances of Facebook (e.g., "liking" and commenting) impact impression management practices [10, 52, 90]. Tumblr is perceived as having affordances for high presentation flexibility, low identity persistence, and low audience transparency [21]. Paralinguistic actions such as likes, votes, "+1s"

perform supportive phatic functions, which is interaction for the sake of interaction and to establish active communication, as well as conveying a myriad of other meanings depending on the context and actors [38]. Hayes, Carr and Wohn compared support provided through paralinguistic actions (likes, votes, "+1s") across social media platforms and found that kinds of support and sought and received across platforms, which is related to the different audiences across platforms [37]. The amount of social support perceived differs across individuals: those higher in self-esteem and sensitive to judgments from others perceive more social support from paralinguistic actions [89].

The motivations and decision-making process for deciding what and how to share on social media systems are nuanced and complex, and are influenced by individuals' personal feelings about privacy as well as the nature of the content being shared [7, 47]. This leads to strategies such as making and maintaining multiple social identities [36] or using throwaway accounts perceived to be more anonymous [56], particularly in sensitive and stigmatized contexts [6]. In this paper, in addition to focusing on the relationship between an individual user and their audience, we also focus on how an individual is simultaneously a performer and an audience member on social networks, and how their behavior as a viewer of others' exhibitions converges or conflicts with their own performance motivations and goals.

Goffman's performance theory likens impression management to performance, where the continuous presence of an audience drives the performer and audience to adjust their behavior in real-time [33]. This performance occurs with respect to a bounded setting (that is, a frontstage), while the performer uses a backstage to engage in other behavior that allows them to maintain frontstage appearances [33]. Scholars have widely used this framework to understand impression management and privacy management on social media (e.g., [25, 51]).

Performance theory has been extended by others as well as Goffman himself. He delineated focused interaction, which describes an audience that is paying attention, and unfocused interaction, which occurs in situations like walking past a stranger [34]. Performance theory has been extended to apply to technology. Meyrowitz analyzed performance theory in relation to media richness theory to identify how media, and in particular television changed access to various stages that normally would not be seen [62]. Meyrowitz introduces the concept of middle region, which describes new behaviours that arise out of merging social situations with their own norms and expectations. Middle region behaviour leads to "side stage" views where the audience may "see the performer move from backstage to onstage to backstage" (p.47 [62]). Ling contrasts the landline phone, which is tethered to a place and context, with the mobile phone that can mix contexts and thus presents a "dual-front" [58].

Hogan argues that online interactions often take place around artifacts, and that presentations of self can be considered "exhibitions" of artifacts created by users [43]. In this framework, the relationship between the artifact's creator and the audience changes; the creator no longer has real-time knowledge of their audience's reactions to their exhibition, and may not even be fully aware of who their audience is [59]. Artifacts are cultural products [88] such as text posts, images, or videos on Facebook and Twitter. Artifacts can be the user's own content and can also include content created by others, such as reshares, retweets, and reblogs.

Persson applied performance theory to online interactions and noted that online "over sharing" may be due to the differences in online feedback and social cues, which effectively changed the "borders between the front- and backstage" (p.15 [67]). These borders may shift further depending on where and how one is interacting on social media. In Goffman's framework, posts, tweets, shares, reblogs, and retweets are frontstage actions, as has been established by previous work [2, 50, 57, 67]. Posts, reblogs and reblogs with captions constitute the primary frontstages by which Tumblr users express themselves through their blogs. The 'reply' is a short piece of text added to a post, much like a comment. The label 'reply' frames the act as replying to the original poster, though the act is

not private. The reply is available to anyone who has access to the post. Thus, replies had multiple audiences. A primary audience was the author of the original post, who receives a notification when a new reply is created. The Tumblr interface does not expose replies along with the post in feeds (as other feeds do, such as on Facebook) thus perhaps Tumblr replies afford a sense of privacy. Tapping or clicking on the notes on a post is the only way to see the post's replies, making it somewhat cumbersome for anyone to view them other than the post's author. A semi-protected social media comment thread setting such as the reply has not been investigated for the kind of stage and performance it affords. We address this gap by investigating identity performance in replies on Tumblr.

3 RESEARCH QUESTIONS

Our research goal was inspired by the the removal of replies and the backlash [66] from the Tumblr community. Given the context of the deprivation of the replies feature, what did users perceive were constructive interactions uniquely facilitated by replies? How can performance theory unpack the interactions enabled through replies?

4 RESEARCH CONTEXT

In this section, we describe the context in which we conducted this research. We also describe how people share content on Tumblr and the typical ways Tumblr users interact with each other and their posts.

4.1 Interacting around Content on Tumblr

Tumblr is a social sharing platform that facilitates posting multimedia content to blogs, or tumblrs. Users follow tumblrs rather than individuals. Like other social media platforms, users see content from tumblrs they follow on their feed, or dashboard. The Tumblr community is large and active. In 2019 they counted over 462 million blogs [1].

Users can 'like', 'reblog', or 'reply' to (comment on) posts that they see on their dashboard or that they see when visiting another user's tumblr. Likes on Tumblr can be understood as simple indications of enjoyment or support, similar to a Facebook like [17]. Reblogging allows users to include a post created by someone else on their own tumblr (and thus, show the post to their followers). Optionally, the user can add their own content to a reblogged post. Reblogged posts include an attribution to the source tumblr, called the "original poster". A post can be reblogged multiple times, with different users adding content with each reblog, resulting in a reblog chain. Likes, replies, and reblogs are added together and labeled as 'notes'. Users can view all the notes for a post to see who has liked, reblogged, and replied to a post.

The replies function was not always available on every post. Users could set their tumblr to not have replies or to only allow replies from people they follow. If the poster enabled replies, a user still may not see the replies function because a user has to follow another for at least 15 days before it is enabled [82].

Tumblr includes two methods for private messaging. Users can message each other directly by sending an 'ask' through a contact form included on each tumblr. The user can respond to the ask privately, or post the ask along with their response to their tumblr. The other form of direct message (DM) is a newer instant messaging system, introduced in November 2015 [79], that houses threaded conversations between two people and a complete history of messages.

4.2 Context and Timeline of Research

We collected survey responses in January 2016, during the time period that replies were absent. We presented preliminary findings to Tumblr in February 2016. Replies were re-implemented on

Tumblr in March 2016 [80]. In the months that followed, the author team continued to analyse responses to better understand how not being able to reply to posts changed interactions and identity performances. Tumblr, like all other successful social media platforms, has continued to change and evolve since our study, but we believe there is significant value in understanding the snapshot of interaction around communication practices we focus on in this study.

5 METHOD

We took advantage of the removal of replies to conduct a deprivation study. The removal of replies forced users to change how they interacted and presented identity, and this is precisely what enabled respondents to gain greater awareness of their mundane use of replies. We expected that respondents would be attuned to the visibility and social demands of other channels and compared how they felt different to replies.

We crafted our question to focus on a critical incident [30] in order to elicit information about a specific past experience as opposed to a generalization. We also worded it in such a way to be consistent with the Tumblr platform 'voice', as we were invited to distribute the survey through the Tumblr staff blog. The post appeared within the Tumblr feeds of Tumblr users who follow the Tumblr staff blog. Tumblr has a unique voice that could be described as casual and playful. For example, in March 2019, Tumblr announced a feature update on their staff blog with an animated GIF and the text: "Pssst. The post text block limit has been bumped up from 100 to 250 on both Android and iOS. That's 250 beautiful blocks waiting to be filled with your favorite vowels, consonants, numbers, and emojis. Have at it." [81] The staff Tumblr voice can be characterised as friendly and quirky. We hoped to emulate this Tumblr staff 'voice' with the wording in our survey (Appendix, question #11):

In a few sentences, tell us a story of when you used a Tumblr reply and it was awesome. What was the post? What was the interaction? Why did it work well?

Methods for this study were conducted in accordance with our institution's processes for conducting research with human participants. Our research was deemed low-risk by our institution and we were allowed to collect informed consent directly from those aged between 13 and 17. Collecting informed consent directly from adolescents without parental consent requires a risk/benefit analysis for the teen [63]. One consideration is that teens may not have disclosed their Tumblr use to parents (cf. [13]) so we elected to collect informed consent directly for this low-risk project. Participant consent was obtained electronically as a part of the survey instrument. The first question was on age and those 13 and younger were immediately thanked and not given any further survey questions. The data was collected and analyzed when authors were affiliated to Yahoo Inc.

A limitation to this project was the broad, positive framing arising from the wording of the above question #11. We intentionally included positive and neutral questions in our survey (Appendix) but did not include a negatively framed question. Our dataset represents an incomplete picture of comment use as it does not prompt for important negative situations that arise from comment use, such as bullying, aggression, and destructive comments (cf. [65]). We believe that a positive and neutrally framed data collection of pseudonymous online communities is useful and advances our understanding about key aspects of comments on social media. While this dataset was sufficient to find saturation on themes related to constructive interactions, asking more and different questions would have certainly yielded more data. We note this limitation here and propose that future work may also want to look at negative experiences or consequences with replies.

5.1 Participants

18,547 respondents began the survey out of which 4118 completed it. The average length of response was 218.1 characters, with a median of 176. The respondents included 2857 women (69%), 503

Table 1. Five themes related to presentation of self online arose from a randomly selected set of 550 survey responses.

Code	Count	Percent
Giving/Getting Performance Support	294	53%
Reply vs. DM: Wrong Frontstage for Support	153	28%
Reply vs. Reblog: Wrong Frontstage for Support	137	25%
Not too Private, Public: Right for Support	61	11%
Reply Right for Ramp up Intimacy	59	11%

men (12%), and 756 gender diverse individuals (18%). 70.5% of respondents were under the age of 25. Women's representation is in line with a 2017 survey of 5,835 Tumblr users, where 66% were women, 26% were men, and 7% were gender diverse [45]. The high representation of young users is typically for Tumblr, where it is reported that 46% of users are between 16 and 24 [77]. PEW reported on the percentage of internet users that use Tumblr: 10% of men, 11% of women, and 20% of those under 30, compared to only 11% of those between 30 and 49, with lower representation in older age categories [23].

Our final sample of 550 participants included 69.3% women, 13.3% men and 17.4% gender diverse individuals. 71.4% percent were under the age of 25.

5.2 Qualitative Analysis

We used an iterative open coding thematic analysis process [14] to create codes and identify when saturation was reached [72, 83]. First, blank survey responses were removed from the dataset. Non-word responses such as a single letter were removed. Responses that we were unable to interpret were left un-coded as we encountered them during the coding process. Each of the authors independently coded the same set of 100 randomly selected responses. A response was allowed to have multiple codes applied to it. We then met to discuss themes. We reached consensus on the meaning of themes and noted relevance to identity performance [33]. Each author then coded the same set of another randomly selected 100 responses. We met again and created the final set of five codes (Table 1). We examined the inter-coder reliability (Fleiss' kappa) for the second round of coding. On average there was moderate agreement for the four co-authors' use of each of the five codes (Fleiss' κ = 0.696, SD = 0.09)[31]. Finally, three authors each independently coded another 150 responses. No new codes were created, indicating that we reached saturation [72, 83]. In total, we coded 550 randomly selected responses (not including the original 100 responses that were used to develop the codes).

6 RESULTS

The results presented here focus on the open-text responses to question #11 on stories and situations when replies worked well. We reached saturation after coding a subset of responses and we report on the five themes that emerged.

The first theme focused on a popular reason to use replies, which is to give and get support for one's performance. The second and third theme included considerations around alternate channels for interaction: it felt "wrong" to use reblog and direct messages for certain purposes. The fourth theme explicated nuances of how and why the public and private nature of replies worked well and felt "right". The fifth described the delicate considerations for direct messaging and the role of replies for the ramp up to intimacy and friendship (Table 1).

6.1 Replies: Giving and Getting Performance Support

Respondents most frequently described using replies to provide support to personal posts. We mean support as in receiving or giving an indication that the original post is valid, which gives or provides emotional comfort directly or indirectly through validation of the post.

During the deprivation period, the support given and received through replies was missed most. One type of support focused on light emotional support for text posts recounting personal difficulties: *"being able to reply to personal posts of friends is one of my favorite uses of replies. It allows me to let my friends know that I'm there for them."*- P845 Quote 1

Replies were also reported as useful in getting information, feedback, and answers to questions within the context of a post: *"Tumblr replies just allow for genera[sic] community and conversation... I've used it to ask for advice on running and working out, movie and book recommendations, traveling advice, general kudos/high-fives, etc."*- P3808 Quote 2

Here, replies provide support and validation for any kind of performance, such as asking for topic-specific advice or recommendations. The performance of asking for information creates an expectation that an audience or group of friends or followers will provide that information. That information must be provided for the original poster to maintain dignity, preserve reputation, and avoid humiliation or embarrassment. A key aspect of support was not leaving a person's post 'empty', or without any comments. Users described how it would seem sad or depressing if someone posted and no one acknowledged it.

Acknowledging performance and giving information support was seen as contributing to the feeling of social community: *"they're just great for either giving a little 'ayyy, I feel ya' to someone's personal post, for answering questions quickly and succinctly, and just in general for casual little interactions that make Tumblr feel far more personal and connected."* - P865 Quote 3

A type of post that mixed information and support were requests for feedback on artistic work. Those posts yielded supportive statements as well as useful feedback.

The lack of replies during the deprivation period prompted respondents to reflect on how supportive actions felt easy with replies compared to other options. *"A friend of mine posted a very personal post about their day and i replied with a quick "im sorry that happened to you, i hope things go better for you in the future" and that was it. There was no pressure to resond[sic] like in messaging, and i didnt[sic] have to spread around their personal post. It was a more personal response than just a like as well."* -P106 Quote 4

As respondents discussed support given through replies, many also discussed how other channels for communication were not quite right for it. As the previous quote describes, paralinguistic actions (liking) can fulfill this need, however replies were "more personal." Further, the 'like' was described as an insufficient alternative indication of support as its meaning could be misinterpreted. For example, a like may feel like an appropriate response to a post about a new job, but may not be appropriate for a post about a negative personal experience. This quote refers to messaging and "spread"-ing around the post, which refers to reblogging. Each of these are unpacked in upcoming themes.

6.2 Reply vs. DM: Wrong Frontstage for Support

Replies were used to give lightweight and casual emotional support and performance support; participants remarked that direct messages were not suitable for that purpose.

Replies, similar to likes and reblogs, are mediated by the post artifact they are attached to, which provides a specific context for social interaction. A reply to a personal story can therefore be a single expletive that only makes sense when viewed in the context of a post. In contrast, respondents pointed out that they had to reiterate the context in a direct message: *"it's clearly to do with a*

specific post and it's a lot like messaging without having to message someone and explain what your message pertains to" -P989 Quote 5.

Replies provided an explicit mechanism to give and get support while being tied to a particular post, and thus in context.

Another reason that DMs felt less appropriate was that respondents described them as overly forceful: *"I mostly use replies to yell at my mutuals when they post something ridiculous which is exactly why we need them back bc it's weird to send a whole separate message to just be like "lmao shut the fuck up nerd"* -P1009 Quote 6.

Respondents explained that direct messages had different social characteristics than replies. Messaging someone directly would pressure the person to respond. Respondents described DMs as "awkward", "belligerent" and "uncomfortable." One respondent shared a metaphor for replies versus DMs with socially appropriate or inappropriate conversation: *"Think of it like walking by someones[sic] yard and saying 'hello! i like your flowers!' without getting super personal and talking to them extensively about their flowers, and potentially starting an awkward conversation."* -P4006 Quote 7

Respondents stories conveyed that replies felt sufficiently personal but not overly. One aspect of the forcefulness is the lack of casualness of effort. A reply is a low-effort interaction, with relatively few clicks and no need for recontextualizing. Replies felt 'immediate' in a way that asks, fanmail, and the new message system do not. They were in context, and also proximally 'close' to the original post regarding their placement in the Tumblr interface. This theme included responses on the pragmatic communication effort, in terms of interface actions, as well as the communication effort of being within or outside the context of the original post.

The reply was a practical, low-investment interaction and facilitated a sense of connection to other people – like nodding to an acquaintance or telling a coworker you like their shoes today. It was considered "social lubricant" and "social glue," which may be related to social grooming practices [27]. Social interaction often entails expectations for reciprocity and mutuality [29], thus a low-investment interaction through replies meant low-expectations in return. Further, if users invested more in an interaction, their recipient may feel expected to invest. This inappropriate demand for investment was "awkward." Using Goffman's theory, we describe the type of performance demand in DMs as a forced performance in real-time [33]. Direct messaging was seen as an unacceptable alternative to replies because of that pressure. Replies felt casual – others could opt-in to contribute to the conversation, and more importantly, there were no implicit expectations for a response.

DMs are private, yet they entailed a performance demand and were not "backstage". Analysing this theme led us to clarify that the term "fronstage" performance can describe private, public and semi-public methods of interaction. For example, a public blog post tends to be a frontstage performance because the blogger is performing an identity through the blog. The identity performed in a private one-to-one DM conversation can also be a frontstage — the audience may only be one person, but the communication is thoughtfully crafted and not "backstage". Clearly, the identities performed in private frontstage to one person can differ from the performance in a public blog to one's followers. Alternatively, if a one-to-one direct message is with a close friend and doesn't require a crafted performance, then the DM interaction is "backstage" performance. Moreover, a DM that begins as an intentional frontstage may gradually relax into a backstage.

Participants wanted to support one another, but the norms around direct messaging created inappropriate and high performance and interaction stakes. DMs lacked context and created demand characteristics due to requiring more effort, which felt socially awkward. Respondents also discussed the reblog channel that they compared with replies, which we describe next.

6.3 Reply vs. Reblog: Wrong Frontstage for Support

This theme expands on the notion of giving support and on the characteristics of the reblog channel that made it sometimes appropriate and at other times, inappropriate, for this purpose. Users can reblog posts to publicly support others' performances, when the content fits. For example, for a reblog to work well, the original post should have content that is appropriate for their own frontstage performance, and optionally they can also add a caption if that caption fits with their frontstage performance. When either content doesn't fit, reblogging wasn't the right option to show support.

"Replies are also awesome because it prevents me and others from adding content to our blogs which differs from our usual content and makes things messy for ourselves and followers." -P1612 Quote 8

Users are often mindful of what they post to their tumblr as it is expected that all of their followers will see this content. Tumblr users use the reblog function extensively if the action of reblogging and the content make sense as part of their main frontstage performance. Respondents described when this was not the case. Users were unwilling to reblog if reblogs simply did not "fit" with their blog. The next quotes shares a specific example when the reply was appropriate given that the type of content in the original post did not fit with their main blog:

"A user I follow asked for fanfiction recommendations, and I was able to send one that ended up becoming her favorite without having to reblog her post, which was good because many of my followers disliked that fandom." -P188 Quote 9

Users emphasized other factors when reblogging an original post didn't work well. If they wanted to make a comment in context of that original post, reblogging could also work well because reblogging allows a caption to be added. However if the comment they wanted to make was conversational in nature, it seemed inappropriate for their followers: *"I was unable to reblog because it'd be weird to have that conversation on the dash, and at the time we weren't really familiar enough for me to send an ask. The reply acted as a stepping-stone communication."* -P110 Quote 10

When discussing the desire to respond to a personal post about their day and remarking that they didn't want to have to *"spread around their personal post."* (Quote 4), they are referring to the fact reblogging is a another way to include context along with a comment, however it was seen as inappropriate for personal posts. For personal posts, there are two concerns: first, the concern of content inappropriate for one's own performance, and second, what if the poster does not want their post reshared? The original poster's expectations of their intended and imagined audience [59] would no longer be accurate. Sharing the post with the reblogger's followers would break contextual integrity because the original poster may have expectations about the privacy of the post [9].

For this theme related to the reblog channel, respondents wanted to manage their frontstage activity to keep their frontstage identity consistent, and to keep their audience satisfied. Users didn't want to "spam" their followers. They expected their followers would not be interested in some content or would be confused seeing snippets of a conversation over a reblog chain. They missed replies because they were able to support another without needed to engage in reblogging that conflicted with maintaining their own cohesive frontstage performance. The next theme describes how the audience to replies were perceived as appropriate for support.

6.4 Not Too Private, Not Too Public: Just Right for Support

The survey was administered during a period of time when replies were unavailable. As expected during a deprivation period, respondents were attuned to the visibility and social demands of other channels and compared how they felt different. This themes centers on how respondents described the semi-public and semi-private nature of replies.

Replies were public in that the comment was publicly visible to others. This contrast of visibility compared to DMs is different than the demand characteristic emphasised in the second theme "Reply vs. DM: Wrong Frontstage for Support." Tumblr users wanted to support posters' public performances publicly rather than through private channels. Replies entailed publicly adding to artifacts where others could view and join in. These public responses not only supported the poster, but also enabled replying users to reach new audiences.

Replies were semi-private in that the comment was "tucked away" within the original post's notes. Replies were described as intended for a) the poster and b) others who reply to the same post, and c) those who click in to the notes section to view replies. In the following story, the respondent describes how they had these audiences in mind when replying:

"The last reply interaction I was able to have involved helping a European who was planning a visit to the US, including choice of NYC airport, where to stay in Manhattan, and how to navigate the MTA: all specific to her situation, but since she was planning a trip w/ other[sic] of HER mutual followers, it didn't need to be utterly private." -P3107 Quote 11

Respondents missed the semi-public nature of replies to give support, because the action of giving support was not a fully backstage action. An audience was present, and this audience was a selected audience of Tumblr users who would be engaged with the original post. From the perspective of the user who is replying to give support, this audience could potentially be a valuable group of new friends or followers. Here, we see a convergence: a reply is simultaneously performing support (being a supportive audience to the poster) and performing one's main identity and reaching one's own new audience through replies. The semi-public, semi-private and uncertain audience leads to a new class of action that could be understood as partially frontstage and partially backstage.

6.5   Reply to Ramp up Intimacy

Performance support was the main purpose that was reported on from Tumblr respondents. The other major purpose discussed was how users used replies to develop intimacy. Participants explained that replies were critical in facilitating closer relationships: *"A couple years ago one of the fandom blogs I followed was asking for help on a personal project they were doing for a different fandom. I was interested so I replied to their post. That kicked off our correspondence, and soon we were mutually following each other, sharing our Skype contacts, and eventually becoming long distance friends. I'm still friends with them to this day!"* -P75 Quote 12

In this case, we see a friendship starting with the original poster. Another case was connecting to followers of a friend: *"Tumblr replies were what let me connect to my mutuals and meet new people. One of my mutuals posted about her writing, and myself and another of her friends replied, and after a few interactions her other friend quickly became my friend."* -P3825 Quote 13

Replies opened up a new relevant group of audience in a way that easily facilitated following up with members of that group. Respondents deepened relationships over a series of interactions (through replies and eventually into DMs) that progressively became more personal, more demanding of a response, and intimate.

Respondents also shared how replies were meant to reach various people in the audience, including the original poster. Respondents explained that they started with casual communication mediated through artifacts that the other person has put forward publicly (which fits the social norms around the role as audience member). In other words, the replies feature allowed them to start a casual conversation with the original poster within the context of the original post. They used the casual interactions through replies to build up to communicating with the person directly through DMs. A direct message initially seems too demanding for an audience member of the original post. Demanding an intimate interaction from an action meant to a large audience is akin to a forced performance. The relationships needed to be strengthened and grow out from the

original post to merit the intimacy involved in DMs. Respondents use replies as a transition to creating a new frontstage for this newly formed relationship. The DMs constitutes a new frontstage where parties engage in different identity presentation actions than would be appropriate for other frontstages. For instance, someone could have a serious blog but engage in a flirtatious identity in a particular DM. The relationship progression that we saw described related to the use of replies is in line with existing literature that describes progression of human relationships: progressive self-disclosure along with responses that relate the other's disclosures increase the probability of relationship development [29]. Our findings relate to this because initial communication began in replies and then progressed to communication in DMs. If the newly formed relationship progresses toward a closer relationship with more relaxed communication, the DM could evolve from being a frontstage to becoming a backstage. It is necessary to relate performance theory to relationship formation because the DM channel can remain the same, and the participants in the communication can remain the same, but as the relationship progresses with unselfconscious actions, the context of the DM changes from a frontstage to a backstage.

7 DISCUSSION

Tumblr removed the commenting feature replies and Tumblr users demanded them back. We made use of this deprivation period to ask users about what they missed. The resounding response was 'support.' Hundred of responses converged on their description of how replies enabled them to give support to others and receive support from friends and community members. The second and less prevalent answer that they missed replies a pathway leading to new friendships.

The period of the removal of replies was an invaluable research opportunity: users were left to continue their social media use "as usual" without replies, which made them aware of what was and wasn't different and what was and wasn't working. What we heard back involved appropriate ways of giving and getting support and the ramp up to intimacy. Users could have given support through other channels. Our themes unpack how our participants felt those channels were inappropriate for support purposes.

The theoretical lens of identity presentation helped us understand the patterns we observed. We saw that users needed to simultaneously publicly support others' performance as well as their own, in the same action. The public yet private nature of replies enable this in ways that reblogging and direct messaging do not. We also found that people felt that they needed replies for the delicate progression to friendship.

Our work unpacks limitations of performance theory in describing how social media interface characteristics can foster perceptions of limited audiences that then yield more casual performances: "Facebook is a 'public' site, yet offers an illusion of 'private' space through privacy settings, while still rendering basic profiles compulsorily public." (p.4. [64]). We push beyond the public / private dichotomy to describe interactions that reside within the "semi-private, semi-public" space of replies.

Our research was framed to better understand the value of constructive interactions around replies in the pseudonymous platform Tumblr. Within the context of political or news-related media, research finds that uncivil, aggressive and destructive comments occur more frequently when users post anonymously [70, 71] whereas for personal topics there are no differences [5]. With regards to news, anonymity was associated to a larger number of negative comments while personally identifiable Facebook comments were higher quality and fewer in number [39]. As news platforms close down comments [69], better understanding the mechanisms for how identifiable and pseudonymous comments facilitate constructive support on social media can help us identify situations where pseudonymous comments are dangerous (such as in political and news sites) and protect situations where they are beneficial to users, such as around interest-based communities.

The supportive actions in social media that we identified may have been amplified by the positive framing, but are also in line with other recent work. Andalibi and Forte also find that potential responders need to manage their own needs such as need for privacy and impression management with that of the poster's [4]. When social platform users seek support explicitly (e.g., asking questions) they are more likely to get responses [5]. When encountering others' social media posts with questions, that type of directness helps other users decide to respond in the comments [3]. We found that in using the reply channel on Tumblr, people were able to avoid channels like DMs that felt too intimate to them and still provide support. Prior work [4] shows that relational closeness is a factor that contributes to people's decision to engage with others' social media posts; when a potential responder feels close to the poster, they might DM them or use a variety of response methods (e.g., DM and reply); but when that closeness does not exist to begin with, they use comments.

DeVito et al. found that Tumblr's interface afforded high presentation flexibility, low identity persistence, and low audience transparency [21]. On the one hand, our participants seemed in tune with the audiences of their main blogs in the sense that they considered the visibility and acceptability of of all their frontstage actions from the imagined perspective of this audience. On the other hand, the audience for replies was less obvious; respondents did not perceive their actions in replies to present a conflict. They used replies as if it would not be available for their main audiences, yet they considered replies semi-public. In the case of a limited and uncertain audience, Tumblr users changed their performance, and in particular were able to perform support without compromising their main frontstage, which we discuss next.

7.1 Performance Theory and Comments on Social Media

Our research focused on replies as an interstitial stage that allowed for performing support and identity. We found that removing replies could bring conflict arising from users' simultaneous roles of audience and performer. When supportive actions on others' posts fit with one's own frontstage identity, there was no conflict. In cases without conflict, the user acts on a channel that simultaneously meets one's own needs as audience and performer, such as retweeting, resharing or reblogging content that matches content the user tends to share. Conflict arises when supportive actions do not fit with one's frontstage identity. For example, a friend posts content and asks their friends to share it, but the user feels conflicted because the content does not match content that the user tends to share. Conflict also arises when direct messaging is not a viable support channel due to high stakes social norms.

Replies were a channel that resolved the conflict between the roles of audience and performance (Table 2). Replies were described as semi-private and as public "but not too public", thus describing a space with a perceived limited audience. Commenting in replies is a performance because it adds content or exhibition to a post. The performance of commenting on a post is simultaneously giving mundane performance support to the original poster, as well as being a performance act that reaches the new limited audience.

The stage of replies has social demands that are casual and less threatening than one-on-one communication, less crafted than full frontstage displays, but more akin to group conversations. The channel can be leveraged to lead to deeper relationships with those in the limited audience, including the original poster and others who commented in the thread. The stage was seen as a stepping stone needed to relax the public frontstage actions to then transition to the one-on-one frontstage performance in DMs. Goffman's theory lays the groundwork for presentation of self on social media and inspires us to account for how users present their identities within the semi-public space of replies. We do not conflate public with frontstage and private with backstage. Posting, reblogging and direct messages are all different frontstages that cater to different performances:

Table 2. Goffman's performance theory applied to social media channels, based on empirical results from a deprivation study.

Stage	Social Media Channels	Audience
Backstage: unselfconscious, performance not crafted	Direct messages	Those who do not elicit a performance (e.g., one's closest friends)
Frontstage: crafted performance	Direct messages	Anyone who elicits a performance (e.g., acquaintances)
	Posts and tweets	Followers
	Reblogs, shares, retweets with or without a caption	Followers
Frontstage of replies: partially crafted, compromised performance	Replies and comments	Uncertain but perceived as limited

the first two to a main blog identity, and the latter to progression toward a relationship with greater social demands. Participants discussed how actions through replies were different when completed through other channels because of different audiences and social norms. The stage of replies is unique by diffusely reaching a limited audience, who might be considered "closer" because they are connections of connections, whereas reblogging is diffuse to a large public audience and direct message is targeted to a single audience. Direct messages, and in fact any stage can become a backstage when performances relax to becoming unselfconscious, because "By invoking a backstage style, individuals can transform any region into a backstage." (p.88 [33]). For example another strategy to handle conflicts between frontstage and backstage actions is to espouse multiple identities. A person may own a blog with only three followers who are their three closest friends, and in this case, this particular blog is a backstage instead of a frontstage. Then, all posts and reblogs to that blog would be backstage actions. When users were comfortable with another and did not feel the need to perform, they could use direct messaging as a backstage. In this case of knowing someone well enough to feeling unselfconscious, a user can send a DM without feeling like it carried a burden of awkward intimacy. The contextual shift of the DM as a frontstage and backstage is why it is necessary to relate the performance theory and relationship formation. The stage of replies differs from a main identity frontstage such as a blog, because, as audience members, users partially relax their own main frontstage style to support another's post. Replies are not backstage because there is identity performance to a limited group composed of the original poster and of others who are interested in the same original post.

The simple metaphor of the front- and backstage masks the disparities between them. There are innumerable frontstages—a new one adapted to the makeup of every new audience—and a single backstage: "In general, of course, the back region will be the place where the performer can reliably expect that no member of the audience will intrude." (p.70 [33]).

Goffman asserts that there might be blends of front and backstage actions, however in application, a backstage is a region where activity is fully casual, and once there is a hint of outward performance, the region is newly described as a frontstage. Meyrowitz introduces a middle region but admits that the "middle region behaviors are simply new front region behaviors."(p.48, [62]). The simplicity of the front and backstage are a strength as well as a limitation of performance theory.

Meyrowitz introduced the "deep back" and the "forefront" region to describe coarser backstage and more pristine frontstage styles. But these along with front and backstage create a false axis for performances that are crafted along complex dimensions. A continuum from backstage to front is inadequate to describe the different qualities of performances for different audiences, and at worst, implies a false sense of "more" and "less" authentic, which has been critiqued by others (e.g., [16]).

The performances in replies were digital exhibitions [43], which where both "focused" and "unfocused" [34] because performances catered to the original poster or interested readers as well as to Tumblr users who may happen to scan through. Hogan asserts that performers on social media "may possibly never know the audience" (p.381) and that expectations may be formed on whether digital content is *addressed* versus *submitted* [43]. We posit that the interface pattern for comments on social media platforms (i.e., a box to submit text or content associated to a main post) blends these concepts, and thus fosters a type of performance that caters to both at once. Performances in replies seemed "sidestage" [62] because they were less extreme versions of front and backstage performances. Another influence on performance is the perceptible boundaries of the performance stage. Replies appeared more constrained to Tumblr users compared to posts and reblogs. Participants related that replies were hidden behind a click, so more difficult and rare to reach. We posit that both replies' input interface pattern, and how replies are displayed, led to a perception of a more limited audience. Research on design found that the addition of a partial enclosures around poker tables led to clients betting higher amounts, though the hypothesized mechanism of feeling more safe under the enclosure [74]. We believe that the digital enclosure of replies led to participants perceiving a more limited potential audience, and thus feeling safe to engage in more casual performances.

In summary, the following characteristics of replies may lead to more blended performances compared to other social media frontstages:

- digital enclosures for input and display provide perceptible boundaries,
- audience uncertain but perceived as partially "unfocused" and limited.

7.2 Practical Implications

Tumblr removed replies in preparation for launching a new messaging system. Analysing how the new communication channel differed from replies led us to better understanding how visibility and social demand characteristics of replies enabled them to serving particular performance needs for users in online communities.

We offered preliminary insights to Tumblr staff in February 2016, which at the time, consisted of preliminary themes around how replies enabled users to support each other and feel connected to their communities. These preliminary results contributed to an expanded relaunch of the reply in March 2016 that better supported performance and communication in several practical ways. Replies were more widely available, and the functionality was included on reblog posts instead of only original posts. In the interface of the revised replies, reblogs and likes were "rolled up" in order to emphasize users' written replies and reblog captions.

Our findings regarding performing support apply to the wider ecology of social networking sites. Commenting on posts is a core and common form of interaction on Tumblr, Facebook, Instagram, Reddit, Twitter, etc. In one sense, this feature functions similarly across these platforms: enabling one to post to a limited audience (i.e., connections of a followed connection), and sometimes available to browse publicly depending on users' settings and site's features. Understanding how these spaces are used for performances of support and identity helps HCI researchers and social media platform designers to better understand how user content differs between comments and other channels on all of these platforms.

The notion of a limited but uncertain audience may help platforms display relevant data to users by suggesting the scope of the appropriate audience for post-related comments. The identified audience of replies helps platforms conceptualize ephemeral, limited, contextual audiences (for example, the subset of users who happen to glance through the comments of a particular post). In social media, users have relatively stable or enduring audiences, such as all followers, who may be include contextual groups such as friends from high school, colleagues from work, relatives, etc. We point out another kind of audience, one that may appear more limited as it is uncertain and transient because it exists in the context of each post in interest-based groups and communities. We can relate those transient audiences to other concepts, such as context collapse [61]. For example, Facebook sends a notification to Pat if Pat's FB friend Chris commented on a post in a Facebook group that Pat and Chris are both part of. The notification directs the Pat's attention to the comment rather than the original post, and so Pat lacks context when reading Chris' comment without first understanding the context of the original post. The notification may be irrelevant to Pat, as Chris directed their comment to the limited audience of those interested in the initial post. This example shows context collapse between an ephemeral interest-based limited audience to one post, and an enduring friendship group. A design implication from this type of context collapse is for social networks to treat comments on posts in interest-based groups differently differently than comments on posts authored by mutual friends; if the comment was created for a subset of an interest-based community, it may be less relevant to wider audiences and thus should wider audiences should not be notified of its existence. Instead of notifications to an existing contact network, the post and comment could be highlighted to others; users contributing comments to similar interest-based post may be more interested in similar follow-up comments. They may be interested in other users who tend to engage with the same content or type of content that they do. Similar comments on highly similar posts could be included in the feeds of others who are in the same interest-based group, as the results of our project show that this may encourage new relationship formation.

8 CONCLUSION

Social media post comments may seem inconsequential or redundant to other interaction channels at first glance, however, we found that comments were a critical channel for actions that simultaneously support others' as well as one's own identity performances. Post replies and threaded comments resolves the conflict of these conflicting goals by inhabiting a semi-public/private space on social media with a limited, uncertain audience. This stage allows for actions that differ from the most consciously-crafted fronstage actions, like adding to an exhibition broadcasted to one's followers and sending the first DM in a new friendship, and from unselfconscious backstage actions, like messaging with an old friend.

On social media, where people are both consumers and producers of content, our findings highlight the importance of designing not just for public and private, or for frontstage and backstage, but also for interstitial spaces where people can momentarily relax their own performances of identity in order to engage as supportive audiences for others.

ACKNOWLEDGMENTS

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A APPENDIX: SURVEY

The following is a selection of survey questions, not including invitation to participate in future studies.

(1) How old are you?
(2) What is your gender?
(3) Do you work in any of the following fields? (Select all that apply.)
- Social media content, strategy, or management
- Hardware technology company
- Company involved in internet-related software
- An internet, dot.com or mobile app company
- A mobile phone or services provider
- None of the above
(4) Do you create any of the following type of content to be shared online? (Select all that apply.)
- Writing
- Photos
- Gifs

- Artwork
- Videos
- Blog posts
- Other (Please specify.)

(5) How often do you create personal content that you share on social media? (This could include photos, images, gifs, artwork, writing, videos, blog posts, etc.)
- Never
- Less than once a month
- A few times per month
- Once or twice a week
- Multiple times per week
- Once a day
- Multiple times per day

(6) Thinking about either work, school, or for personal use, how often do you use the following? *Note: the items below given in a frequency matrix.*
- Facebook
- Twitter
- Pinterest
- Instagram
- Tumblr
- YouTube
- Vine
- Snapchat
- Reddit
- WordPress
- Medium

(7) Which of the following devices do you use the most to access social media? (Select one.)
- Smartphone
- Laptop or desktop
- Tablet
- None of the above

(8) Do you currently have a Tumblr account?
- Yes
- No
- Don't know

(9) How long have you had your Tumblr account?
- 6 months or more
- less than 6 months

(10) Have you ever used replies on Tumblr?
- Yes
- No
- Don't know

(11) In a few sentences, tell us a story of when you used a Tumblr reply and it was awesome. What was the post? What was the interaction? Why did it work well?

(12) (Optional) Share a link to the Tumblr post and/or reply from your story (above).

(13) Previously, how did Tumblr replies work? For example, were replies available on all posts or on only certain ones?

(14) In the future, what is important to you regarding replies?