



# Anonymity in Online Communities

Research Synthesis by Kaylea Champion; Design by Tommy Ferguson

Recent research demonstrates the value of anonymity-seeking users in online communities and the opportunities to innovate around anonymity-preserving features.

- For some people, anonymity is necessary for safety.
- Service providers often do not take up the perspective of anonymity-seekers but instead think about openness as a source of risk.
- Barring anonymity-seekers from a community also has risks and leaves a segment of the population underserved.
- Anonymity-seekers often behave like average users, and are particularly similar to newcomers and casual participants.
- Anonymity-seekers sometimes offer unique value or may tackle important high-risk tasks (e.g. moderating against conspiracy theories).
- There are viable alternatives to barring anonymity-seekers from communities.

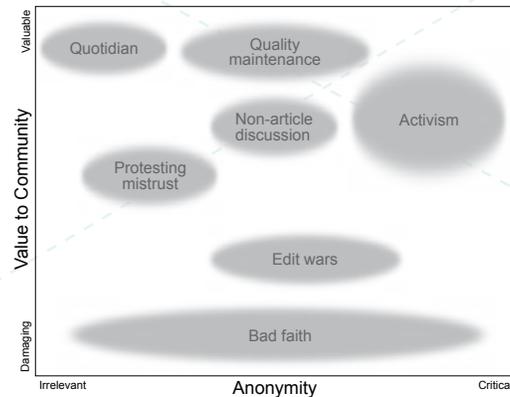
## 1. Anonymity-seeking can be necessary.

Although privacy-seeking online behaviors are sometimes a personal preference, anonymity is necessary for some users' safety. In a series of interviews, contributors to Wikipedia and people using the Tor network to preserve their privacy shared that they negotiate a wide range of risks—including harassment, violence, and reputation loss (1). Individuals may be targeted by abusers, stalkers, oppressive governments, hate groups, or identity thieves based on their online activities. For some people, being able to keep identity information private is what allows them to use online services in the same way as the rest of society.

## 2. Both openness and closure carry risks.

Service providers often think about openness as a source of risk, citing threats such as: *norm violation threats* like harassment, *volunteer threats* like the failure to attract participants, and *low quality contribution threats* like vandalism and spam (2). In discussions about anonymous contributions to Wikipedia, anonymity-seekers were not part of the process and their perspective was not represented. In order to participate in discussions about whether and how to support anonymous participation, one could not be anonymous.

Barring anonymity-seekers from a community also has risks and excludes a segment of the population. For example, requiring accounts can carry hidden costs (3), in terms of lost participation and engagement from both newcomers and established participants.



This chart illustrates a way of thinking about the kinds of opportunities and threats associated with anonymity-seekers, using results of our analysis of Wikipedia (6).  
What valuable contributions to your community are enabled by anonymity?

## 3. Anonymity-seekers are often like everyone else.

Anonymity-seekers—even those evading attempts to block their participation—often behave much like average users and are particularly similar to newcomers and casual participants (4). Although anonymity-seekers may break community rules, their rule violations are likewise often similar to newcomers and casual participants (5).

## 4. Anonymity-seekers offer unique value.

Anonymity-seekers may tackle important high-risk tasks. On Wikipedia, anonymity-seekers were more likely than other groups to make contributions to articles about politics and religion (4). Anonymity-seekers also worked to uphold Wikipedia rules against conspiracy theories, spam, and self-promotion (6).

## 5. There exist viable alternatives to banning anonymity-seekers.

Some successful platforms treat anonymity-preserving features as a competitive advantage or allow easy creation of new pseudonyms or so-called throwaway accounts. For example, although Wikipedia is famously “the encyclopedia anyone can edit,” some Wikipedia communities have adopted a pre-publication moderation system. In this system, trusted users review the work of those contributing without accounts before the contribution goes live. The additional scrutiny did not reduce newcomer retention (10). This suggests that communities can make a pre-publication moderation system work, if it’s available to them.



## Community Strategy: Anonymity-seeking Users

**Think about identifiability as a privilege.** Anonymity-seekers are often vulnerable and under-represented when decisions are made. Many people have little exposure to the dangers that anonymity-seekers face. By contrast, others might lack the resources to easily recover from attacks, hold stigmatized identities they don't want revealed, or face risks such as domestic abuse or an oppressive government. Identifiability privilege may also be lost—online conduct that was once safe may become unsafe as laws change or a new regime strips away human rights protections.

**Consider options for keeping communities both safe and open.** In addition to moderating untrusted users' contributions (10), multiple technologies allow targeting of negative behavior without wholesale blocks on anonymity-seekers. These include privacy-enhancing technologies (PETs) such as anonymized revocable access tokens via systems like nymble (7) or techniques for generating one-per-person pseudonyms to counter the problems introduced by throwaway accounts (8).

**Measure the impact of identity policies.** Assessing the effects of identity policies can be difficult—since it involves people about whom you have limited information or who are not participating in your community. When considering a policy change with implications for identifiability, treat it like an experiment so that you can measure unintended consequences. To do so precisely, you might need to go beyond typical A/B testing and instead examine trends before and after a policy change. Statistical techniques like “interrupted time series” or “difference in differences” might be helpful.

**Look for positive spill-over effects.** Some policies against anonymity are implemented as part of rule enforcement. The argument for these policies is that more information about people deters bad behavior and supports effective punishment. However, even unwelcome behavior can have positive effects. Poor-quality contributions (like those made by newcomers or those without accounts) can draw the attention of expert contributors—indicating public interest in a topic, and sometimes encourage these experts to make other kinds of improvements while they're cleaning up the mess (9).

1. A Forte, N Andalibi, R Greenstadt. Privacy, Anonymity, and Perceived Risk in Open Collaboration: A Study of Tor Users and Wikipedians in Proceedings of the 2017 ACM Conference on Computer Supported Cooperative Work and Social Computing (CSCW 2017). <https://dl.acm.org/doi/10.1145/2998181.2998273>
2. N McDonald, BM Hill, R Greenstadt, A Forte. Privacy, Anonymity, and Perceived Risk in Open Collaboration: A Study of Service Providers in Proceedings of the 2019 ACM Conference on Human Factors in Computing Systems (CHI 2019). <https://doi.org/10.1145/3290605.3300901>
3. BM Hill, A Shaw. The Hidden Costs of Requiring Accounts: Quasi-Experimental Evidence From Peer Production. Communication Research. Preprint: <https://arxiv.org/abs/2111.10688>
4. C Tran, K Champion, A Forte, BM Hill, R Greenstadt. Are anonymity-seekers just like everybody else? An analysis of contributions to Wikipedia from Tor in 2020 IEEE Symposium on Security and Privacy (SP) Preprint: <https://arxiv.org/pdf/1904.04324.pdf>
5. K Champion. Characterizing Online Vandalism: A Rational Choice Perspective in ACM International Conference on Social Media and Society (SMSociety 2020). Preprint: <https://arxiv.org/abs/2007.02199>
6. K Champion, N McDonald, S Bankes, J Zhang, R Greenstadt, A Forte, and BM Hill. A Forensic Qualitative Analysis of Contributions to Wikipedia from Anonymity Seeking Users in Proceedings of the 2019 ACM Conference on Computer Supported Cooperative Work and Social Computing (CSCW 2019). Preprint: <https://arxiv.org/abs/1909.07929>
7. PP Tsang, A Kapadia, C Cornelius, SW Smith. Nymble: Blocking Misbehaving Users in Anonymizing Networks. IEEE Transactions on Dependable Secure Computing (2011). <https://doi.org/10.1109/TDSC.2009.38>
8. EJ Friedman, P Resnick. The Social Cost of Cheap Pseudonyms. Journal of Economics & Management Strategy (2001). <https://doi.org/10.1111/j.1430-9134.2001.00173.x>
9. AD Gorbatai. The Paradox of Novice Contributions to Collective Production: Evidence from Wikipedia. SSRN eLibrary (2014) <https://ssrn.com/abstract=1949327>
10. C Tran, K Champion, BM Hill, R Greenstadt. The risks, benefits, and consequences of pre-publication moderation: Evidence from 17 Wikipedia language editions in Proceedings of the ACM on Computer Supported Cooperative Work and Social Computing (CSCW 2022). Preprint: <https://arxiv.org/abs/2202.05548>

This research brief is made available CC BY-SA 4.0.



This work was supported by the National Science Foundation (awards CNS-1703736 and CNS-1703049).

Any opinions, findings, and conclusions or recommendations expressed in this material are those of the author(s) and do not necessarily reflect the views of the National Science Foundation.