Tea & Sympathy:
Crafting Positive New User Experiences on Wikipedia

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ABSTRACT
We present the Teahouse, a pilot project for supporting and socializing new Wikipedia editors. Open collaboration systems like Wikipedia must continually recruit and retain new members in order to sustain themselves. Wikipedia's editor decline presents unique exigency for evaluating novel strategies to support newcomers and increase new user retention in such systems, particularly among demographics that are currently underrepresented in the user community. In this paper, we describe the design and deployment of Teahouse, and present preliminary findings. Our findings highlight the importance of intervening early in the editor lifecycle, providing user-friendly tools, creating safe spaces for newcomers, and facilitating positive interactions between newcomers and established community members.

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User experience; new users; Wikipedia; gender; socialization; collaboration

ACM Classification Keywords
H.5.3. Information Interfaces and Presentation (e.g., HCI): Group and organization interfaces.

General Terms
Human Factors; Design; Measurement.

INTRODUCTION
SubSubPop23 has just joined Wikipedia and is excited about editing. The first article she creates is about her favorite San Francisco street artist, a local legend who recently died. But when she logs in a few days after starting her article to continue working, she sees that it has been tagged for immediate removal from Wikipedia because of "a lack of notability" and "few reliable sources". She feels confused, unfairly singled out, and frustrated. But above all, she is concerned that she is about to lose all of her work. She clicks through the links on the deletion message, and tries to make sense of the process for contesting this

decision. She finds the process to be overly complicated, and the whole experience feels impersonal. What does she need to do to save her article? What counts as notable on Wikipedia? How does she add a reliable source? Who does she need to convince to keep her article online while she works on it? Will anyone even respond to her inquiries before they delete her article?

The scenario above illustrates some of the challenges of being a new user in an established online community. All open collaboration systems require a pool of volunteer contributors to function. Since all participants in such systems will eventually stop contributing, a steady stream of newcomers must join the community in order to maintain productivity. In systems like Wikipedia where 0.01% of editors contribute 44% of the encyclopedia's value [25], it is critical that some of these participants move from the periphery of the community to the center and become 'Wikipedians'—power editors who not only write and edit articles but also perform critical quality assurance and community organizing roles such as coordinating group work, fighting vandalism and recruiting and socializing the next generation of editors [1].

Historically, the English language Wikipedia has been effective at recruiting and retaining new editors. The community grew from hundreds of active editors in 2001 to a peak of 51,418 active editors in March of 2007 [29]. The contributions of many volunteers have propelled the encyclopedia to a high level of quality and comprehensiveness [10].

Editor decline: newcomer rejection and the gender gap
However, after 2007, Wikipedia's exponential growth stalled and the population of active editors (those who make more than 5 edits per month) began to decline. Research has shown that this decline is likely due in part to a growing resistance within the community towards new contributions and new contributors [26]. Moreover, the overall proportion of edits that are subsequently reverted by other editors has increased year by year, and this increase in reversions disproportionately affects occasional contributors, creating a growing disparity between the proportion of reverted edits by editors who make fewer than 10 edits per month and higher-volume contributors [26].

The Increasing rejection of new editors

The likelihood of rejection for new editors has also increased as the encyclopedia has aged [12], a phenomenon that can have a powerful demotivating effect on newcomers: it leads them to edit less and stop contributing sooner [13].

The increased scrutiny to which new editors are subjected is understandable given that Wikipedia's increasing popularly has made the encyclopedia more vulnerable to vandalism and self-interested editing. However, recent work [12] has demonstrated that the proportion of newcomers who edit in 'good faith' has in fact held relatively constant since 2006, even as the rate at which these newcomers are rejected has risen in step with overall rejection rates.

Taken together, these findings suggest that while new editors in 2012 are no less capable of high quality contributions than previous generations of newcomers, the community appears to increasingly dismiss the efforts of good faith newcomers who would benefit the encyclopedia by continuing to contribute.

A persistent gender gap

Another probable factor contributing to editor decline is the encyclopedia's inability to recruit and retain editors from outside the traditional demographics. According to a 2011 survey [30] of 5,287 current and former contributors, the average Wikipedian is around 30 years old, male, computer-savvy, and lives in the U.S. or Europe. Nowhere is the homogeneity of the community more evident than in its gender distribution: although the community has aged and grown somewhat more geographically diverse since its inception, the proportion of female editors has remained very low. The 2011 editor survey reported that only 8.5% of active editors are women [30].

Another recent study [19] of new editors found the proportion of female newcomers to be 16%, nearly double the site-wide average. This suggests that the attrition rate for female editors is even higher than for newcomers in general. The same study also found that female newcomers tended to participate at a lower rate than their male counterparts overall, see their edits reverted at a higher rate, and leave sooner. Post-hoc analysis of data gathered from a previous survey [11] of over 50,000 Wikipedia readers and editors contextualizes these findings: female editors rated their satisfaction with editing lower than men on average, citing negative social factors (such as the degree of conflict and hostility they experienced) at a higher rate than male editors [4].

The gender gap has had a quantifiable impact on the quality and coverage of the encyclopedia: articles on topics of interest to female editors received less coverage than those of interest to male editors, and articles within those topic areas were shorter on average [19]. The persistent gender gap represents a significant missed opportunity for increasing the pool of dedicated Wikipedians.

Figure 1: The Wikipedia Teahouse main page

The decline in the average tenure of new editors and the community's inability to retain female editors point to potential systemic flaws in the new user experience of Wikipedia, particularly the way the community socializes new contributors. Increasing the overall proportion of new editors who become Wikipedians, and boosting female participation in particular, requires new solutions to old challenges.

TEAHOUSE: A PLACE FOR NEW EDITORS

In this paper, we will first identify several common challenges that new editors face—isolation, intimidation and limited opportunities for socialization—and highlight their potential impact on female editors in particular. We then propose a comprehensive strategy for addressing these challenges through early outreach and social support, which we have implemented in a new support space on Wikipedia called the Teahouse[1].

The Teahouse (**Figure 1**) is designed to boost overall editor retention and narrow the gender gap in a scalable, sustainable way: it provides early, positive socialization opportunities for more new editors and creates a 'safe zone' for interactive community support. New editors who might otherwise stop editing are provided with proactive help to learn the ropes of Wikipedia.

At the Teahouse, new editors (called *guests*) have the opportunity to introduce themselves and have their questions answered by patient, friendly Wikipedians, called *hosts*. A welcoming atmosphere and simple, user-friendly tools reduce intimidation and isolation, and an active volunteer base encourages sustained community involvement.

We will present data from the Teahouse pilot period, from February 27th through October 11th 2012. We report overall participation data and results from four editor surveys deployed during the pilot. We compare the reported satisfaction scores of male and female participants. We also compare the experience of participating in the Teahouse *Q&A board* with another help space, the Wikipedia *Help Desk*.

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[1] http://en.wikipedia.org/wiki/WP:Teahouse

We then analyze the impact of Teahouse participation on new editors' subsequent editing activities. We conclude with a discussion of the broader significance of the Teahouse and the limitations of our pilot study, and outline possible next steps for research and design.

Challenge #1: missed opportunities for socialization

Moving from a newcomer in an online community to a power user involves a series of difficult transformations. Ducheneut [6] found that successfully becoming a full-fledged member of an OSS project involved a complex process wherein the new member acquired relevant expertise, constructed an in-project identity based around valued work, and learned how to participate successfully in the political life of the community. Bryant describes a similar transformative process involving the acquisition of local expertise and identity formation among new editors who go on to become highly active Wikipedians [1].

Unfortunately, the vast majority of Wikipedia newcomers do not make this transformation. 60% of new account creators never make a single edit after their first day, and even among the newcomers who are most active during their first 24 hour period, only 8% go on to become Wikipedians: editors who have made at least 250 edits [23]. Common struggles that new editors face include finding tasks to do [17], locating help resources, learning the 'wikitext' markup language [20] and navigating Wikipedia's complex system of policies and guidelines [2].

In many organizations, formal mechanisms such as new member orientations and mentorship programs exist to help shepherd newcomers through this identity transformation and promote the adoption of pro-social norms [22]. While community-created mentorship programs exist on Wikipedia, these programs operate on a relatively small-scale. A study of one of the most successful programs, Adopt-a-User, found that it had served approximately 1,000 new editors between 2006 and early 2011 [21]. However, during that same period more than 7,000 new users created an account and made 10 or more edits *each month* [29]. While one-on-one mentorship affords a high degree of personal interaction and a high quality of support, the coordination cost of implementing it at the scale necessary to reach a substantial percentage of good-faith newcomers may be prohibitive.

Other support mechanisms on Wikipedia may also promote pro-social behavior and improve editor retention. Unfortunately, these mechanisms are not always easy for new editors to find. Joining WikiProjects (topic-focused, small group collaborations among editors) can provide a sense of belonging and motivate contribution [7], and tools like SuggestBot can help users find useful tasks that match their interests [5], but new editors may not be aware that these opportunities exist. They are not suggested to new editors by default, and links to these and other potentially helpful community-created resources are not prominently surfaced within the interface.
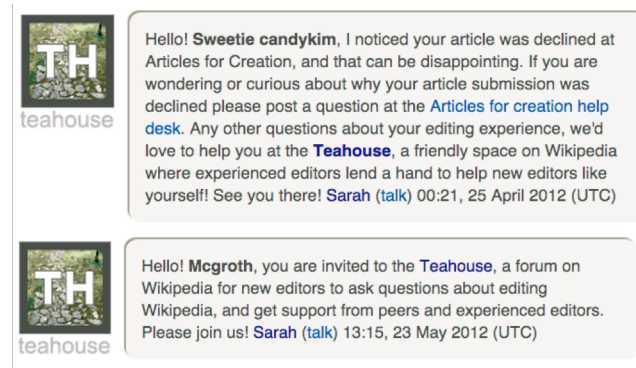

Figure 2: Teahouse invite template messages for declined AfC submitters (top) and for brand new editors (bottom)

Strategy: Offer support to more newcomers, earlier

The high and rapid newcomer attrition rate described by Research by Panciera [23] suggests that there is a very narrow window of opportunity for new editor outreach and socialization: most new editors stop editing within their first day, before they know their way around well enough to find the help they need or learn how to productively contribute. Contacting these editors before they give up or lose interest, ideally within the first 24 hours, and alerting them to opportunities for editing support and human interaction could increase the number of newcomers who go on to become Wikipedians.

In order to help Teahouse hosts reach out to more new editors during the critical first 24 hours, we wrote a script that published an automated daily report of 'promising' newcomers to a wiki page,. Following previous research [12, 23] on early editing patterns associated with an increased probability of retention, the report contained a sample of new editors who had joined within the past 24 hours and had made at least 10 edits. We excluded editors whose accounts were currently blocked from editing for vandalism or disruptive behavior. Hosts viewed the contribution histories of these editors and selected those they wanted to invite to the Teahouse. This report facilitated invitation of 40-60 new editors per day.

Teahouse hosts were also encouraged to monitor the new editor contributions filter[2] and the Feedback Dashboard[3] for potential invitees, and to invite newcomers who had recently had draft articles declined by the Articles for Creation committee.

Previous research has also shown that using personalized welcome messages and including contextually-relevant information in invitations can encourage participation in online communities [3, 15]. We designed several personalize-able Teahouse invite templates for hosts to place on new editors' talk pages. For example, newcomers who were invited after having a proposed article declined by the Arti-
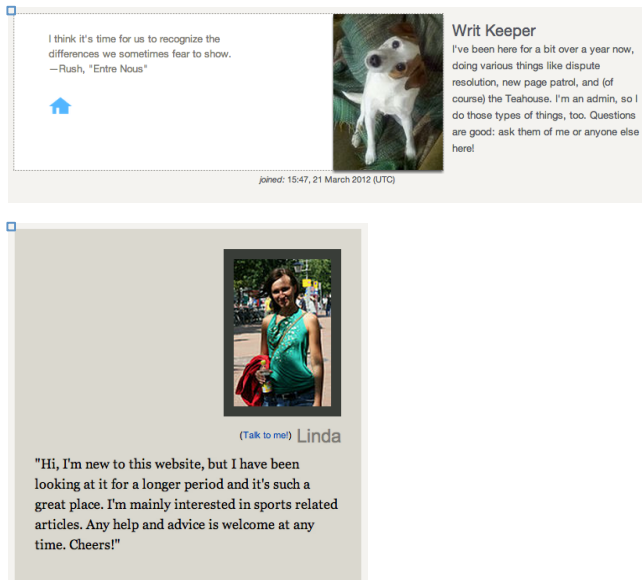
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[2] https://en.wikipedia.org/w/index.php?title=Special:Contributions&contribs=newbie
[3] http://en.wikipedia.org/wiki/Special:FeedbackDashboard

Figure 3a: Host (top) and Guest (bottom) profiles.

Figure 3b: The Teahouse Q&A board.

cles for Creation committee received a different invitation than newcomers who were identified as candidates for invitation on the daily invitee report (**Figure 2**).

Challenge #2: new editor isolation and intimidation
Being a newcomer in an online community can be intimidating. A survey of peripheral participants in MSN bulletin board communities found that among the primary reasons that "lurkers" did not participate publicly were: confusion about how to use the software, concern about being the target of aggression or hostility, and uncertainty about whether the community was a good 'fit' for them [24].

New editors often don't initially perceive Wikipedia as a community at all [1] and even when they do, their initial interactions with community members are likely to be negative. Like SubSubPop23, the only form of socialization that many new editors experience before leaving Wikipedia comes in the form of generic warning messages informing them that they've done something wrong, or terse notices that their edits have been reverted. These messages are often delivered by automated 'bots' rather than by real people. Such anonymous, negative socialization tactics are of limited utility for promoting constructive editing behaviors or boosting editor retention [12].

As SubSubPop23's story illustrates, the new editor experience of Wikipedia can be an unsettling combination of anonymous and hostile. This, too, has increased over time. The proportion of new editors whose first interaction with Wikipedia is via a generic message left by an automated script or tool has increased to over 80%, from less than 40% in 2006. The proportion of first contact messages that are warnings rather than welcomes was 65% in 2010 and has increased year by year [13].

Many Wikipedians also experience Wikipedia as a hostile environment. A survey of 1200 former editors conducted in 2010 [31] found that 27% of former contributors cited the rudeness or stubbornness of other editors as their primary reason for leaving, and among highly active editors (those who made more than 10 edits a month) the proportion was 53%.

Female editors may experience Wikipedia's combative culture even more acutely. In previous studies, female editors have reported feeling uncomfortable with antagonistic exchanges among Wikipedians, and they cite conflict as a reason for ceasing to contribute more often than their male counterparts [4]. Female editors also report a desire for a more collaborative, less conflict-driven editing experience, and for more social interaction in general [5].

Strategy: Opportunities for positive socialization
Collier [4] advocates design improvements to promote more female contribution to Wikipedia: forums to facilitate social or educational discussion separate from the hyper-critical, debate-style discourse of article talk pages [28], as well as features for surfacing potential common interests and fostering more direct collaboration. We believe that these same features would benefit new editors in general by introducing them to the people behind the encyclopedia in a more friendly way, and providing a supportive, engaging environment for learning.

The Teahouse is an attempt to improve the new editor experience of Wikipedia by meeting the immediate needs of new users, as well as a gradualist strategy for changing the culture and demographics of the editing community and reversing the editor decline.

Features: Profiles and Social Q&A
The Teahouse space is built around two primary activities. On the *Guests* page, new editors can introduce themselves by creating a simple profile, and also browse profiles created by other new editors and by Teahouse hosts (**Figure 3a**).

On the *Q&A board,* guest can ask, read, and answer questions (**Figure 3b**).

Self-introduction is a common newcomer behavior in online communities, and has been shown to elicit positive responses from other community members [2], but social interaction for its own sake is sometimes discouraged on Wikipedia[4]. The Teahouse Guests page provides a safe space for newcomers for introduce themselves and 'meet' other new editors.

Asking questions can be intimidating for newcomers [24], but intimidation can be reduced if newcomers are provided with clear cues for how to participate, and know what kinds of reaction to expect when they do. While many Q&A sites follow a transaction model, with information seekers (often lurkers or newcomers) eliciting factual information from 'Answer people' [27], other 'social Q&A' forums host more personal, collegial, and interactive discussions [14] and even micro-collaborations [8] among multiple seekers and providers. The Teahouse Q&A board is designed to make new editors feel comfortable asking any question they might have, and to provide opportunities for constructive social interaction. Hosts were asked to follow a set of five simple guidelines (**Figure 4)** in order to make the Q&A experience less intimidating and more engaging for guests.

The technical mechanisms for creating a profile or asking a question in the Teahouse are designed to reduce barriers to entry, encouraging new editors to jump in and participate. However, since the Teahouse is intended to provide opportunities for learning, most interactions do require users to edit a page. We attempt to simplify more complex tasks through clear, contextual prompts and structured workflows.

Pilot study
We will evaluate the success of our attempt to improve the new editor experience and boost participation by newcomers and female editors in the sections below. The goal of our analysis is two-pronged: first, we analyze survey data on the *experience* of participating in Teahouse for new editors, female editors and veteran Wikipedians. Then we analyze the impact of the Teahouse in two ways: we compare the dynamics of the Teahouse Q&A board with a more tranditional help forum, the Wikipedia Help Desk, and we compare the subsequent editing activities of Teahouse visitors with invited newcomers who did not participate.

DEPLOYMENT AND DATA ANALYSIS
The Teahouse was developed with support from the Wikimedia Foundation by a four-member team consisting of a project manager, a UX researcher, a visual designer and a community organizer who was a veteran Wikipedian with experience in outreach initiatives for female editors. To ensure a baseline of community involvement in the project, we approached 20 Wikipedians with a history of new user outreach at the beginning of the pilot and invited them to

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[4] http://en.wikipedia.org/wiki/WP:NOTSOCIALNETWORK

1. **Welcome everyone** with a friendly hello when you answer questions or greet new guests.
2. **Be polite and patient** with all editors who visit the Teahouse.
3. **Keep it simple.** Explain as much as possible, as simply as possible, to new editors when answering questions. (Don't use wiki jargon!)
4. **Avoid over-linking** when responding to questions. Wikipedia policies, procedures, and documentation are overwhelming to many editors. Do your best to explain processes and policies and answer the guest's particular question rather than pointing them to more documentation as a first resort.
5. **Leave a talkback notification** on the guest's userpage after answering a new question, to let the guest know you responded. (Find the script here!)

Figure 4: Host guidelines for the Teahouse *Q&A Board*

sign up as hosts. Of those invited at the outset, 15 subsequently participated. Although we undertook no further recruitment initiatives, many more hosts signed up and participated during the pilot period, and other experienced Wikipedians participated by inviting new users to the Teahouse and answering questions on the Q&A board without formally joining the project.

Data collection
We tracked editor activity on the Teahouse using a live mirror database of Wikipedia. We considered an editor to be a 'new editor' if they had fewer than 100 edits at the time of their first edit to either the Q&A board or the Guests page. 100 edits is a standard benchmark used by the Wikimedia Foundation for inexperienced editors [32].

We tracked which new editors received Teahouse invitations, what kind of invitation they received, and whether or not they subsequently visited the Teahouse. We logged a total of 7339 invitations sent by Teahouse hosts between February 27th and May 27th, 2012. The overall response rate for tracked invitations was 4.5%. This low response rate illustrates one of the challenges of trying to reach out to newcomers very early, before the natural 'winnowing' process described by Panciera [23] takes effect: many new editors listed on the daily invitee reports may have stopped editing for good before they noticed that they had received an invitation.

Survey data
We surveyed distinct samples of Teahouse guests during the 5th, 11th, and 26th week of the pilot period. We also surveyed experienced Wikipedian participants (including hosts) during week 11. We report responses from 196 Teahouse guests and 71 experienced Wikipedians.

The guest survey included questions related to satisfaction with the Teahouse, as well as general questions related to challenges of being a new editor. Respondents were asked to rate their satisfaction with the answers they received on the Q&A board, with the experience of creating a guest profile, and with the Teahouse as a whole on a 5-point Likert scale ("Very dissatisfied" to "Very satisfied"). We also elicited specific feedback on Teahouse features from guests. Guests were asked (but not required to disclose) their gender, and 92% of respondents did so. The experienced editor survey focused on satisfaction, general impressions and specific feedback. In this paper, we report survey results

related to guest and experienced editor satisfaction, and compare satisfaction between male and female guests.

Dynamics of Teahouse Q&A board vs. Wikipedia Help Desk
In order to assess whether the Q&A board provided a more interactive experience than other Wikipedia Q&A forums, we compared it with the Wikipedia Help Desk, an active community-run forum that also fields many questions from new editors. To assess whether the Teahouse provided a qualitatively different Q&A experience than the Help Desk, we compared a sample of 500 questions asked on the Q&A board between February 27th and August 18th, 2012 with 500 Help Desk questions from the same time period.

For this analysis, we compare the time between the question and its first response, the number of answers per question, and the number of times the original poster replied within their own question thread. We excluded questions asked by editors who were not logged in at the time they posted their question. We also excluded any edits made by Bots, as well as minor edits. When analyzing number of responses by the questioner within their own question thread, we excluded subsequent edits made by the questioner less than 5 minutes after their original post.

Retention of Teahouse visitors vs. non-visitors
To assess the impact of Teahouse participation on subsequent editing activities and editor retention, we compared the subsequent editing activities of a sample of 252 Teahouse visitors with 260 new editors who did not visit.

Teahouse hosts chose which new editors to invite on a case-by-case basis, introducing an invitation bias into our sample: hosts likely avoided inviting new editors whose early edits showed blatant tendencies towards vandalism, for instance. This makes meaningful comparison between the editing patterns of Teahouse visitors and a random sample of all new editors a challenge. Instead, we compared a sample of Teahouse visitors with a random sample of editors who were invited to the Teahouse by a host, but did not visit.

All editors in our *visitors* sample had been invited to visit the Teahouse between February 27th and May 27th, 2012 and had subsequently visited the Teahouse prior to June 10th. Editors in our *invitees* sample were invited during the same time period, but did not subsequently edit either the Q&A Board or Guests page. To control for the possibility that some of these invitees had stopped editing before they saw the invitation, we removed any invitees who had not made at least 1 edit to Wikipedia after their date of invitation from our sample. We analyzed edits made by these editors between the day after invitation and November 23rd, 2012, excluding any edits they made to the Teahouse itself from our analysis.

FINDINGS
Between February 27th and October 11th, 2012 1,098 new editors participated in the Teahouse, at an average rate of

34 per week. We counted a new editor as a participant if they made at least one edit to the Q&A board or the Guests page. Guests asked 1,381 questions and created 420 profiles. 77 Wikipedians participated as hosts during the pilot, and an average of 21 hosts participated each week. Hosts participated in a variety of ways: answering questions, sending out invitations to new editors, creating Teahouse barnstars [18] to award to new editors and to one another, and writing custom scripts and templates to make their work easier.

Editor satisfaction
New editors enjoyed their Teahouse experience. 71% of new editors surveyed said that they were "Satisfied" or "Very satisfied" with their Teahouse experience, versus only 5% who said they were "Dissatisfied" or "Very dissatisfied". When asked to describe what in particular they liked about their experience, new editors cited a range of factors, from the promptness and quality of the answers they received to the friendly atmosphere and the ease of use. A sample of guest responses is listed below.

> *Help from people who do not criticize.*

> *Cool message when I first became a Wikipedia editor on my talk page and a really nice lady. Easy to post an answer and the community responded quickly.*

> *Courteous, detailed and prompt responses.*

Survey responses by experienced editors mirror those of new editors. 70% of experienced editors surveyed (hosts and non-hosts) said that they were "Satisfied" or "Very satisfied" with their Teahouse experience, versus 5% for "Very dissatisfied" or "Dissatisfied".

When asked to describe what in particular they liked about their experience on the Teahouse, experienced editors also cited the promptness and quality of the answers they read or received and the friendly atmosphere. Many respondents indicated that they believed that the Teahouse was having a positive impact on newcomers, primarily by functioning as a friendly 'safe zone', and that the Teahouse was beneficial to the community as a whole. As one editor eloquently put it:

> *There is nothing extraordinary about [the Teahouse]. It just needs to exist and is fundamental to the Wikipedia experience.*

Other responses from Wikipedians included:

> *I liked that the Teahouse is a ground for new users so they have lots of support, and that hosts and new users interact a lot with each other.*

> *Learning from others, in addition to sharing my own knowledge. Non-confrontational.*

Participation by female editors

Survey responses indicate that female newcomers participated in the Teahouse at a high rate. While Lam [19] found that 16% of new editors were women in 2009, 32% (57/178) of new editor survey respondents who disclosed their gender identified as female. This may indicate that we were successful in our goal of engaging new female editors. However, it is difficult to get accurate gender data on Wikipedia editors, and without comparative data on the overall gender breakdown of new editors during our study period, we cannot say definitively whether women participated in the Teahouse at a higher-than-expected rate.

To determine whether women found the Teahouse more or less engaging than men, we conducted independent-sample t-tests comparing their responses related to satisfaction with Q&A board answers, Guests page profiles and the overall Teahouse experience. The results of these analyses are presented in **Table 1.** We found no statistically significant differences between men and women's satisfaction with the Teahouse, although women did rate their satisfaction with the answers they received on the Q&A board lower than men to a marginally significant degree ($M_{women} = 4.04$, SD = 1.13 versus $M_{men} = 4.33$, SD = 0.78), $t(124) = 1.71$, p = 0.089.

Qualitative survey responses and our own observations suggest room for improvement in Teahouse's Q&A and peer support model if the project is to effectively address the needs of female editors. The three female editors who rated the quality of their answers lowest stated:

> *Talk talk talk which wasn't much use except for ONE person.*

> *It didn't help me with what I wanted to do.*

> *My question was ignored.*

These responses reflect our own observation that the quality of an answer in the Teahouse may vary depending on the host. Furthermore, as most Teahouse hosts who were active in the Q&A forum are male, we believe that there may be further gender dynamics to be explored in terms of the host/guest interaction.

Impact of social Q&A

The Teahouse Q&A board was designed to make the process of asking a question into an opportunity for positive socialization, not just an information transaction. Teahouse guests asked 1.6 questions on average, and 23% of guests asked multiple questions. Survey responses indicate that both new and experienced editors found Teahouse Q&A to be engaging, and recognized it as an effective mechanism for positive new editor socialization.

We performed independent sample t-tests to compare the average time between when a question was asked and the first response, the number of responses per question, and the number of posts by the original questioner within the question thread. Results are listed in **Table 2.**

Gender	n	Q&A	Profiles	Overall
Female	57	4.04	3.74	3.93
Male	121	4.33	3.78	3.86

Table 1: Average guest satisfaction by gender. Differences are not significant.

Forum	Response Time (minutes)	# answers*	# questioner responses*
Teahouse	56.66	3.12	1.04
Help Desk	23.44	2.55	0.6

Table 2: Interactivity of Teahouse Q&A board vs. Help Desk. Significant differences are marked with an asterisk.

We found no significant difference in response times between the two forums ($M_{teahouse} = 56.66$, SD = 460.46 versus $M_{helpdesk} = 23.44$, SD = 229.05), $t(998) = 1.44$, p = 0.15.

However, Teahouse questions did receive significantly more answers than Help Desk questions ($M_{teahouse} = 3.12$, SD = 2.54 versus $M_{helpdesk} = 2.55$, SD = 2.01), $t(998) = 3.91$, p < 0.01. Teahouse questioners also posted significantly more responses in their own question thread than Help Desk questioners ($M_{teahouse} = 1.04$, SD = 1.79 versus $M_{helpdesk} = 0.6$, SD = 0.99), $t(998) = 4.89$, p < 0.01.

Q&A guests seldom offered peer support

We hoped that because the Teahouse Q&A board de-emphasized the boundary between information seekers (guests) and 'experts' (hosts) in favor of a more collaborative model, new users would feel comfortable jumping in and answering questions, in addition to asking them. While the Teahouse was more successful at eliciting newcomers to answer questions than the Help Desk, the number of newcomers who participated in a discussion around a question asked by another editor was low. Overall, only 11% of new editors who participated in the Q&A board posted in a question thread started by someone else.

Survey responses from new editors shed some light on this low level of peer support activity. Of those respondents who indicated why they had not answered a question on the Teahouse, 25% stated that they did not know they were allowed to, and 47% stated that they either did not see any questions to which they knew the answer, or felt they were too inexperienced to answer a question. No respondents stated that they could not figure out how to answer a question. However, during the pilot period we observed several guests asking questions about how to answer a question, suggesting that confusion or intimidation with the editing interface may have contributed to the low level of peer support.

Group	Total edits*	Weeks active*	Article edits*	Articles edited*	Discussion space edits*
Visitors	260.81	7.62	260.81	84.76	62.7
Nonvisitors	57.12	5.37	57.12	14.31	8.12

Table 3: Editing activity by Teahouse visitors and invited non-visitors, March – November 2012. Significant differences are marked with an asterisk.

Creating new opportunities for more direct interaction among Teahouse guests could help create more solid social bonds and support editor retention by fostering a greater sense of community among cohorts of editors. We intend to explore different interface design strategies and feature enhancements in the future to encourage more peer support.

Impact of participation

The ultimate goal of the Teahouse is not to bring new editors to the Teahouse, but to increase the number of editors who become frequent, high-volume contributors to Wikipedia. We performed independent sample t-tests to determine whether Teahouse visitors made more edits overall, whether they made more edits to articles, whether they edited more individual articles, and whether they participated more in 'talk' namespaces.

Teahouse visitors make more edits overall, and edit longer
Teahouse visitors made significantly more subsequent edits to Wikipedia than non-visitors ($M_{visitors}$ = 388.71, SD 1683.21 versus $M_{invitees}$ = 75.97, SD = 281.52), t(510) = 2.95, p < 0.01. Visitors also made at least 1 edit during more weeks, post-invite, than invitees ($M_{visitors}$ = 7.62, SD 8.74 versus $M_{invitees}$ = 5.37, SD = 6.64), t(510) = 3.29, p < 0.01.

Teahouse visitors make more edits, to more articles
Visitors also made significantly more edits to the article namespace of Wikipedia ($M_{visitors}$ = 260.81, SD 1331.49 versus $M_{invitees}$ = 57.12, SD = 223.56), t(510) = 2.43, p < 0.05. And they edited significantly more articles than invitees ($M_{visitors}$ = 84.76, SD 412.9 versus $M_{invitees}$ = 14.31, SD = 47.13), t(510) = 2.73, p < 0.01.

Teahouse visitors participate more in discussion spaces
Teahouse visitors made significantly more edits to pages within the primary 'discussion' namespaces of Wikipedia (User_Talk, Article_Talk and Wikipedia_Talk) than invitees ($M_{visitors}$ = 62.7, SD 282.9 versus $M_{invitees}$ = 8.12, SD = 33.58), t(510) = 3.09, p < 0.01. Edits made to a user's own User_talk page were excluded from this analysis.

Kittur [16] found a similar increase in talk page participation for editors who joined WikiProjects, which they attributed to an increase in coordination work resulting from the editors becoming more engaged in group activities in these small topic-focused collaboration efforts. Since Teahouse is intended to socialize newcomers in such pro-social norms of interaction, we are encouraged to see that more Teahouse guests go on to 'talk before they type'. However, since participating in the Teahouse was voluntary, we cannot say whether these editors are engaging in a higher level of talk page activity than they would have otherwise. It may be that editors who chose to participate in a social space like the Teahouse were already more inclined towards socializing and collaboration than those who declined to participate. Even if this is the case, our findings suggest that participating in the Teahouse gave these editors more opportunities to learn how to collaborate productively, and provided them with additional incentives to continue participating.

The elevated activity level of Teahouse visitors is a promising sign of sustained engagement with Wikipedia. We intend to continue tracking the participation of Teahouse visitors and non-visitors over time in order to determine whether Teahouse participation has a measurable long-term impact on editor retention, editing activities and quality of contribution.

DISCUSSION

Wikipedia needs more Wikipedians. Increasing a newcomer's awareness of the community behind the encyclopedia and creating more opportunities for positive experiences that both meet her immediate needs and teach her community norms in an engaging and supportive setting will help her tackle the confusion, frustration and conflicts to come.

Wikipedia also needs more *different* Wikipedians. Increasing the diversity of the community will not only increase the quality and completeness of the encyclopedia, it will increase the likelihood that any new member of the community will find like-minded collaborators and feel like they fit in.

Teahouse, a new editor support space, consists of a relatively simple set of tools, norms and procedures that frame the new editor experience in a new way. We have shown that both new editors and Wikipedians find the space itself and the activities it supports to be engaging and worthwhile, and provided evidence that Teahouse offers opportunities for positive socialization, social interaction, and interactive editor support that other support spaces and tried-and-true socialization strategies do not. And we have shown that Teahouse guests edit more and edit longer than non-visitors with similar early activity patterns.

CONCLUSION

Our analysis, though limited and preliminary, suggests that early outreach and social support are promising tools for community diversification and new editor retention. While the needs of Wikipedia newcomers are not necessarily

equivalent to those of new users in other peer-production communities, they are reflective of them. The level of involvement in the Teahouse by new and experienced community members gives us confidence in the impact, scalability, and sustainability of gradualist, community-powered solutions for addressing complex sociotechnical problems like the Wikipedia editor decline.

Participation patterns in online collaborative communities may be cyclical or follow a more regular growth-peak-decline trajectory. Communities also evolve over time. On Wikipedia, socialization tactics that worked during the growth period do not appear to be as effective in the context of the current decline. In some cases, substantial top-down technological intervention may be the best way to attract new users or shift community dynamics. However in volunteer communities, where users are apt to rebel en mass if they feel manipulated or taken for granted by the technology owners [9], supporting bottom-up, community-driven solutions may prove more effective and sustainable. Community solutions like the Teahouse can also be effective test beds, allowing designers, community managers and community members to try out new ideas in a lightweight way, while building community consensus around social or technological changes that might otherwise be seen as disruptive.

Future work
The Teahouse is not going away any time soon. Community members and Foundation staff are already at work planning Teahouses on other Wikimedia wikis, starting with the Arabic Wikipedia. Ideas from the Teahouse are also being adopted in other parts of the community: the Help Desk has implemented a 'talkback' message system to alert questioners of a response, and other editors have begun to discuss the creation of local, offline Teahouse meetups.

For the English Wikipedia Teahouse, our future work will focus primarily on boosting female participation, facilitating more peer support, and developing mechanisms for connecting new editors with both relevant and engaging tasks and potential collaborators.

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