My Friends Are Here! Why Talk to "Strangers"?

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Abstract

Many online communities face the challenge of incorporating a stable influx of newcomers into the community. Research on socialization in offline organizations suggest that newcomers who join an organization with a cohort of other newcomers are more likely to succeed in the organization. We have studied the effect of socializing a cohort of newcomers who share common offline identity into an online community. Our results suggest that cohort support can improve newcomers' performance but it might hinder communication with existing members of the community.

Author Keywords

Cohort, socialization, communication, online community

ACM Classification Keywords

H.5.3 [Information interfaces and presentation (e.g., HCI)]: Group and Organization Interfaces.

Introduction

Online communities such as Wikipedia, open-source software communities, or health-related discussion forums are increasingly important in society. Despite their widespread success, they face challenges to ensure their sustainability. Many online communities face the challenge of high turnover, and to replace those who leave

the community, they need to incorporate a stable influx of newcomers into the community. Off-line organizations often employ well-designed regimen of socialization to increase newcomers' commitment to the organization as well as their competence. Socialization is the process through which newcomers acquire the behaviors and attitudes essential to playing their roles in a group or an organization [7]. Theories of socialization suggest that the use of institutionalized socialization practices is associated with successful socialization outcomes such as better job performance, higher satisfaction, and more commitment. Socializing newcomers in a cohort, which is known as collective socialization, is one important aspect of institutionalized socialization. Newcomers that join an organization with a cohort of other newcomers are more likely to succeed than those entering individually [1].

Scholars have identified how the social network structure of newcomers inside the organization influences newcomers' informational and friendships ties. A small high-density friendship network inside the organization increases newcomers' integration into the organization [6]. Prior works focus on the network relationships between newcomers and insiders, but often ignore the connections between a cohort of newcomers. Cohorts of newcomers are often assumed to be a set of newcomers who enter the organization at the same time but who do not necessarily have a prior relationship with each other. This can be an inadequate assumption, especially for online communities that often connect people with prior relationships or potential pre-existing off-line connections [4]. The existing relationship among the newcomers can influence socialization outcomes. Strong attachment to the cohort can hinder interaction with insider members and integration into the larger community. The attachment to other newcomers can create a distinguishing social

identity and feeling of in-group-out-group which can create distance between newcomers and existing members of the community. Lack of interaction with existing members can undermine positive effects of collective visualization. Particularly, research in online communities highlights the importance of interaction with existing members in encouraging participation of new members [2], [5]. These possible conflicting views motivate our research question: how does collective socialization impact the interaction between newcomers and existing members of the community?

Research Platform and Data Collection

To address our research question, we conducted a study to investigate the interaction behavior of a connected cohort of newcomers joining Wikipedia and compared them with a group of individuals joining Wikipedia independently. Wikipedia provides an interesting platform to study this research question since Wikipedia pages include discussion pages, called talkpages, in addition to content pages. Talkpages are designed to allow Wikipedia users to communicate with each other. Additionally, Wikipedia provides a history of all edits, which allows us to conduct a longitudinal study of newcomers' behavior and participation in the community. Since studying all newcomers to Wikipedia is hardly feasible, we attempted to select a representative sample of newcomers belonging to two groups:

Cohort newcomers sample: to represent cohort newcomers, we selected a group of newcomers who joined the APS-Wikipedia Initiative (APS-WI)[1], which is an initiative to encourage psychologists and their students to contribute to Wikipedia articles on psychology. The

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[1]http://www.psychologicalscience.org/index.php/members/aps-wikipedia-initiative

initiative encourages psychology faculty to assign Wikipedia writing assignment in their classes. Our data includes students joining Wikipedia through the initiative in the Fall 2011 and Spring 2012. Students in each class can be considered a cohort since they all join Wikipedia at the same time and they share off-line connections with each other through their classes.

Individual newcomers sample: to represent individual newcomers, we included newcomers from three WikiProjects. WikiProjects are collection of editors focusing on improving articles in a particular area. They cover different areas such as history, culture and arts, and science. WikiProjects are similar to APS-WI since they also aim to improve the coverage of articles in particular topic by organizing a group of Wikipedia editors. We selected three different WikiProjects from three different areas to select a more representative sample of newcomers. We selected WikiProject Neuroscience in the science category, WikiProject Holidays in the history cateogy, and WikiProject "Food and drinks" in the culture and arts category. For each of these projects, we selected newcomers who joined in the same time period as our cohort newcomers.

Modeling interaction
Unlike discussion forums, in Wikipedia talkpages, no particular structure is enforced for a thread of posts. However, it is common that editors sign their posts with their Wikipedia username and use indentation to distinguish different posts in the same thread. We used those guidelines as heuristics to identify exchange of messages between Wikipedia users as shown in Figure 1

To address our research questions, we studied the influence of cohort on two outcome measures: (1)**quality of contribution** which was measured by whether a

newcomer's edit had been deleted by other Wikipedians or not [3]; and (2) **amount of interaction** between newcomers and the existing members of Wikipedia community that was measured by counting the number of messages exchanged on any Wikipedia talkpages.
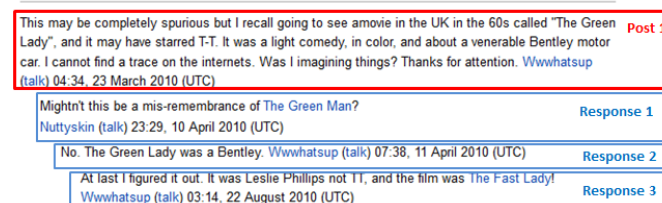

Figure 1: An example of Posts and Responses in an article talkpage

Results
Our results show that, as suggested by the socialization literature, cohort support can improve work quality. Compared to newcomers joining Wikipedia individually, student cohort members' edits were at least 3.6 times less likely to be deleted (controlling for popularity of the article, newcomers' experience and the size of the changes). However, cohort support tended to decrease interaction with the community outside the cohort. Figure 2 presents the interaction patterns of newcomers and Wikipedia community for different groups of newcomers we studied. Red dots represent newcomers and yellow dots represent Wikipedia members and each edge indicates interaction between the connecting users. Compared to newcomers joining different WikiProjects individually, students mostly engaged in interaction with each other (red dots connected to other red dots) and were less likely than other newcomers to interact with existing Wikipedians (very few connections between red dots and yellow dots). Furthermore, our regression analysis of

number of messages exchanged between newcomers and Wikipedia members shows that students were at least 3.9 times less likely to interact with existing Wikipedia members, while they were at least 73% more likely to interact with other students through Wikipedia talkpages (controlling for total amount of activity on Wikipedia).
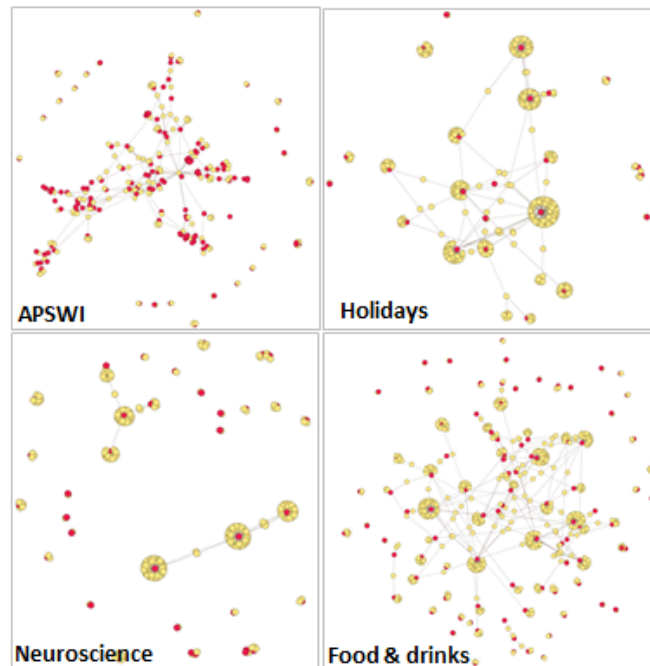
Figure 2: Interaction among newcomers and existing members. Nodes in yellow are existing members and nodes in red are newcomers.

Conclusions and future work

Our results suggest that while collective socialization can improve newcomers' performance, it can also create silos of communication and discourage interaction with existing members of the community. Our work is a first step in studying the effect of newcomers' interactions on their integration into the community. A more comprehensive study is required to explore the impact of different factors such as cohort size, amount of cohort communication, and reaction of the existing members of the community on this relationship. Moreover, in this study we did not explore how the patterns of communication influenced newcomers' performance and future commitment.

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