

# SHOULD I STAY OR SHOULD I GO? CONTINUED PARTICIPATION INTENTIONS IN ONLINE COMMUNITIES

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## ABSTRACT

This study provides support for the proposition that participation intentions in online communities is a multi-dimensional construct. We analyze 534 survey responses and communication history of 135,477 messages from 33 different online communities to investigate multi-level antecedents of two dimensions of continued participation: participation continuance intentions and participation intensity intentions.

## CONTINUED PARTICIPATION INTENTIONS

In this study, we investigate individual and community-level antecedents for multiple dimensions of continued participation intentions in online communities. To study continued participation intentions in online communities we incorporate conceptual frameworks, research theories, and empirical results regarding online community participation, leadership processes, and communication networks. The simplest answer—and our starting point—for predicting future participation intentions in an online community is the length of past participation in an online community. Next, recognizing that participation intentions are also shaped by the influence of online community leadership, we add interaction with online community leadership to our prediction model. Finally, we consider how online community characteristics— structural and emergent online community properties—impact continued participation intentions.

This study makes two major contributions to the study of online communities. First, it identifies a clear differentiation between participation continuance and participation intensity intentions. Whereas previous studies have viewed continued participation as a single dimensional construct, we identify two distinct dimensions of continued participation intentions. Second, the study establishes individual interaction with online community leadership and online community psychological safety as factors that impact individual participation intentions. These results demonstrate the value of a multi-level approach to studying online community participation. The improved understanding of continued participation in online communities provided by this study extends theories of online communities and expands practitioner knowledge of this important phenomenon.

To provide a nuanced view of continued participation intentions, we theorize two closely related dimensions. *Participation continuance intentions* reflect an online community member's intention to remain a member of an online community. This individual level measure is conceptually similar to measures of individual turnover intentions in organizational settings. A participant expresses high participation continuance intentions if they have no plans to look for other online communities and are not thinking about leaving an online community. Knowing that a current participant intends to continue participating in an online community still leaves a great deal of variation in regards to *how* they may participate. *Participation intensity intentions*

represent the extent to which a participant intends to perform a range of activities related to an online community. It measures both the scope of activities a participant intends to engage in along with the strength of those intentions. It recognizes that some participants are peripherally involved in a minimal level of online community activities—such as reading some content or occasionally posting—while others are core participants who frequently perform multiple pro-social activities. Thus, whereas participation continuance intentions reflect the likelihood of an existing participant continuing to participate in an online community, participation intensity intentions measure the effort and type of activities a participant intends to perform. Together these constructs provide a richer conceptualization of online community participation intentions compared to studies that focus solely on membership or contribution.

We propose four antecedents of continued participation intentions. At an individual level, we hypothesize that online community tenure (H1a/b) and interaction with online community leadership (H2a/b) are associated with increased levels of participation continuance and participation intensity intentions. We also hypothesize a cross-level effect whereby the online community-level constructs of online community size (H3a/b) and psychological safety (H4a/b) are associated with increased levels of individual participation continuance and participation intensity intentions.

## METHODS

To empirically test these relationships, this study combines data from individual survey responses with online archival messages. We test our hypotheses with data from 534 survey responses from members of 33 different online communities along with online community communication history spanning 135,477 messages. Both to control for the non-independence of data from the same online communities and to facilitate robust cross-level analysis, we use hierarchical linear modeling (HLM), a multi-level regression technique. The lowest level of data for our study was an individual participant at a Web-based message board. Individual survey responses were nested within online communities: shared communication networks and leadership structures of Web-based message boards. Because we are interested in understanding continued participation in these online communities, we restrict our sample to message board members who had participated in the online community prior to the beginning of the survey period.

The individual level dependent variables of continuance intentions and participation intensity intentions were measured via individual survey responses. Tenure with the online community was measured from archival communication network data. We identified nominated online community leaders via survey. The interaction with group leadership measure was based on archival online participation data and communication network analysis. Online community size was calculated based on archival online participation data. Finally, the psychological safety measure is an emergent online community-level property measured through aggregated survey responses for all respondents from the same online community.

We choose Web-based online community discussion boards as our research setting. We sent individual survey invitations to 9,566 members of sixty-two Web-based message boards. We received a total of 760 complete, valid responses. Our detailed analysis focuses on 534 of those responses from 33 online communities. Each of these 33 online communities had at least 6 responses from members who had participated in the online community prior to the survey period and who provided full valid survey responses.

To measure individual continuance intentions in an online community we adapted the organizational turnover intentions measure developed by Kelloway, Gottlieb, & Barham (1999). (See Appendix A for adapted survey items.) Because these measures are for individual turnover intentions—an intention to depart a group, rather than to remain—we reverse scored all of the survey items to derive a measure of participation continuance intentions.

To measure participation intensity intentions in online communities we developed a new multi-item scale. The focus of this construct is to understand the intensity of participation—conceptualized as representing multiple opportunities for engagement with an online community—a participant intends to perform. Examples of engagement vital to a community include reading content, posting content, and recommending the online community to others. Our measure of participation intensity intentions is similar to existing Organizational Citizenship Behaviors measures and the Bateman et al. (2006) measure of citizenship behavior in online communities in that it focuses on tangible behaviors. It differs from traditional OCB measures in that it measures intentions for on-going behaviors (rather than past or current behaviors). It differs from the Bateman et al. measure in that it encompasses a more comprehensive range of behaviors related to online community membership.

To calculate the variable tenure with online community we gathered archival data of observable online participation. The tenure with online community variable captured the duration of an individual's membership in an online community. Specifically, we measure the number of days between the date of the first observed message for a survey respondent and the beginning of the survey collection period for the respondent's online community.

To measure interaction between survey respondents and nominated leaders of their online community, we combined data gathered via surveys with the online community communication history gathered from archival data. The unique user name for a survey respondent and the list of nominated leaders for an online community were both provided via survey responses. The interaction data was collected from publicly visible messages displayed in the message archives for each online community. We used participant survey responses to identify one or more leaders for each online community.

To measure online community size, we calculate the number of unique authors who posted one or more messages during the study observation period. To measure psychological safety, we adapted the team psychological safety measures of Tucker, Nembhard and Edmondson (2007), a shortened version of Edmondson's (1999) measures. The major adaptation for our measure was to change "unit" to "online community." The online community-level measure is calculated as the average value of individual level responses for respondents from that online community.

## **RESULTS AND DISCUSSION**

The specific form of hierarchical multiple regression we used was two-level hierarchical linear modeling (HLM) as implemented in the HLM 6.06 software package (Raudenbush, Bryk, Cheong, & Congdon, 2008). The results of the HLM tests are as follows. We find support that individual interaction with online community leadership and online community size are both positively associated with not only increased individual participation continuance intentions but also individual participation intensity intentions (e.g., H2a/b and H3a/b are supported). We further find that online community group mean psychological safety is positively associated with

increased individual participation intensity intentions (e.g., H4b). No support was found for other hypothesized relationships.

In Figure 1 we present a conceptual model combining the statistically significant paths found in the hypotheses testing and additional analyses. This is a summary *conceptual model*, not a unified *measurement model*. Future research with advanced (though still relatively new) methods such as multi-level structured equation modeling would be required to test all of these paths simultaneously in a single measurement model.

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Figure 1 about here  
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Taken as a whole, these results provide two significant findings in the understanding of continued participation intentions in online communities. First, the results provide additional support for the proposition that continued participation intentions is a multi-dimensional construct. We study two conceptually related constructs that both reflect continued participation intentions: participation continuance (if a participant plans to remain in the online community) and participation intensity intentions (what kind and level of effort a participant intends on performing). Importantly, we found that despite the close conceptual relationship, these two constructs did not share the same antecedents.

Second, these findings provide additional insights into key influences on continued participation. We identify online community psychological safety as a key construct linking interaction with leadership and participation intensity intentions. We find that psychological safety was both positively related to individual participation and positively related to interaction with nominated leadership. Furthermore, members of online communities with higher levels of psychological safety report higher levels of participation intensity intentions.

## DISCUSSION

Our work extends multiple studies by finding different antecedents for participation continuance intentions and participation intensity intentions. Studies of online communities have typically measured continued participation in terms of actively posting additional messages (e.g., Joyce & Kraut, 2006) or in terms of remaining a member of an online community (e.g., Butler, 2001). Previous studies of online communities have generally assumed that these behaviors are closely related and likely to share similar antecedents. Our findings confirm the merit of treating participation as comprised of multiple activities (Butler, Sproull, Kiesler, & Kraut, 2007) as well as the importance of differentiating between the likelihood that a participant will continue participating and the intensity with which they intent to participate.

In addition to finding that participants with higher participation intensity intentions had higher participation continuance intentions, we also found that larger online communities were associated with higher participation continuance intentions. This finding extends our understanding of the applicability of resource-based and information-overload theories of online communities. Previous work (Butler, 2001; Jones, Ravid, & Rafaeli, 2004) points to negative effects of online community size; in our sample, we found a different result. Yet, their studies also proposed that participation structures might mitigate negative impacts of online community size. Therefore, it is possible that the negative effects of size found by Butler (2001) and Jones et al. (2004) were not present in the online communities in this sample.

Our results regarding the importance of interaction with leadership open up new areas of study for online communities. Previous work on leadership in online communities has delineated

different types of leadership roles common to online communities (Butler et al., 2007). Our work reinforces the importance of further investigating influential participants by showing that interaction with nominated online community leadership is associated with higher participation continuance and participation intensity intentions. The finding that interaction with online community leadership is associated with psychological safety and participation intensity intentions may indicate that both the presence of communication as well as what was being communicated are important.

Psychological safety was positively related both to interaction with nominated leadership and to continued participation intentions; members of online communities with higher levels of psychological safety reported higher levels of participation intensity intentions. These findings are consistent with previous work on the importance of self-expression as a predictor of long-term relationship formation in online communities (McKenna, Green, & Gleason, 2002). The two-step linkage from shared context with nominated leaders to psychological safety and then from psychological safety to participation intensity intentions also speaks to the key role that the most influential members play in developing online community-specific norms for participation behavior. This further demonstrates the importance of studying online communities as a group setting; that is, treating each online community as a unique context with online community-specific norms and conditions that impact individual behaviors.

In closing, this study makes two major contributions to the study of online communities. First, it identifies a clear differentiation between participation continuance and participation intensity intentions. This bolsters the utility of a nuanced view of participation in building theories of online communities. Second, it establishes online community psychological safety both as a contextual factor influenced by online community leadership and as a contextual factor that impacts individual participation intentions.

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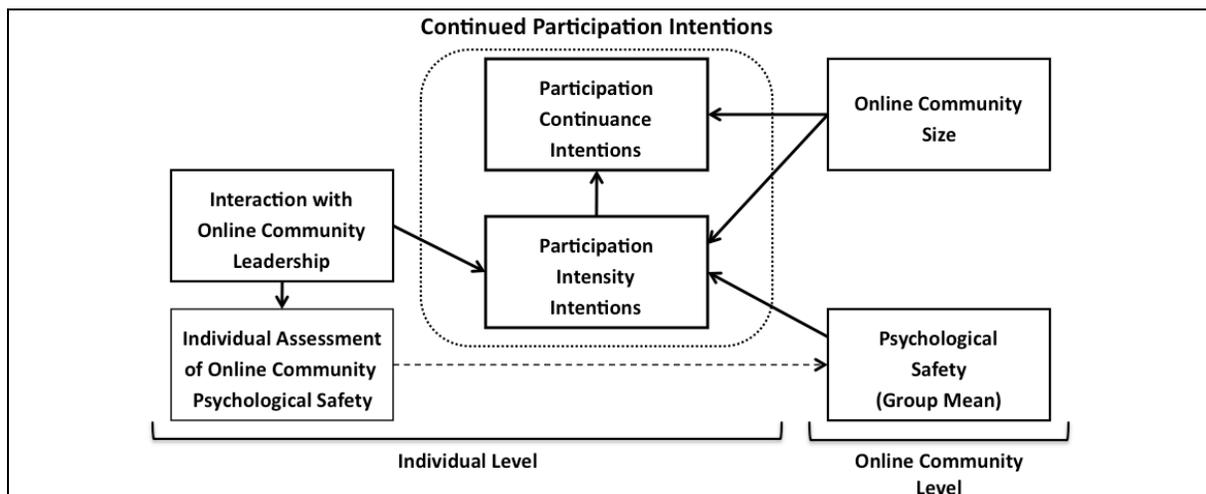
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### APPENDIX A: SURVEY ITEMS

Participation Continuance Intentions (all items reverse coded): I am thinking about leaving this online community; I am planning to look for other online communities; I intend to ask people about new online communities; I don't plan to be in this online community much longer.

Participation Intensity Intentions: I expect to regularly read others' content in this online community; I intend to regularly post messages at this online community; I plan to tell others about this online community; I intend to praise members of this online community when they are supportive towards others.

Online Community Psychological Safety: Members of this online community are comfortable checking with each other if they have questions about the right way to do something; The members of this online community value others' unique skills and talents; Members of this online community are able to bring up problems and tough issues.



**Figure 1: Continued Participation Intentions - Composite Results of Multiple Analyses**