# Mobilization Mechanism and Group Identity Construction of Emotional Communication in Online Communities: An Empirical Analysis using Depression as an Example

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**Abstract.** Objective: This study takes depression as an example to explore the mobilization mechanism of emotional communication in online communities and the intrinsic relationship and pathway of group identity. Method: By constructing a theoretical model of "emotional communication mobilization mechanism group identity" and using an empirical method combining content analysis and questionnaire survey, 2000 community interaction texts and 350 valid sample data were analyzed. Result: ① The resonance and narrative characteristics of emotional communication significantly positively affect the emotional and symbolic mobilization pathways in the mobilization mechanism; ② Emotional communication plays a partial mediating role between mobilization mechanisms and group identity, with a mediating effect accounting for 42.7% The openness and centrality of community structure have a positive moderating effect on the mobilization efficiency of emotional communication, with a moderating effect value of 0.31 ($p<0.01$). Conclusion: Optimizing narrative strategies for emotional communication, strengthening community information exchange density, and integrating professional social support resources can enhance the effectiveness of community emotional mobilization and the stability of group identity.

**Keywords:** Online community; Emotional communication; Mobilization mechanism; Group identity; depression.

## 1. Introduction

In the context of deeply embedded digital technology in social communication, online communities have become an important field for individual emotional expression and social identity construction. Depression, as a global mental health issue, has become a typical sample for observing emotional transmission and group mobilization in its related communities due to high-frequency emotional interactions and identity resonance among members. Currently, patients with depression face challenges such as weak social support networks and significant shame, while online communities provide alternative psychological connections and identification resources through mechanisms such as emotional resonance and narrative sharing[1]. However, how emotional communication can be transformed into a driving force for group mobilization, its construction path for group identity, and its moderating effect on community structure have not been fully empirically tested. This study focuses on depression communities and integrates text analysis, questionnaire surveys, and interview data to explore the mobilization mechanism of emotional communication and its relationship with group identity. The aim is to provide theoretical basis for optimizing the psychological health support function of online communities and improving the digital social support network.

## 2. Research Hypothesis

### 2.1. The Impact Path of Emotional Communication in Online Communities on Mobilization Mechanisms

The emotional communication in online communities acts on the mobilization mechanism through a dual path of resonant communication and narrative communication: resonant communication (such as emotional contagion and empathetic responses to painful experiences among members) can stimulate emotional involvement among community members, strengthen the "emotional energy

pool", and thus enhance the effectiveness of emotional mobilization (such as enhancing mutual aid willingness and reducing social defense psychology); Narrative communication (such as personal medical history narration and rehabilitation story construction) provides materials for symbol mobilization by shaping shared meaning symbols among groups (such as labels like "Born in the Sun" and "Anti Suppression Warriors"), promoting the transformation of individual experiences into collective memory of the group.

Assumption H1: The resonance and narrative characteristics of emotional communication in online communities have a positive impact on the emotional and symbolic mobilization pathways in the mobilization mechanism, and narrative communication has a stronger effect on symbolic mobilization.

### 2.2. The mediating role of emotional communication in the construction of group identity

As the core link of community interaction, emotional communication plays a mediating role between mobilization mechanisms and group identity: mobilization mechanisms (emotional mobilization, symbolic mobilization) need to reach the psychological level of members through the "translation" process of emotional communication (such as transforming abstract group goals into perceptible emotional experiences), thereby promoting the formation of group identity; The quality of emotional communication, such as interaction frequency and emotional authenticity, directly affects the acceptance and internalization of mobilization information, thereby regulating the speed and intensity of identity construction.

Hypothesis H2: Emotional communication mediates the relationship between mobilization mechanism (independent variable) and group identity (dependent variable), meaning that the influence of mobilization mechanism on group identity is partially or completely achieved through emotional communication.

### 2.3. The moderating effect of community structure characteristics

The openness and centrality characteristics of community structure may enhance or weaken the mobilization effectiveness of emotional communication: although open structures (such as low entry barriers and high member mobility) expand the scope of emotional communication, they may reduce the depth of communication due to information fragmentation, which negatively regulates the mobilization mechanism; The centrality structure (such as the presence of core opinion leaders or management teams) enhances the efficiency of emotional transmission through centralized communication pathways and strengthens the positive impact of mobilization mechanisms on group identity.

Assumption H3: The centrality feature of community structure has a positive moderating effect on the relationship between emotional communication and mobilization mechanisms, while the openness feature has a negative moderating effect.

## 3. Research Design

### 3.1. Variable measurement

Emotional communication quantifies the density of emotional vocabulary (such as the proportion of negative emotional words and the frequency of positive supportive words) and narrative structural features (such as personal story integrity and the frequency of rehabilitation metaphor use) in community texts through content analysis. At the same time, a 7-level scale ( $\alpha$ =0.89) is used to collect subjective evaluations of emotional resonance and narrative appeal from members; The mobilization mechanism divides it into two dimensions: emotional mobilization and symbolic mobilization. Emotional mobilization measures the strength of members' mutual aid intentions (such as "I am willing to actively share anti suppression experiences") and the sense of emotional support (such as "community interaction alleviates my loneliness", $\alpha$ =0.85) through questionnaires.

Symbolic mobilization is comprehensively evaluated by analyzing the frequency of use of collective identity labels (such as "Yu You" and "Xin Guang Zhe") within the community and members' identification (such as "this label can accurately represent my group affiliation", α=0.87); For group identity, a three-dimensional measurement scale is constructed based on social identity theory, including sense of belonging (such as "I consider myself an important member of the community"), value identification (such as "the ideas advocated by the community are highly compatible with me"), and behavioral commitment (such as "I am willing to invest time and energy in the development of the community", α=0.91); For the characteristics of community structure, the openness indicators (such as standard deviation of joining time, centrality of node degree) and centrality indicators (such as the number of core opinion leaders and the level of information dissemination) of member interaction networks are calculated through Social Network Analysis (SNA), and the qualitative description of structural characteristics is verified through administrator interviews.

### 3.2. Data sources

The research data comes from multi-source heterogeneous information of depression themed online communities: firstly, using Python crawler technology to collect 2500 public posts from the "Anti Suppression Tree Hole" group on Douban and the "Depression Mutual Aid Alliance" super talk on Weibo from January 2023 to August 2024. After manual screening, 2000 valid texts were retained unless relevant content was found. ROST CM6 software was used for sentiment polarity analysis and theme modeling; Secondly, a snowball sampling method was used to distribute online questionnaires through community announcements, collecting 350 valid samples (76.3% female and 88.9% 18-35 age group). The questionnaire content covered demographic characteristics (such as age and duration of illness), community usage behavior (such as daily browsing time and interaction frequency), and core variable measurement items, with an effective response rate of 90.5%; All data collection follows ethical standards, and text analysis hides user identification. Questionnaire responses are anonymous and authorized by the platform management.

### 3.3. Model Construction

The study adopts a mixed empirical framework to test theoretical hypotheses: constructing a "emotional communication mobilization mechanism group identity" model, integrating content analysis of 2000 community texts (emotional tendency, narrative mode coding) and 350 questionnaire data (emotional communication perception, mobilization participation, group identity scale). By using a hierarchical regression model to verify hypotheses in stages, we first examine the direct impact of emotional resonance (empathy response frequency) and narrative (story integrity) as independent variables on mobilization mechanisms (emotional mobilization, symbolic mobilization); Secondly, controlling for emotional communication variables and examining the direct effect of mobilization mechanisms on group identity; Finally, the mediation effect types of emotional communication were analyzed using Bootstrap method (5000 samples). Regarding the moderating effect of community structure characteristics, group regression was used to compare the impact paths under the differences in openness (member mobility) and centrality (core node concentration), and to exclude multicollinearity with VIF values (<3). The robustness test ensures the reliability of the conclusion by replacing the analysis unit (post → user) and sample screening (excluding samples with a disease course of less than 3 months). The overall analysis focuses on the direct correlation and transmission mechanism between variables, simplifying the model complexity while retaining the core logical chain.

## 4. Empirical Analysis

### 4.1. Benchmark analysis

The direct effects of "emotional communication → mobilization mechanism → group identity" were tested through hierarchical regression, and the results are shown in Table 1.

**Table 1.** Regression Results of the Direct Effects of Emotional Communication on Mobilization Mechanisms and Group Identity

| variable | Emotional Mobilization (Model 1) | Symbolic Mobilization (Model 2) | Group Identity (Model 3) |
|---|---|---|---|
| Emotional Communication - Resonance | 0.42***(2.89) | 0.21*(1.87) | — |
| Emotional Communication - Narrative | 0.35**(2.56) | 0.48***(3.21) | — |
| Mobilization mechanism - emotional mobilization | — | — | 0.38***(3.12) |
| Mobilization Mechanism - Symbolic Mobilization | — | — | 0.51***(3.89) |
| $R^2$ | 0.39 | 0.47 | 0.62 |
| F-value | 18.23*** | 22.45*** | 28.76*** |

Note: The value of t is in parentheses, $p<0.001$, $p<0.01$, $p<0.05$; Sample size=350

The resonance of emotional communication has a significant impact on emotional mobilization ($\beta=0.42$, $p<0.001$), while narrative has a stronger impact on symbolic mobilization ($\beta=0.48$, $p<0.001$), supporting hypothesis H1; The effect of symbolic mobilization on group identity in the mobilization mechanism ($\beta=0.51$) is higher than that of emotional mobilization ($\beta=0.38$), indicating that symbolic interaction is more likely to form deep identity.

### 4.2. Endogenous test

Using "community establishment year (year)" as the instrumental variable (IV) for emotional communication, it satisfies exogeneity (not directly related to current group identity) and correlation (the longer the establishment, the more sufficient the accumulation of emotional communication). The endogeneity test results of the instrumental variable method (IV-2SLS) are shown in Table 2.

**Table 2.** Results of endogeneity test using instrumental variable method

| variable | OLS | IV-2SLS |
|---|---|---|
| Emotional Communication - Resonance | 0.42***(2.89) | 0.40**(2.68) |
| Emotional Communication - Narrative | 0.35**(2.56) | 0.33*(2.31) |
| Cragg-Donald F | 32.54(>16.38 critical value) | — |
| Hausman test | — | p=0.27 (Not rejecting exogeneity) |

The IV estimation results are basically consistent with OLS, and the Cragg Donald F value shows no weak instrumental variable problem; Hausman test $p=0.27>0.05$, accepting the null hypothesis of "exogenous emotional transmission", the endogeneity problem is not significant, and the benchmark result is reliable.

### 4.3. Robustness test

Use the LIWC text analysis tool to calculate the "proportion of emotional words" (i.e. the proportion of emotional words in the text) instead of manually encoded resonance/narrative indicators, and re estimate the model. The results show (Table 3) that the quantitative indicator of emotional communication, the proportion of emotional words, has a significant impact on mobilization mechanisms (β=0.39, p<0.001), consistent with the direction of resonance/narrative effects artificially encoded in the original model; The coefficient of influence of mobilization mechanism on group identity (emotional mobilization β=0.36 * *, symbolic mobilization β=0.49 * *) and the explanatory power of the model ($R^2$=0.60) are close to those of the original model ($R^2$=0.62), indicating that the replacement of measurement methods did not change the association between core variables.

**Table 3.** Replacement of Emotional Communication Measurement Methods

| variable | Original model (manually encoded) | Robust model (LIWC) |
|---|---|---|
| Emotional Communication - Proportion of Emotional Words | — | 0.39***(2.78) |
| Mobilization mechanism - emotional mobilization | 0.38***(3.12) | 0.36**(2.91) |
| Mobilization Mechanism - Symbolic Mobilization | 0.51***(3.89) | 0.49***(3.72) |
| $R^2$ | 0.62 | 0.60 |

After excluding abnormal samples (n=35) with an average daily usage time of more than 6 hours in the community, reanalysis was conducted, and the results are shown in Table 4. The impact coefficient of emotional resonance on mobilization mechanism (β=0.41 * * *) is basically consistent with the original model (β=0.42 * * *), and the significance level is not affected. The effect of symbolic mobilization on group identity (β=0.50 * * *) and model explanatory power ($R^2$=0.61) are highly consistent with the results of the entire sample, indicating that extreme values did not substantially interfere with the core conclusion.

**Table 4.** Excluding Extreme Value Samples

| variable | Original model (full sample) | Robust model (after exclusion) |
|---|---|---|
| Emotional Communication - Resonance | 0.42*** (2.89) | 0.41*** (2.81) |
| Mobilization Mechanism - Symbolic Mobilization | 0.51*** (3.89) | 0.50*** (3.82) |
| $R^2$ | 0.62 | 0.61 |

## 5. Strategic Recommendations

### 5.1. Optimizing the Content and Form of Emotional Communication

To address the concealment and complexity of emotional expression among members of the depression community, a systematic emotional communication strategy needs to be constructed to enhance resonance effectiveness and cognitive guidance[2]. On the one hand, natural language processing technology is used to analyze the emotional polarity and cognitive bias of community texts, identify the rehabilitation stage of members, and push targeted adaptive content - focusing on providing a non judgmental emotional support discourse system for members in acute attacks, and strengthening the narrative of "post-traumatic growth" for members in rehabilitation; On the other hand, establish a narrative production mechanism of "professional guidance+peer co creation", invite

experts in the field of mental health and members of high recognition communities to jointly develop standardized narrative templates, and transform individual fragmented pain experiences into structured stories containing "problem definition resource link action plan" (such as "when I started recording three small controllable things every day, I found that my sense of emotional control decreased by 37%"), reduce shame through metaphorical construction, and enhance the instrumental value and hope transmission efficiency of emotional communication.

### 5.2. Strengthen the mechanism of community information exchange

To address the randomness and inefficiency of information exchange in depression communities, it is necessary to optimize the community structure to enhance the mobilization efficiency and identification cohesion of emotional communication. We should enhance the positive guidance function of core nodes, identify "emotional hubs" with high interaction frequency and professional background in the community, and give them the role of "narrative anchors" - regularly initiate thematic interactions, and guide dispersed emotional expressions to transform into collective memory construction through structured topics[3]. Establish a hierarchical interactive incentive mechanism: Design an "emotional support score system" to provide identity identification and resource tilt (such as priority participation in expert lectures) to members who provide effective cognitive intervention suggestions and initiate offline mutual assistance activities, and encourage the coordinated development of instrumental and emotional interactions[4]. Optimize the accessibility of information dissemination paths: Develop a community specific information classification and retrieval system, label and manage member generated content according to "emotional resonance", "cognitive intervention", and "resource link" categories, reduce the cost of information acquisition for new members, and avoid exacerbating depression and anxiety due to information overload.

### 5.3. Improve the construction of social support network

To address the issue of broken professional support connections in the depression community, it is necessary to establish a collaborative network of "community medical institution social welfare organization". One is to deepen the connection between medical and social institutions, embed AI psychological assessment tools (such as PHQ-9 automated assessment), open a green channel for medical institution referral for those with abnormal assessments, establish a "rehabilitation patient" pairing mechanism, and have trained and qualified rehabilitation patients serve as peer counselors to provide empirical support. The second is to accurately integrate public welfare resources, collaborate with public welfare organizations to design a "special anti suppression plan", develop customized service packages for the vocational skills training and academic pressure of unemployed groups, and improve support accuracy through a closed-loop process of "demand research resource matching effect feedback"[5]. The third is to strengthen policy advocacy and public education, launch the "Depression Decontamination Naming" campaign on the platform of communities, and promote social cognition from moral judgment to equal emphasis on medical cognition and social support through anonymous narrative documentaries, expert science popularization live broadcasts, and other forms, creating an inclusive external environment[6].

## 6. Conclusion

This study takes depression communities as an example to reveal that emotional communication in online communities activates mobilization mechanisms through resonance and narrative pathways, and constructs the internal logic of group identity through the mediating role of emotional communication. At the same time, it verifies the moderating effect of community structure characteristics on communication effectiveness. Research has found that the instrumental (narrative strategy) and emotional (resonance intensity) aspects of emotional communication work together to enhance mobilization effectiveness, and community centered structures can strengthen this process. For individuals with depression, this emotional mobilization identification cycle is not only a

psychological bond to alleviate loneliness, but also a key engine for building social support networks. Future research can further expand to cross-cultural community comparisons or introduce real-time dynamic data to track the evolutionary path of emotional communication, providing more universal theoretical references for community governance and mental health interventions in the digital age.

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