Social Support for Depression Groups in the Online Environment: The Effectiveness of Information

Liang Wu[1,a,*]

[1]*College of Science and Technology, China Three Gorges University, Yichang, China*
a. shihuancheng@ldy.edu.rs
**corresponding author*

Abstract: Significant increase in interactivity distinctively characterizes the field of health communication on social media. This implies that users are able to engage in more intense interaction activities with other users on the platform. The nature and content of users' questions can potentially play a decisive role in determining the rate at which they receive social support. Currently, an in-depth analysis has been carried out on the content of the largest depression community in China. With a total data support of 2,000 comments, the focus of this analysis is on exploring the relationship between threats and efficacy within the content and social support. The results demonstrate that the comment content is predominantly question-based comments. In contrast, emotional comments are relatively fewer in number. Additionally, it has been found that content with high threat and low efficacy is more likely to receive greater social support. Furthermore, some practical and possible suggestions are put forward for the improvement of China's depression public communication platform. This could involve enhancing the platform's functionality to better facilitate interaction and support among users, as well as providing more targeted resources and information for those dealing with depression.

Keywords: Social support, Depression, Extended parallel process model.

1. Introduction

Social support is defined as perception or experience in that a person is loved and cared for by others, respected and valued, and is part of the interaction and obligation of the social network. Social support may come from partners, relatives, friends, colleagues, social and community relationships, and even a loyal pet [1]. With the popularity of the Internet, the forms of social support will also change correspondingly with the update of technology. One of the most remarkable features is the interactive communication of the network. In the network environment, users can exchange and share information with other users or platforms through leaving messages. This means that users can obtain social support through interactive communication on the network. There are various types of comments and replies on the Internet. What types of comments can obtain more social support? The Extended Parallel Process Model (EPPM) based on fear appeal describes adaptive behaviors in the face of danger. Specifically, EPPM describes how messages about adaptive protective behaviors in risky environments trigger these desired behaviors. If the message recipient: 1) considers the threat components of the message worthy of attention (threat assessment), and 2) considers the targeted behavior of the message achievable and beneficial (efficacy assessment) [2]. Given the critical role

of threat and efficacy in comments, realizing that these two factors play an essential role in whether comment content can obtain social support, I chose the discussion group for depression patients (Baidu Tieba, Depression Bar) as the research sample to explore the relationship between social support and threat efficacy. Regarding the relationship between the two, an evaluation scale was designed, and a series of classifications were carried out. The classification method is: According to the social support theoretical model, comments and replies are classified as "problem-focused types" and "emotion-focused types". On the other hand, according to the EPPM model, the threat level and efficacy level of comments are respectively divided into three types: "none, low, and high". And explore the language structure of comments from a theoretical dimension to find comment types that are more likely to obtain social support. For the platform, exploring the comments of depression patients on the network, finding their social demands, and understanding their social demands is conducive to the platform's construction of the communication environment for this special group, setting up a better platform structure, and providing patients with more convenient partitions and more practical communication tools. For patients, according to the theory of social support, letting depressed patients understand the comment structure and design a better comment structure is conducive to patients receiving more and more comprehensive social support, thereby obtaining effective treatment methods and increasing the success rate of disease cure. Or by means of emotional communication and exchange to alleviate the painful symptoms of patients, and even obtain extensive emotional support in the depression patient community, providing a possible way for patients to return to normal life.

2. Review

2.1. Online Social Support

With the update and development of Internet technology, the amount of information and discussion forums on health discussions on the Internet have also shown a leapfrog growth and innovation. Conducting health communication in the form of "online communities" is increasingly chosen by patients. It is commonly believed that panic and antisocial behavior are commonplace, but extensive research on this topic has shown this to be wrong. Instead, help and mutual support prevail [3]. They discuss disease information in discussion groups or request specific emotional support for information. Given that the essence of social support is a kind of interpersonal interaction, existing research on social support emphasizes two directions: requesting and providing social support. Some scholars even further propose that the purpose of requesting social support is mainly to persuade others to provide social support [4]. Based on the above three classifications of social support, these three types can be divided into two major categories: problem-focused support and emotion-focused support [5]. Based on the request and provision of social support, as well as problem-oriented and emotion-oriented concerns, the following hypotheses are proposed:

H1a: Posts that ask questions about problems directly can obtain more problem-focused support.

H1b: Posts that directly ask emotional questions can obtain more emotion-focused support.

2.2. Threat and Efficacy

Even for heavy media users, media are probably not a decisive causal factor in (especially not personal) risk perception [6]. However, we can spontaneously describe risks by asking questions. In this study, the so-called threat does not refer to an individual's perception of the danger but focuses on the threat level of the message itself. Especially in this experiment, the danger comes from the severity of the depression reaction revealed between the lines by the commenter. As an extension of this, it is because describing how vulnerable individuals are threatened by information can subconsciously arouse a high degree of empathy in potential helpers. This empathy then influences

these potential helpers to think about situations where they may encounter similar situations. Subsequently, social behaviors resulting from this empathetic imagination, including various types of social support, aim to reduce the adverse effects of danger on those in need of help [7]. This means that those more helpless seekers seeking help and patients deeply afflicted by illness are more likely to receive help from others when they post. Based on the above content, I propose the following hypotheses.

H2a: Contents with high threat and no efficacy are more likely to receive social support.

2.3. Depression

Depression is a debilitating condition that adversely affects many aspects of a person's life and general health [8]. Depressive disorders especially major depressive disorder (MDD) are fairly prevalent conditions in the general population. Significant suffering, high morbidity and mortality, and psychosocial functional impairment are typically associated with depressive disorders. Unfortunately, despite the availability of numerous effective treatments for depressive disorders, these latter are often underrecognized and undertreated in the community. Several factors contributing to the underrecognition of depression have been identified, ranging from the stigma of depression itself to the relative lack of systematic ascertainment of depressive symptoms by primary care physicians (PCPs) [9]. And the inducing factors of depression may also be related to the acquired living environment. For instance, adults with chronic persistent depression may be related to their long-term low income [10]. This characteristic leads people with depression to need a public platform to express and discuss issues. This paper unfolds relevant discussions on threat, efficacy, and online social support based on this demand.

3. Methods and Result

3.1. Data

Data was obtained from the Depression Bar on Baidu Tieba. The method was to use Python to capture messages from the Depression Bar randomly. A total of 2000 pieces of content were captured. ("Comment" type content is marked with Title before it.) The analysis unit is a single piece of user-generated information in the Depression Bar, Advertisements, irrelevant information, and emoticons were excluded. It was also excluded if a member posted the same content again within one hour. Then, random sampling was used to select 200 pieces of content from the 2000 pieces for manual content analysis. Based on the social support theory, messages that focus on problem types are classified as one category, and content that focuses on emotions is classified as one category (if certain information contains both content and emotional support, it is classified into both of the above types at the same time. If the comment does not show a tendency for social help, it is classified as the third category). The replies are also classified according to the above method. Similarly, the classification of threat and efficacy is also divided into three categories: none, low, and high, according to the comment content. The reply content is the same. Two undergraduates participating in the health communication project were enlisted to analyze all the posts and comments. Before commencing the coding process, these two coders were asked to attend a formal meeting hosted by the author, who is an expert on depression research. The objective of this meeting is to make them familiar with knowledge about depression, including various types of depression, depression-related health problems, depression detection, and depression treatment. Moreover, we provided training on threat definitions, effectiveness, and different kinds of social support for the coders. To ensure a more comprehensive understanding of coding for various structures, we also gave illustrative examples to the coding personnel. Significantly, we conducted practices before the coding process to further acquaint the coding procedure.

3.2. Coding Method and Coding Table

We have classified problem focus, emotional focus, absence, low level, and high level of threat and efficacy and listed them in the example table.

Table 1: Coding Scheme

Comment	**Coding Method**	**Definition**	**Example**
Problem-focused	p	Directly request comments on problems	“Can I take sleeping pills if I can't sleep at night?”
Emotion-focused	h	Directly request comments on emotions	“I want to leave. I don't know how long I can live. I just feel so tired every day. I don't know what to do either?!”
No tendency	u	No obvious tendency	“Suffering from depression.”
No threat	q	Show that depression does not bring danger to the individual or not show its danger	“Daily, wish you a happy day.”
Low threat	w	Show that depression has certain danger and brings a negative state	“Is it my wrong feeling? When I go to see a psychologist for depression, why do I feel that the doctor is very fierce and doesn't pay much attention to the condition?”
High threat	e	Show that depression has extremely high danger and brings a negative state	“Why does my mother cry more sadly than me when I am most sad and depressed and say that she is a failure? I don't want to live anymore. At that moment, I am really confused.”
No efficacy	a	An individual's ability cannot solve the dilemma brought by depression	“Who can tell me, what's the meaning of living?”
Low efficacy	s	An individual does not have enough ability to solve the dilemma brought by depression	“Although the world is not perfect, there are always people guarding you.”
High efficacy	d	An individual believes that they can solve the problems brought by depression	“Come and chat with me.”
Reply	Coding Method	Definition	Example
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Problem-focused	p	Directly reply to problems	“To be honest, anime lovers are more likely to be depressed because they like to stay at home and don't like to go out. On the contrary, people who love sports are less likely to be depressed. So go exercise more.”
Emotion-focused	h	Directly reply to emotions	“Don't be afraid. Students will be anxious because of grades. Don't take grades too seriously. Happiness is the most important thing. ^ ^”
No tendency	u	No obvious tendency	“I hope the Internet disappears.”

3.3. Results

Table 2: Data collation

Category	Avg	Min	Max	Prob Focus	Emot Focus	No Tend
Prob, no threat & low eff	3.00	3.00	3.00	√	—	—
Prob, low threat & ineff	6.00	6.00	6.00	√	—	—
Prob, low threat & low eff	12.00	12.00	12.00	√	√	—
Prob, high threat & ineff	Var (prob 20.00/emot 9.00/no tend 3.00)	3.00 (no tend)	20.00 (prob)	√	√	√
Prob, high threat & low eff	Var (prob 3.00/emot 1.00)	1.00	3.00 (prob)	√	—	√
Emot, no threat & ineff	1.00	1.00	1.00	—	—	—
Emot, no threat & high eff	1.00	1.00	1.00	—	—	—
Emot, high threat & ineff	Var (prob 17.00/emot 28.00/no tend 1.00)	1.00 (no tend)	28.00 (emot)	√	√	√
Emot, high threat & low eff	1.00	1.00	1.00	—	—	—
No tend, no threat & high eff	1.00	1.00	1.00	—	—	—
No tend, high threat & ineff	9.00	9.00	9.00	—	—	√

3.4. Discussion

According to the Coding Scheme and Data collation, when the threat level is constant, the higher the degree of effectiveness, the lower the number of received responses. The results are as follows: the number of responses received with no effectiveness is 74; the number of responses received with low effectiveness is 27; and the number of received responses with high effectiveness is 0. When the degree of effectiveness is constant, the higher the threat level, the greater the number of respondents received responses. The results are as follows: the number of received responses with no threat is 8; the number of received responses with low threat is 32; and the number of received responses with high threat is 94. In conclusion, comments with high threat and low effectiveness can receive more social support. (h2a)Based on this verification, let's discuss the following results. It is noteworthy that the responses received by highly threatening and ineffective comments with problem focus are (problem focus: 20; emotion focus: 17; and no tendency: 2). For highly threatening and ineffective comments with emotion focus, the responses received are (problem focus: 9; emotion focus: 28; and no tendency: 0). As for highly threatening and ineffective comments with no tendency, the responses received are (problem focus: 3; emotion focus: 1; and no tendency: 9). This shows that problem-focused comments can receive more problem-related responses (H1a), emotion-focused comments

can receive more emotion-related responses (H1b), and comments with no tendency receive responses that are also without tendency.

4. Conclusion

When designing the structure of a comment, if one hopes to receive responses with social support, one can directly ask questions about certain problem-focused or emotion-focused content in the comment. In comments seeking social support, one should describe a certain disease, situation, or phenomenon in a risk-oriented way to show high threat, as well as one's sense of helplessness, confusion, and the tendency that one cannot solve it on one's own when facing this high threat The platform can try to build mutual assistance programs or mutual assistance windows to help patients with depression solve the problem of social support so that marginalized groups who lack communication in real life can obtain more possibilities of network social support. That is a sense of ineffectiveness. (For example, the platform can set up a depression consultation section. Based on this characteristic, the platform can provide special service consultations for depression patients or potential patients in a targeted manner. It can even cooperate with online doctors to perform value-added services such as paid use)In this report, although it is analyzed that comments with specific types of focus combined with high threat and low effectiveness can obtain more social support, in this experiment, the effectiveness degree of the obtained social support and the usability degree of information have not been explored. Although comments seek social support for specific issues, the content of the responses may be useless for their comments. Further exploration can be conducted regarding this experimental defect.

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