

A dynamic game model analysis for friendship selection

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Abstract. Befriending with net friends in real life is an important choice for people who live in a fast-paced lifestyle, but results are unsatisfactory and even cause a lot of malignant events. Therefore, this paper simulates the whole process of Internet friend-making through the construction of game model and field experiment, with the aim of showing the behavior logic of people with limited rational when they try to befriend with net friends in real life. This paper aims to give more behavior guidance to related participants. Results from this research show that in the process of making friends on the Internet, the basis for people befriending with net friends in real life is that they assume that their conditions are equal. But in off-line activities, they cannot improve their effectiveness, which then terminates their communication. Therefore, this paper suggests that Internet social users should distinguish Internet friend-making from traditional friend-making, and do not have too many unrealistic expectations of Internet friend-making.

Keywords: Internet friend-making, actualization, game model, experimental study

1. Introduction

Internet-enabled in social life hasten the number of Internet users based on the Internet advantages of fastness, diversification and convenience. In addition, the high popularity of smart phones facilitates all adults with independent social attributes becoming Internet users. Internet technology is applied to all aspects of people's work, life and study. Social activity is one of the most important activities in everyone's life, which explains the rapid and barbarous development of the Internet social platforms [1–4]. Among many functions of the social platforms, Internet friend-making is one of its most basic functions, because Internet friend-making have the advantages that traditional ways of making friends cannot achieve in the fast-paced life. Internet friend-making can break through geographical constraints, and transcend time

and space in the virtual space for users achieving mental catharsis. However, the virtuality, indirectness and openness of the Internet make many psychologically sympathetic friends don't satisfy with pure online communication. Their curiosity about the real information of their net friends increases, which drives them moving to off-line communication [5–9]. Once this intention is realized, it is what this paper defines as “befriending with net friends in real life” behavior.

At present, many social users use Internet technology to constantly update their online status, display self-images, and share video, photos and knowledge, or thumb-up and comment on others' moments, to expand online friends and improve friend-making [10–14]. This fast, simple, intelligent way of making friends is a great attraction for those who live in a fast-paced life. They spend a lot of time, energy and even money on a variety of social applications to get satisfactory results, in order to break through their social circle restricted by the fast-paced life. However, because of the vulgarization trend of thought, the intelligent and convenient technology support

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system of Internet makes people's intention of making friends deviate from the original one. The effect of emotion on friend-making outcomes is being weakened, making Internet friend-making more and more like a game. In the interactive game, Internet technology provides convenient and intelligent support for social users, but also provides the soil for network deception. In those deceptions, there are some un-malicious ones. For example, many Internet social users, under limited information conditions, try to create or project a positive image for others while trying to understand each other as much as possible so as to attract other's recognition and achieve the expected communication results. But those maliciously Internet friend-making cheating behaviors may have very bad social consequences. In fact, in friend-making activities with the Internet as a medium, whether good or malicious intentions will make the results contrary to expectations, while the developed Internet technology is one of the accomplices that make such deception with zero cost [15–19].

On the one hand, social networking users are scramble for Internet friend-making activities [20, 21]. On the other hand, Internet friend-making results go against expectations. The two aspects form a paradox. To clarify the logic of this paradox, this paper tries to demonstrate the behavioral logic of Internet friend-making by combing game model and field experiment, hoping that people can make correct decisions about Internet friend-making, which in turn reduces bad social consequences of befriending with net friends in real life.

2. Theory and model

The model analysis in this paper is to clarify the logic of befriending with net friends in real life, and to find the basis for real behavior decisions of Internet friend-making. However, the process of making friends on the Internet is complex, and no theoretical model can exhaust all aspects of people's communication process. Therefore, in constructing game model, we should limit the boundary of communication content examined by the model so as to clearly show the logic of befriending with net friends in real life.

2.1. Boundary delimiting of the model

In practice, the Internet social users began as complete strangers. They lack necessary emotional

foundations, and rely on external perceptions of the other to determine the next communication step, which including appearance, humorous conversation, knowledge conservation and so on. In order to build a more concise logic of the model, this paper will build a utility function from four aspects: photo information, moment's information, consumption information and topic information, and select the most basic two people befriending as a unit for discussion, that is, the game model only has two persons A and B.

2.2. Setting of the game frame

From the current practice of making friends on the Internet, male-female befriending occupies absolute majority, so persons involved in the game model are opposite genders. They begin as complete strangers, and the Internet's technical support for privacy protection asks a voluntary agreement to know each other's information. Therefore, if they want to get to know each other offline, it is necessary to induce the other forming a positive evaluation of himself/herself. According to what the model includes, what they can do is to show their beautified photos, deliberately show their positive images in moments, show themselves beyond their own consumption ability, and choose certain chat topics. Therefore, A and B have same strategic space.

Because of the characteristics of the Internet friend-making environment, people's assessment might result from other's beautification or true self presentation. Social users often cannot accurately judge it. They can only give a possible probability value to their assessment, and then make a comprehensive search. In the process of evaluation, the effectiveness of the evaluation is in fact finding the difference between the mathematical expectation of the other and the value of its own evaluation. If the difference is positive, it shows that they can get positive effects from the other party and vice versa. That is, the utility that social users get in the process of communication equals to the other side's score on themselves multiplies the difference of their scores on the other side subtract their own scores on themselves.

2.3. The basic assumptions and definitions of the model

Assumption 1. A and B are limited rationale. They cannot master the information in real time and completely, and predict the possible results and the

probability of every event, as well as the degree of preference for each result. Therefore, there is no unlimited rational person.

Assumption 2. A and B have two kinds of behavior strategies to beautify and not beautify their photos in moments and sending to the other party. Setting the probability of A beautifying his or her photos as p_1 , and not beautifying as $1 - p_1$; while the respective probability of B as p_2 and $1 - p_2$.

Assumption 3. A's and B's moments have two action strategies, truly and falsely reflecting their lives, life attitudes and personalities. Setting the probability of A as false as p_3 , and true as $1 - p_3$; while the respective probability of B as p_4 and $1 - p_4$.

Assumption 4. A and B have two kinds of action strategies: exceeding and not exceeding their own consumption level through chatting, moments and photos. Setting the probability of A exceeding his or her real consumption ability as p_5 , and not exceeding as $1 - p_5$; while the respective probability of B as p_6 and $1 - p_6$.

Assumption 5. There are deliberate and non-deliberate action strategies in the conversation between A and B. Setting the probability of A deliberately choosing as p_7 , and not non-deliberately as $1 - p_7$; while the respective probability of B as p_8 and $1 - p_8$.

Based on the above assumptions and the delimitation of the model boundaries, we give the basic definition of the following models:

Definition 1. The utility function that players obtained from the Internet friend-making process is as follows:

$$U_i = \sum_{j=1}^4 w_j u_i^j \quad (1)$$

Among them, U_i ($i=A, B$, representing players A and B) denotes the total utility obtained by A and B through making friends on the Internet; u_i^j ($i=A, B; j=1,2,3,4$) means the utility getting from photo information, moments, consumption information and topic information, respectively. w_j expresses the weight of the utility that limited rational person A and B get from the above 4 aspects.

Definition 2. The expression of utility function obtained by the players from the above four aspects of information is expressed as following.

$$u_A = A_B \times (B_A - \bar{\pi}_A) \quad (2)$$

$$u_B = B_A \times (A_B - \bar{\pi}_B) \quad (3)$$

u_A and u_B represent the utility of the players A and B obtained from the above four aspects. $u_A^1 = u_B^1$ refers to B's evaluation of A, while B_A refers to A's evaluation of B. $\bar{\pi}_A$ and $\bar{\pi}_B$ refer to A's and B's evaluations to themselves.

Definition 3. Net users' evaluation of others after receiving relevant information is shown as the following.

$$A_B = p_m \pi'_A + (1 - p_m) \pi_A \quad (4)$$

$$B_A = p_n \pi'_B + (1 - p_n) \pi_B \quad (5)$$

p_m and p_n ($m=1,3,5,7; n=2,4,6,8$) refer to the probabilities that A and B beautify photos, and that their moments don't reflect their actual situations, exceeding their own consumption level, and the deliberate choices of chatting topics. $1 - p_m$ and $1 - p_n$ refer to A's and B's probabilities of showing the real situations. π'_A and π'_B refer to the evaluations of B to A and A to B after such manipulation, and π_A and π_B refer to the evaluations of B to A and A to B without such manipulation.

2.4. The solution and analysis of the model

According to the model definition, the utility of A and B in the process of making friends must satisfy the mathematical programming problem of maximizing the solution.

$$\max U_A = w_1 u_A^1 + w_2 u_A^2 + w_3 u_A^3 + w_4 u_A^4 \quad (6)$$

$$\max U_B = w_1 u_B^1 + w_2 u_B^2 + w_3 u_B^3 + w_4 u_B^4 \quad (7)$$

According to definition 2 and definition 3, the expression of effectiveness function gained from Internet users in the above four aspects is expressed as the following.

$$u_A = [p_m \pi'_A + (1 - p_m) \pi_A] \times [p_n \pi'_B + (1 - p_n) \pi_B - \bar{\pi}_A] \quad (8)$$

$$u_B = [p_n \pi'_B + (1 - p_n) \pi_B] \times [p_m \pi'_A + (1 - p_m) \pi_A - \bar{\pi}_B] \quad (9)$$

Therefore, the effectiveness of the players A and B from the other's photo information, moments, consumption information and topic information are as follows.

$$u_A^1 = [p_1\pi'_A + (1 + P_1)\pi_A] \times [p_2\pi'_B + (1 - p_2)\pi_B - \bar{\pi}_A] \quad (10)$$

$$u_B^1 = [p_2\pi'_B + (1 + P_2)\pi_B] \times [p_1\pi'_A + (1 - p_1)\pi_A - \bar{\pi}_B] \quad (11)$$

$$u_A^2 = [p_3\pi'_A + (1 - P_3)\pi_A] \times [p_4\pi'_B + (1 - p_4)\pi_B - \bar{\pi}_A] \quad (12)$$

$$u_B^2 = [p_4\pi'_B + (1 - P_4)\pi_B] \times [p_3\pi'_A + (1 - p_3)\pi_A - \bar{\pi}_B] \quad (13)$$

$$u_A^3 = [p_5\pi'_A + (1 - P_5)\pi_A] \times [p_6\pi'_B + (1 - p_6)\pi_B - \bar{\pi}_A] \quad (14)$$

$$u_B^3 = [p_6\pi'_B + (1 - P_6)\pi_B] \times [p_5\pi'_A + (1 - p_5)\pi_A - \bar{\pi}_B] \quad (15)$$

$$u_A^4 = [p_7\pi'_A + (1 - P_7)\pi_A] \times [p_8\pi'_B + (1 - p_8)\pi_B - \bar{\pi}_A] \quad (16)$$

$$u_B^4 = [p_8\pi'_B + (1 - P_8)\pi_B] \times [p_7\pi'_A + (1 - p_7)\pi_A - \bar{\pi}_B] \quad (17)$$

To simplify the operation, we only solve and analyze the effectiveness of A and B in the photo information. Then, the first order conditions for the optimization of the utility of the A and B in the process of the photo media must be satisfied the following.

$$\frac{\partial u_A^1}{\partial \pi'_A} = p_1[p_2\pi'_B + (1 - p_2)\pi_B - \bar{\pi}_A] = 0 \quad (18)$$

$$\frac{\partial u_B^1}{\partial \pi'_B} = p_2[p_1\pi'_A + (1 - p_1)\pi_A - \bar{\pi}_B] = 0 \quad (19)$$

From this, we can get the game equilibrium solution of the photo exchange among players as the following.

$$p_2 = 0 \text{ or } p_2\pi'_B + (1 - p_2)\pi_B = \bar{\pi}_A \quad (20)$$

$$p_2 = 0 \text{ or } p_2\pi'_A + (1 - p_2)\pi_A = \bar{\pi}_B \quad (21)$$

According to the above equilibrium solution, the optimal response of the players A and B is both non-beautification of photos and equivalent appearances. Each of them has two optimal reaction strategies.

Table 1
Results of 9 combinatorial operations of internet friend-making based on random decision making

Sequence Number	Combination Decision	Solution
Case 1	$p_1 = 0, H \neq 0;$ $p_2 = 0, K = 0$	$\mu_A^1 = \pi_A[p_2\pi_2 + (1 - p_2)\pi_2 - \pi_A, \mu$ $\mu_A^1 = \pi_A[p_2\pi_2 + (1 - p_2)\pi_B - \pi_A]\mu_B^1 = 0$
Case 2	$p_1 = 0, H = 0;$ $p_2 = 0, K \neq 0$	$u_A^1 = 0,$ $u_B^1 = \pi_B[p_1\pi'_A + (1 - p_1)\pi_A - \pi_B]$
Case 3	$p_1 = 0, H \neq 0;$ $p_2 = 0, K \neq 0$	$u_A^1 = \pi_B(\pi_A - \pi_B),$ $u_B^1 = \pi_B(\pi_A - \pi_B)$
Case 4	$p_1 = 0, H \neq 0;$ $p_2 = 0, K = 0$	$u_A^1 = \pi_B[p_1\pi'_B + (1 - p_2)\pi_B - \pi_A,$ $u_B^1 = 0$
Case 5	$p_1 \neq 0, H = 0;$ $p_2 = 0, K \neq 0$	$u_A^1 = 0,$ $u_B^1 = \pi_B(p_1\pi'_A + (1 - p_1)(\pi_A - \pi_B))$
Case 6	$p_1 \neq 0, H = 0;$ $p_2 \neq 0, K = 0$	$u_A^1 = u_B^1 = 0$
Case 7	$p_1 \neq 0, H = 0;$ $p_2 = 0, K = 0$	$u_A^1 = u_B^1 = 0$
Case 8	$p_1 = 0, H = 0;$ $p_2 \neq 0, K = 0$	$u_A^1 = u_B^1 = 0$
Case 9	$p_1 = 0, H = 0;$ $p_2 = 0, K = 0$	$u_A^1 = u_B^1 = 0$

They make random decision to get the following 9 strategy combinations. The result of decision determines whether the friends can extend offline. For the convenience of calculation, in formula 10 and formula 11 $p_2\pi'_B + (1 - p_2)\pi_B - \bar{\pi}_A = H$ and $p_1\pi'_A + (1 - p_1)\pi_A - \bar{\pi}_B = K$. We can get the following.

In order to achieve offline meeting, we ordered $u_A^1 = u_B^1$. From case 1 and case 3, we can get $p_2\pi'_B + (1 - p_2)\pi_B = \pi_A$, which contradicts $H \neq 0$, so there is no solution. From case 2 and case 4, we can get $p_1\pi'_A + (1 - p_1)\pi_A = \pi_B$, which contradicts $K \neq 0$, so there is no solution. From case 5, case 6, case 7 and case 8, we can get $u_A^1 = u_B^1 = 0$. The four cases are solvable and the effectiveness is 0. From case 3, we can get the equilibrium solution $\pi_A\bar{\pi}_A = \pi_B\bar{\pi}_B$ and the effectiveness of the players are $u_A^1 = \pi_A(\pi_B - \bar{\pi}_A)$, $u_B^1 = \pi_B(\pi_A - \bar{\pi}_B)$. Therefore, analysis of players' effectiveness from moments, consumption and topics follow the same rule. We can get the following theorems.

Theorem 1. *It is concluded from case 1, case 2 and case 3 that the friends, although they are willing to continue the online friendships in a frank way, in practice, it will be a paradox. Because their desire is based on "the others' conditions are superior to themselves". Therefore, they cannot realize*

equal communication in the process of making friends online.

Theorem 2. *Case 4 and case 5 conclude if one of the parties is willing to extend the online communication offline in a frank way, but the premise is that the conditions of the other party must be better than themselves. While the other party does not require the other side to be superior to himself, he or she only hopes to be able to communicate equally, and to beautify himself or herself deliberately in order to facilitate the success of the communication between the two sides. But the two sides are still unable to meet offline.*

Theorem 3. *Case 6, case 7 and case 8 conclude that the friends of the two parties may not require each other's conditions to be superior to themselves, only to be able to communicate equally, but at least one of the two parties beautify themselves in order to facilitate the successful communication offline. In this situation, the two sides can meet offline but cannot find a sense of "gain".*

Theorem 4. *Case 9 concludes that both sides are willing to continue online friends offline in the way of "treating them sincerely", and do not require the other's conditions to be superior to themselves. They only want to be able to communicate equally. In this situation, they can meet offline but cannot find a sense of "gain".*

Theorem 5. *The two parties are not only willing to make friends on the Internet in the way of "treating them sincerely", but also believe that the other party's conditions are better than themselves. At this time, they can meet offline and realize befriending with net friends in real life.*

2.5. Extension analysis of the model

The above theorems 1 to 4 are based on 9 combinations of A's and B's random decision making. In fact, theorem 1 to 4 still have some intersecting content. For this reason, we combine the practice of Internet friend-making, and the same contents of the theorem 1 to 4. Finally, we extract the following two corollaries.

Corollary 1. *Intentional or unintentional beautifying photos to please others for offline befriending have the same effect, because the basis of their offline relationship is "their evaluation of the others is equivalent to their own".*

But after seeing offline, the effectiveness cannot be improved.

Corollary 2. *After meeting offline, the two parties set "improving their effectiveness" as conditions. Obviously from the model, only when both sides treat each other sincerely and believe that the other party's conditions is better than themselves can they realize befriending with net friends in real life.*

3. Method

The second part of this paper has combed the behavioral logic of Internet friend-making through the analysis of game model, and then through expansion analysis of the model, it finally forms the inference 1 of befriending with net friends in real life, and inference 2 whether on-line friends can be maintained after seeing each other offline. But the two corollaries are only theoretical hypotheses that conform to the game logic of behavior. As to whether the hypothesis is correct, how far it is correct, and how big the gap is with practice, it must be verified with the help of practical data. Although inference 1 and inference 2 can be established, it is closely related to the degree of photo beautification, information authenticity of moments, excess of consumption ability, and the intentional degree of choosing topics, their influences on the two inferences is characterized by the same direction. Therefore, whether we are simultaneously entering these variables at the same time or not, there is little difference in the inferences. However, when people evaluate these variables, the evaluation of the attractiveness of the photos is most intuitive and stable. In befriending activities of the Internet, social users begin with a completely strange state, so the attraction of photos is the most important impact of the judgment. Therefore, to have accurate data, and guarantee the effectiveness of the experiment, this study carried out experiments on photo beautification's impact on two inferences in the Internet friend-making experiments.

3.1. Participants

To demonstrate the Internet friend-making process of social users more vividly, we need all participants to communicate in a completely strange state. In addition, to make the sample best represent the overall Internet friend-making crowd, we recruit subjects from different professions, ages, and education

backgrounds. Besides, to ensure a convenient and centralized experiment, we recruited 40 males and 40 females' volunteers around our campus, who ranged in age from 20 to 30 ($M = 23.95$) to narrow the aesthetic differences, and their average age of the Internet using was 10.4 years. Participants include 37 graduates (46.25%), 26 postgraduates (32.5%), and 17 working people (21.25%).

3.2. Procedure

The experimental was completed in 2 laboratories which was divided into two stages of on-line and off-line. All the male participants were arranged in laboratory 1, numbered A-01 to A-40, and all the females were arranged in laboratory 2, numbered B-01 to B-40. Since all subjects were completely strangers to each other, to protect the personal privacy of the participants, and to ensure that participants were not harassed after the experiment ended, the online and offline communication was completed in laboratory by using WeChat, an Internet social platform. All experimental materials were deleted after the experiment was finished. The participants exchanged photographs in one to one random combination of men and women. Then, we collected participants' evaluation of the photos, as well as their personal information and attitudes. Before the start of the experiment, each participant was asked to fill in the questionnaire on befriending with Internet friends in real life to collect participants' personal information. During the experiment, they should fill in online and offline experiment feedbacks to collect subjects' evaluation and attitude towards the photos, and to ensure that the participants are not interfered by others. To ensure the quantity and diversity of the samples, each laboratory is divided into 5 groups, using different combinations of males and females. In addition, to maintain subjects' normal and stable mood for accurate experimental results, the testing time of the online stage is controlled within 3 hours. In the process of the online experiment, researchers will collect and count the experimental data synchronously, so that the subjects with intentions to see the other offline enter the next offline phase. The two sides exchanged the non-beautified photos that in the online phase were reserved. Participants evaluated photos to fill in the feedback form and collect the evaluation and attitude data. The reason for replacing participants seeing the other's photo rather than conducting a face-to-face meeting is for personal privacy, personal safety and other factors. Although this

consideration will affect the experimental results, this paper prioritizes academic ethic.

3.3. Materials

Each participant was asked to provide 2 non-beautified photos and 3 different degrees of beautified photos. The photos should be clear face photos. Researchers collected 120 photos from the graduate faculty of our university before the experiment and ensured that participants were not acquainted with the characters in the photos. The characters in the photos were aged between 20 and 30 years, including 60 beautified photos and 60 unbeautified photos.

The experiment is based on participants' ability to distinguish beautified photos from unbeautified ones. To test participants' such ability, researchers randomly selected 40 unbeautified ones and 40 beautified ones of the 120 photos collected from the graduate faculty of our university before the experiment. Any unclear photos were replaced by other clearer ones. The samples were randomly sent to 80 participants, and the participants were asked to distinguish whether the photos were beautified to determine whether the participants had the ability to identify the photos or not. Those who cannot make out the differences were dismissed (Four subjects were dismissed).

The 76 participants left were required to complete the questionnaires on befriending with net friends in real life. Then participants could retain 1 unbeautified photo they prefer, with the remaining 4 photos used in online experimental phase. Each participant was asked to grade 5 photos they had according to Likert scale from 1 (the most unattractive one) to 7 (the most attractive one). The participants could decide what kind of image of their own to exchange with others according to their willingness to make friends with others or others' beauty. The recipient was asked to evaluate the photos that the sender sent. At the same time, participants were asked to complete an online feedback form and answer questions such as "Do you think the photos sent to you by the other party have been beautified?"; "Do you think the other's appearance is equivalent to yours?"; "Are you willing to develop your online relationship to offline?" etc.

To avoid occasionality and consider the relations between experiment time and participants' mood, we conduct a total of 9 random combinations to repeated experiments. Participants must complete an online feedback form after each random combination. Researchers collect those groups that both sides were willing to develop online friendship to

offline immediately. These groups will enter the offline experimental phase. At this phase, we used the unbeautified photos retained by participants to replace face-to-face meeting, and the participants were asked to evaluate the beauty of the photos according to Likert scale, and to make decisions based on the photos they saw whether to continue the relationship offline. Participants were also asked to finish offline feedback form, and ask some questions, such as “When you see an unbeautified photo, does he or she far differ from what you expect?”; “Are you willing to continue a relationship according to the photos you see today?”; “If the other side wants to continue a relationship, would you like to continue with it?” etc.

3.4. Results

After the experiment, we got 76 questionnaires, 684 online experimental feedbacks and 28 offline experimental feedbacks.

Through statistical analysis of the online experimental data, the two sides relative appearance difference was measured by “the grading you give to your own photos based on the one you received” subtracted “the grading you give to the photo you received”. Based on independent sample t test, we found that there was a significant appearance difference ($F=26.17$, $P=0.00$) between friends who are willing to extend the online relationship to offline and those who are unwilling. Then, all online data are grouped and divided into two groups of willing and unwilling, and all the participants who are willing to extend the online relationship to offline are analyzed. As shown in Fig. 1, the difference between their evaluation of their appearance and the evaluation of other’s is close to 0, indicating that the Internet friends can extend to offline friends because of their suited appearances ($M=-0.52$, $SD=1.26$), which verifies the first inference above.

In view of the previous studies, we considered the effect of gender on befriending with net friends in real life, so we analyzed all the subjects that were willing to develop the online relationship to offline. There was no significant effect on the difference between their evaluation of their appearance and the evaluation of other’s ($F=0.572$, $P=0.456$), indicating that whether the two sides could extend the online friendship to offline was not related to gender.

For groups that are willing to extend the online relationship to offline meeting, as shown in Fig. 2, the difference between their evaluation of their appear-

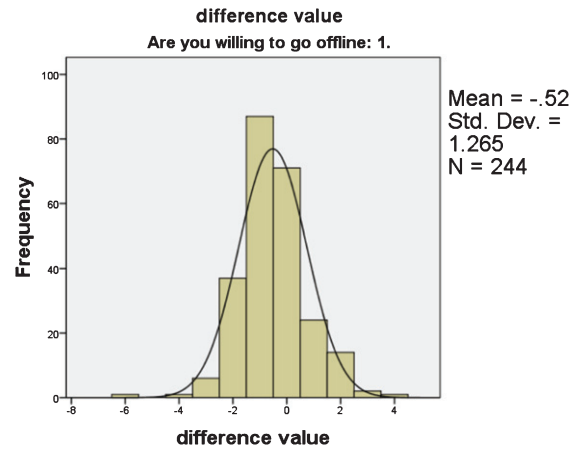


Fig. 1. The difference in appearance of who are willing to befriending with net friends in real life.

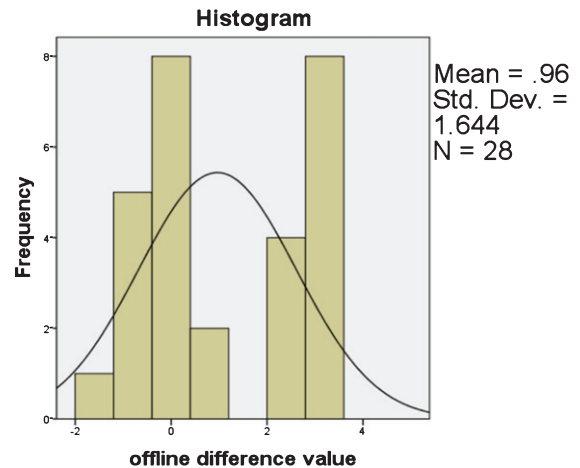


Fig. 2. The difference in appearance of who are befriending with net friends in real life.

ance and the evaluation of other’s actual appearance was not concentrated after the offline meeting ($N=28$, $M=0.96$, $SD=1.64$), which indicates that there is a difference between online and offline. We will continue to explore that.

After the offline meeting, if the evaluation of each other’s appearance is like the expected level of the online communication, it is assumed that users do not improve the effectiveness. On the contrary, it is considered that the utility changes. In order to further compare the gap between online friends and offline friends, we conducted paired sample t test. As shown in Table 2, there is a significant difference ($M=-1.143$, $SD=1.938$, $P=0.004$) between the online appearance evaluation and offline evaluation. The offline meeting didn’t improve the effectiveness

Table 2
Paired sample test of online appearance level difference and offline appearance level difference

	Paired differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% confidence interval of the difference				
				Lower	Upper			
Pair 1 Online difference value - offline difference value	-1.143	1.938	0.366	-1.894	-0.391	-3.120	27	0.004

Table 3
Paired sample test of self-evaluation and peer evaluation

	Paired differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% confidence interval of the difference				
				Lower	Upper			
Pair 1 Evaluate your ap-pearance level - Eva-luate the per-son's appear-ance level	0.577	1.782	0.068	0.443	0.711	8.462	682	0

but decreased it, indicating that the actual appearance is lower than the expected level of the other person online. There is a gap between online and offline.

Unfortunately, maybe due to the limitations of the number of samples, experimental conditions, etc., there is no group in the experimental results that is willing to continue the relationship after the offline meeting, which show that the results of the experiment have no group to realize befriending with net friends in real life.

In addition, an interesting phenomenon is that most females choose to send their own beautified photos (84.5%), regardless of whether the male participants' photos are beautified or not. Furthermore, regardless of gender, everyone thinks their appearances are better ($M = 0.577$, $SD = 1.782$, $P = 0.000$), and especially the female participants, that is, the evaluation of themselves is far higher than the evaluation of the other's beauty.

Through experiments, we can easily find that it is incompatible with the original intention of befriending with net friends in real life through beautifying photos, which is in line with our inferences.

4. Conclusion

After analyzing the game model of two persons' making friends, this paper concludes inference 1 and 2. Then through simulated befriending experiments of 80 volunteers in the behavioral laboratory, it is found that the game model's demonstration of befriending with net friends in real life can explain

the reality, which can be used as a theoretical reference for social users making decisions in the process of making friends on the Internet. It helps them to deal with various behavioral decisions in the process of Internet friend-making with more rational attitude and logic, so as to avoid the occurrence of related vicious befriending events.

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