The Effect of Beverage Brand Co-Celebrities on Social Media

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Abstract: With the wide application of social media in today's society, brands gradually regard it as an important publicity channel. Among them, co-publishing content with celebrities has become an effective strategy to enhance the brand's influence on social media, and achieved remarkable results. Therefore, the in-depth study in this field is of great significance. Although the existing research mostly focuses on the celebrity joint effect of luxury brands, ordinary products and brands are equally worthy of attention. This study focuses on beverage brands in particular. Because drinks are daily consumer goods, their taste cannot be directly experienced through social platforms. Therefore, cooperation with celebrities has become an indispensable means in the promotion of beverage brands.Based on the theory of social identity, this paper discusses the relationship between the joint promotion of beverage brands and celebrities and the growth of likes, comments and shares on social platforms. The research mainly collects data from Weibo platform, and uses regression analysis for empirical research. The results show that all the dependent variables are significantly improved, indicating that joint promotion with celebrities is helpful to enhance brand influence and competitiveness. However, when the content contains elements such as money or lottery, which may violate the public's perception of celebrity images, the social identity effect will be limited. In view of this phenomenon, we use social identity theory to explain it in detail, and suggest that beverage brands should avoid introducing such elements into the promotion content when cooperating with celebrities in order to maximize the cooperation effect.

Keywords: Beverage brand co-celebrities, Social media, Social identity theorem

1. Introduction

Social media has become integral to daily life, prompting brands of all kinds to establish their presence on various platforms to attract customers. While luxury brands naturally attract people's attention due to their feeling of disconnected from life, brands focus on daily products, particularly in the beverage sector, must employ innovative advertising strategies on social media.

The core advantage of beverage brands lies in the taste and aroma of their products. However, these sensory experiences cannot be directly transmitted through digital channels, which limits their influence in online space. Therefore, beverage brands need to explore alternative strategies to attract

consumers on social media. Among many promotion methods, cooperation with celebrities has become one of the most common ways to attract attention and expand customer base.

Studying the influence of the joint promotion of beverage brands and celebrities on the number of likes, comments and shares on social platforms will help to reveal how celebrity joint promotion can enhance the brand image, make the brand stand out on social media and enhance its appeal, build trust with consumers and improve brand credibility. In addition, the study also discusses how these factors are influenced by consumers' social identity, thus providing support for brands to expand their customer base. This research can not only optimize the brand's social media strategy, but also effectively use the celebrity effect to improve user participation and brand exposure, and improve the interactive experience of consumers.

Based on this background, many beverage brands endorse their brands on social platforms by cooperating with celebrities to strengthen brand promotion. The purpose of this paper is to explore the relationship between the joint celebrity of beverage brands and the growth of likes, comments and shares on social platforms.

The hypothesis of this study is based on the theory of social identity. Social identity theory points out that personal choices and attitudes may be influenced by celebrities. We believe that this effect also applies to social platforms. Consumers usually construct their own image according to the social identity of celebrities. Therefore, when a brand cooperates with celebrities, they are more inclined to think that the brand is in line with their own identity, so they are willing to like, comment and even share relevant content.

This research focuses on Weibo, the largest social media platform in China, analyzing the content from five different beverage brands. We will measure engagement through the number of likes, comments and shares to assess the effectiveness of their posts. Regression analysis will be employed to explore the relationships between these metrics and user engagement.

Research on this topic has found that celebrity co-signing helps brands stand out on social platforms, enhances brand appeal and encourage customers to interact with the brands, then widening customer base. We have studied how these factors are affected by the effect of social identity and builds trust with consumers. We found that consumers build their own social identity according to the celebrities' character and social identity. This means that if the celebrities show trust in a brand, the consumers will believe they are also interested in the brand naturally. They act as what they think the celebrities would like to do and therefore they are likely to interact on the social platform when the brand collaborate with celebrities.

The goal of this study is to quantify the specific impact of celebrity cooperation and analyze its role in the number of likes, comments and shares on social platforms. We pay special attention to the beverage brand, a daily consumer product, to verify the applicability of celebrity joint promotion in this field. Through the data analysis of social platform, we can quantify the user interaction rate and reveal whether this strategy can effectively enhance the reputation of beverage brands. The research results provide specific suggestions for brands to optimize their social media marketing strategies so as to achieve higher attention and user participation.

2. Literature review

Recent literature has extensively explored the dynamics of celebrity endorsements and co-branding, emphasizing their impact on consumer perceptions, brand equity, and decision-making.

Many recent studies mainly focus on the special kinds of products the celebrities endorse [1][2][3]. A recent research showed that celebrities endorsements can improve green skincare product reputation and attract consumers [1]. Another study explored the influence of celebrity endorsement on the purchase intention of organic food [4]. Both of these studies emphasize the positive effect of celebrity endorsement on product reputation, which ultimately urges consumers to make purchase

decisions. In addition, many studies also pay attention to the influence of celebrity endorsements on the advertising effect of luxury goods, such as beer and wine, and point out that celebrity endorsements significantly enhance brand awareness and encourage more consumers to choose these products, although their prices are higher than other competitive products [2][5]. They particular shows that more consumers tend to buy their products even though their price is higher than other products. Though the results are all positive, they only focused on products that have unique selling points or meanings and neglect daily products. Our research focus on the unique context of the beverage industry to find whether the celebrities endorsements effect is still positive and significant when meeting the daily products. We referred these researches' methods of quantifying the effect of celebrities endorsements by focus on the change of attitude and improvement of the rate of purchase. We decided to measure the improvement of interaction rate to act as the method of quantifying the effect.

In addition to the above research, some literatures also discuss the influence of celebrity endorsement on specific consumer groups. For example, a research found that female college students' consumer may be tempted to buy products endorsed by male celebrities [6].They showed that how young female consumers effected by male celebrities and the limitation of this effect. Other studies mainly discussed the effect of celebrity endorsements under different situations, both positive and negative ones [7][8]. A research showed that if consumers didn't know the benefits of the brands, then the celebrities endorsements will bring their good image to the brand [8].This gives us the basic idea of how celebrities endorsements really impact the brands reputation. It shows that the main possible effect is no caused by reputation of the celebrities but the whole image of the celebrities, which lead us to the social identity theorem. However, these studies fail to explore whether the negative image of celebrities will have an impact on the brand, and also fail to examine the potential consequences when the advertising content does not match the image of celebrities. This study fills this gap and finds that when the advertising content is inconsistent with the celebrity image, it may have a negative impact on the endorsement effect.

In addition, with regard to the effect of celebrity endorsements on social media, there are also related documents that social media can enhance the influence of celebrity endorsements, and it is suggested to evaluate the endorsement effect by measuring the interaction rate [2]. The main discussion of these studies based on the high reputation of the celebrities and the celebrity charm and mainly focused on the food assumption.

We found that sometimes the effect of celebrity endorsements may not significant, which means the celebrity charm may have limitation as when combined with money and sweepstakes the celebrity endorsements effect will be weaken or even become negative. Combined with the social identity theorem we found that the celebrity charm is not only depend on the reputation of the celebrities, but on both the consumers and the celebrities' identity.

Generally speaking, the existing research mainly focuses on the celebrity endorsement effect of luxury goods or special consumer goods, but the research on the special background of beverage industry is relatively scarce. In the beverage industry, celebrity endorsement plays a key role in shaping consumer participation and brand loyalty through social media channels. Therefore, this study aims to fill this research gap and explore how celebrity joint endorsement specifically affects the changes of consumer behavior in the beverage industry in today's dynamic social media environment.

3. Methodology

3.1. Data Collecting

The main goal of this study is to explore whether the cooperation between beverage brands and celebrities on social platforms will affect the number of likes, comments and shares of their content. The core data of the study comes from Weibo. As one of the most popular social media platforms in China, Weibo provides rich interactive opportunities for the cooperation between brands and celebrities. We selected five beverage brands with high activity on the platform of Weibo and having cooperated with celebrities as the research objects: Luckin coffee, Good me, CHAGEE, NAIXUE and ChaPanda. All the contents released by these brands from November 2023 to November 2024, together with the corresponding number of likes, comments and shares, constitute the sample data of this study.

3.2. Data processing

In this study, we first marked whether celebrity endorsements are involved in each content, and used LIWC tool to mark the proportion of control variables. We chose fifteen control variables, including: together, lottery, exclamation mark, label, brand, function, number, society, human, seeing, feeling, sports, time, work, leisure, realization, family, money and words. These variables can be divided into two categories: one is related to the composition of the content, such as whether the text mentions "together" and how many tags are used; The other category involves elements that may trigger emotional reactions or encourage interaction, such as lottery and exclamation point. The reason for choosing these control variables is that we want to ensure that the text characteristics of the content and the brand itself will not unnecessarily interfere with the final results, so as to ensure that the research results can accurately reflect the real impact of celebrity endorsements on interactive indicators (such as likes, comments and sharing).

3.3. Data analysis

Negative binomial regression analysis was used to analyze the data because it can show whether the dependent variable is related to the independent variables and in this research we need to control other variables while showing the relationship. Negative binomial regression analysis can also simplex the complex relationships between different variables, which makes the result more intuitive. We used Stata to do the regression analysis.

We use whether celebrities were contained as the independent variable and the number of likes, comments and shares were chosen as the dependent variables respectively. To show whether the independent variable is significant or not, we mainly focus on the $P>|z|$. If the value of $P>|z|$ is smaller than 0.05, then it is significant, otherwise it's not significant.

The coefficient shows whether the variable is effective or not. If the coefficient is huge, that means the existence of the independent variables can cause huge change on the dependent variables.

4. Result and discussion

4.1. Result analysis

The research mainly shows whether the engagement of celebrities in the content on social platform will effect the number of likes, comments and shares. We first discuss the effect on the number of likes.

Table 1: Result analysis.

Prob>chi^2=0.000

Pseudo R^2=0.0230

Like	Coefficient	Std	Z	P>|z|	95%interval	
celebrity	2.041592	0.2550766	8.00	0.000	1.541652	2.541533
together	1.650565	0.1340106	12.32	0.000	1.387909	1.913221
sweepstakes	0.5725968	0.1129125	5.07	0.000	0.3512923	0.7939012
Exclamation mark	-0.3649396	0.1313204	-2.78	0.005	-0.6223228	-0.1075564
tag	-0.2741957	0.1354011	-2.03	0.043	-0.539577	-0.0088145
brand	0.032031	0.043486	0.74	0.461	-0.0531999	0.117262
Funct	0.7593982	0.3891878	1.95	0.051	-0.0033958	1.522192
Number	5.080208	2.040766	2.49	0.013	1.080381	9.080035
Social	-3.053274	1.023996	-2.98	0.003	-5.06027	-1.046278
Humans	-7.610581	2.84397	-2.68	0.007	-13.18466	-2.036502
See	5.704872	2.307148	2.47	0.013	1.182946	10.2268
Feel	-1.940427	1.687595	-1.15	0.250	-5.248051	1.367198
Motion	0.8600161	0.9571089	0.90	0.369	-1.015883	2.735915
Time	-2.061418	0.9968286	-2.07	0.039	-4.015166	-0.1076698
Work	-4.94689	0.9803302	-5.05	0.000	-6.868302	-3.025478
Leisure	2.09893	0.8906679	2.36	0.018	0.3532527	3.844607
Achieve	-1.481819	1.786601	-0.83	0.407	-4.983493	2.019854
Home	-5.605636	4.18851	-1.34	0.181	-13.81496	2.603692
Money	6.427464	2.503772	2.57	0.010	1.520162	11.33477
WordCount	-0.0009157	0.006647	-0.14	0.890	-0.0139436	0.0121123
_cons	7.929471	0.2108887	37.60	0.000	7.516137	8.342805

According to the regression analyze, we can see that the P>|z| is 0.000,which means that the relationship between celebrity and the number of likes is significant. Then as the coefficient is positive, it shows that if they corporate with some celebrities then the number of likes will increase. As the coefficient is about 2.0416, it shows that the number of likes will possibly increase 7.7 times if celebrities are contained. This means the effect of celebrities is significant.

Table 2: Result analysis.

Prob>chi^2=0.000

Pseudo R^2=0.0269

Comment	Coefficient	Std	Z	P>|z|	95%interval	
celebrity	1.653763	0.2200023	7.52	0.000	1.222567	2.084960
together	1.085617	0.1098948	9.88	0.000	0.870227	1.301087
sweepstakes	0.870049	0.0961264	9.05	0.000	0.6816006	1.058499
Exclamation mark	0.5572743	0.1052714	5.29	0.000	0.3509461	0.763625
tag	0.0323108	0.1007832	0.32	0.749	-0.1652206	0.2298423
brand	0.1036918	0.0346427	2.99	0.003	0.0357933	0.1715902
Funct	0.5559201	0.356548	1.56	0.119	-0.1429011	1.254741
Number	4.962784	1.674355	2.96	0.003	1.681108	8.244466
Social	0.5567561	0.9225287	0.60	0.546	-1.251367	2.364879
Humans	-3.418736	2.304716	-1.48	0.138	-7.935896	1.098424

Table 2: (continued).

See	4.867916	1.80021	2.70	0.007	1.339569	8.396262
Feel	-0.676117	1.530364	-0.44	0.659	-3.675575	2.32334
Motion	0.7958274	0.8497825	0.94	0.349	-0.8697157	2.461371
Time	0.3818648	0.8557645	0.45	0.655	-1.295403	2.059132
Work	-3.518593	0.7851669	-4.48	0.000	-5.057492	-1.979694
Leisure	2.234272	0.7097355	3.15	0.002	0.8432161	3.625328
Achieve	-1.23019	1.444401	-0.85	0.394	-4.061165	1.600784
Home	-4.766632	3.418286	-1.39	0.163	-11.46635	1.933086
Money	-3.57679	1.821586	-1.96	0.050	-7.147032	-0.0065477
WordCount	0.0031225	0.005514	0.57	0.571	-0.0076847	0.0139296
_cons	5.133616	0.1800057	28.52	0.000	4.780812	5.486421

The regression analysis shows that the P>|z| is 0.000, which means there is relationship between the engagement of celebrities and the number of comment. Also the coefficient is positive, about 1.6538, which means the existence of celebrities will help the number of the comments increase for about 5 times. It means the corporation with celebrities is useful.

Table 3: Result analysis.

Prob>chi^2=0.000
Pseudo R^2=0.0311

Share	*Coefficient*	*Std*	*Z*	*P>|z|*	*95%interval*	
celebrity	2.309203	0.2898152	7.97	0.000	1.741175	2.87723
together	1.869662	0.1616509	11.57	0.000	1.552832	2.18649
sweepstakes	2.161364	0.1285016	16.82	0.000	1.909505	2.413222
Exclamation mark	-0.303917	0.1480142	-2.05	0.040	-0.59402	-0.01381
tag	-0.496982	0.145344	-3.42	0.001	-0.781851	-0.21212
brand	0.240332	0.0531901	4.52	0.000	0.136082	0.344583
Funct	1.416736	0.4822376	2.94	0.003	0.471567	2.361904
Number	5.67022	2.147405	2.64	0.008	1.461383	9.879057
Social	0.8461451	1.228304	0.69	0.491	-1.561286	3.253576
Humans	-8.179371	3.44732	-2.37	0.018	-14.93599	-1.42749
See	7.586985	2.653581	2.86	0.004	2.386061	12.78791
Feel	-1.78427	1.891024	-0.94	0.345	-5.490613	1.922066
Motion	-1.42033	1.034936	-1.37	0.170	-3.448766	0.6881064
Time	-2.343403	1.118914	-2.09	0.036	0.036	-1.150371
Work	-4.167527	1.20635	-3.45	0.001	-6.53193	-1.803123
Leisure	2.802656	1.039765	2.70	0.007	0.764755	4.840558
Achieve	1.463601	2.150065	0.68	0.496	-2.750449	5.677651
Home	-7.170972	5.237665	-1.37	0.171	-17.43661	3.094662
Money	7.693237	2.499219	3.08	0.002	2.794857	12.59162
WordCount	0.0227373	0.008087	2.81	0.005	0.006887	0.03858
_cons	5.310905	0.2574631	20.63	0.000	4.806286	5.815523

The results of regression analysis show that there is a significant correlation between celebrity endorsements and the number of shares, specifically, the P value is 0.000, indicating that this

relationship is statistically significant. Further analysis shows that the regression coefficient is positive, about 2.3092, which means that the participation of celebrities has significantly promoted the increase in the number of shares. In addition, the existence of celebrities is also closely related to the increase in the number of comments, which has increased by about 10 times.

In the negative binomial regression analysis, we further found that lottery and money factors play an important role in the interaction. To this end, we cross-analyze celebrity endorsements with these factors, especially paying attention to the influence of lottery activities on the interactive effect. Through this cross-analysis, we can more comprehensively evaluate the comprehensive effects of celebrity endorsements and other promotional factors (such as lottery and money) on social media interaction.

Table 4: Result analysis.

Prob>chi^2=0.000
Pseudo R^2=0.0238

Like	Coefficient	Std	Z	P>|z|	95%interval	
celebrity	2.654982	0.3356848	7.91	0.000	1.997052	3.312912
together	1.575839	0.1354045	11.64	0.000	0.000	1.841227
sweepstakes	0.679456	0.1138346	5.97	0.000	0.4563442	0.9025677
Exclamation mark	-0.324169	0.1316534	-2.46	0.014	-0.5822048	-0.0661331
tag	-0.222851	0.1355013	-1.64	0.100	-0.4884286	0.0427268
brand	-0.150963	0.044759	-0.34	0.736	-0.1028223	0.0726298
Funct	0.741722	0.3906022	1.90	0.058	-0.0238442	1.507288
Number	5.007417	2.034005	2.46	0.014	1.020841	8.993994
Social	-3.095938	1.021109	-3.03	0.002	-5.097275	-1.094601
Humans	-7.147789	2.858782	-2.50	0.012	-12.7509	-1.54468
See	6.087452	2.309171	2.64	0.008	1.561561	10.61334
Feel	-1.985153	1.682824	-1.18	0.238	-5.283427	1.31312
Motion	0.619587	0.9876742	0.63	0.530	-1.316219	2.555393
Time	-1.908511	0.9998503	-1.91	0.056	-3.868181	0.0511601
Work	-4.110079	1.030004	-3.99	0.000	-6.12885	-2.091308
Leisure	1.867874	0.8913845	2.10	0.036	0.1207922	3.614955
Achieve	-1.820991	1.785731	-1.02	0.308	-5.320958	1.678977
Home	-5.935547	4.165744	-1.42	0.154	-14.10026	2.229162
Money	6.884233	2.551995	2.70	0.007	1.882415	11.88605
WordCount	-0.001054	0.0065864	-0.16	0.873	-0.013963	0.011852
Celebrity Sweepstakes cross	-2.25627	0.5267451	-4.28	0.000	-3.288671	-1.223868
_cons	7.959438	0.2105911	37.80	0.000	7.546687	8.372189

Table 5: Result analysis.

Prob>chi^2=0.000
Pseudo R^2=0.0281

Comment	Coefficient	Std	Z	P>|z|	95%interval	
celebrity	2.251683	0.2885137	7.80	0.000	1.686206	2.817159
together	1.036080	0.1092591	9.48	0.000	0.821936	1.250224

Table 5: (continued).

sweepstakes	0.942045	0.0961069	9.80	0.000	0.7536793	1.130411
Exclamation mark	0.587812	0.1050715	5.59	0.000	0.3818762	0.7937487
tag	0.0431725	0.0998834	0.43	0.666	-0.1525952	0.2389403
brand	0.073814	0.0349425	2.11	0.035	0.0053287	0.1423008
Funct	0.475765	0.3538051	1.34	0.179	-0.2176805	1.16921
Number	5.099058	1.666578	3.06	0.002	1.832625	8.365492
Social	0.445087	0.912543	0.49	0.626	-1.343465	2.233638
Humans	-3.145597	2.295372	-1.37	0.171	-7.644442	1.353249
See	5.060734	1.793772	2.82	0.005	1.545006	8.576463
Feel	-0.7986844	1.522883	-0.52	0.600	-3.78348	2.186111
Motion	0.6860027	0.8535132	0.80	0.422	-0.9868523	2.358858
Time	0.5521525	0.8530177	0.65	0.517	-1.119731	2.224036
Work	-3.081837	0.7962496	-3.87	0.000	-4.642458	-1.521216
Leisure	2.012725	0.7035365	2.86	0.004	0.6338185	3.391631
Achieve	-1.375601	1.433155	-0.96	0.337	-4.184533	1.433332
Home	-5.102313	3.374673	-1.51	0.131	-11.71655	1.511924
Money	-3.228798	1.832262	-1.76	0.078	-6.819967	0.36237
WordCount	0.0036337	0.0054698	0.66	0.506	-0.0070869	0.0143
Celebrity Sweepstakes cross	-2.097316	0.4295288	-4.88	0.000	-2.939177	-1.255455
_cons	5.166741	0.1787531	28.90	0.000	4.816391	5.517099

Table 6: Result analysis.

$Prob > chi^2 = 0.000$
$Pseudo\ R^2 = 0.0323$

Share	Coefficient	Std	Z	$P>|z|$	95% interval	
celebrity	2.951158	0.3744188	7.88	0.000	2.217311	3.685085
together	1.822167	0.1609712	11.32	0.000	1.586669	2.137664
sweepstakes	2.255798	0.1273265	17.72	0.000	2.006242	2.505353
Exclamation mark	-0.286962	0.1476456	-1.94	0.052	-0.576342	0.002419
tag	-0.4442515	0.1443591	-3.08	0.092	-0.7271991	-0.1613129
brand	0.1951003	0.0533778	3.66	0.000	0.0964817	0.2997189
Funct	1.369682	0.4800847	2.85	0.004	0.428896	2.310474
Number	5.5884	2.12637	2.63	0.009	1.420791	9.756009
Social	0.9709295	1.227537	0.79	0.429	-1.434999	3.376858
Humans	-7.901808	3.441101	-2.30	0.022	-14.64624	-1.157374
See	8.624983	2.642985	3.64	0.002	2.844827	13.20514
Feel	-2.236464	1.874518	-1.19	0.233	-5.916452	1.437523
Motion	-1.729015	1.072846	-1.61	0.107	-3.830186	-0.3721552
Time	-2.85875	1.120724	-1.84	0.066	-4.255329	-1.138295
Work	-3.38679	1.249820	-2.71	0.067	-5.836392	-0.9371872
Leisure	2.484194	1.937239	2.40	0.017	0.4512424	4.517146
Achieve	1.222282	2.131414	0.57	0.566	2.955212	5.399776

Table 6: (continued).

Home	-7.457163	5.178545	-1.44	0.158	-17.60692	2.692598
Money	7.918448	2.522085	3.14	0.002	2.967253	12.85364
WordCount	0.0209752	0.0079991	2.62	0.009	0.0052974	0.0143
Celebrity Sweepstakes cross	-3.095536	0.5736098	-5.40	0.000	-4.218614	-1.972457
_cons	5.382176	0.2565474	26.98	0.000	4.879353	5.885

We can see that though both celebrity and sweepstakes are significant alone and they have huge positive coefficient, when they are combined with each other, though it still has significant relationship with the number of likes, comments and shares, the coefficient becomes very small, means the effect becomes weak.

Table 7: Result analysis.

Prob>chi^2=0.000

Pseudo R^2=0.0273

Comment	Coefficient	Std	Z	P>|z|	95%interval	
celebrity	1.704561	0.2233596	7.63	0.000	1.266784	2.142337
together	1.096923	0.1100852	9.96	0.000	0.8811603	1.312687
sweepstakes	0.8758323	0.0959435	9.13	0.000	0.6877864	1.063878
Exclamation mark	0.5590687	0.1050896	5.32	0.000	0.3530968	0.7650406
tag	0.0206956	0.1007988	0.21	0.837	0.1768507	0.218242
brand	0.102606	0.0346739	2.96	0.003	0.0346465	0.1705655
Funct	0.5378787	0.3574672	1.50	0.132	-0.1627441	1.238501
Number	4.906076	1.670909	2.94	0.003	1.631154	8.180998
Social	0.5657953	0.9212643	0.61	0.539	-1.23985	2.37144
Humans	-3.534727	2.301499	-1.54	0.125	-8.045583	0.9761281
See	4.90081	1.797705	2.73	0.006	1.377373	8.424246
Feel	-0.6651103	1.529318	-0.43	0.664	-3.662518	2.332298
Motion	0.808209	0.8494821	0.95	0.341	-0.8567453	2.473163
Time	0.4015867	0.8558535	0.47	0.639	-1.275855	2.079029
Work	-3.590701	0.7823193	-4.59	0.000	-5.124019	-2.057383
Leisure	2.150027	0.7067513	3.04	0.002	0.7648203	3.535234
Achieve	-0.920867	1.469694	-0.63	0.531	-3.801407	1.959673
Home	-4.819586	3.422447	-1.41	0.159	-11.52746	1.888286
Money	-2.772522	1.90039	-1.46	0.145	-6.497217	0.952174
WordCount	0.0030673	0.0055043	0.56	0.577	-0.0077209	0.0138556
Celebrity Moneycross	-17.17762	4.848163	-3.54	0.000	-26.67985	-7.675399
_cons	5.137993	0.1797131	28.59	0.000	4.785762	5.490224

Table 8: Result analysis.

Prob>chi^2=0.000

Pseudo R^2=0.0317

Share	Coefficient	Std	Z	P>|z|	95%interval	
celebrity	2.359625	0.293495	8.04	0.000	1.784386	2.934865
together	1.868894	0.1612286	11.59	0.000	1.552091	2.184096
sweepstakes	2.164198	0.1279578	16.91	0.000	1.913486	2.414991
Exclamation mark	-0.387433	0.147414	-2.89	0.837	-0.5963595	-0.8185873
tag	0.5853693	0.144884	-3.49	0.800	-0.7891799	-0.2215587
brand	0.2413114	0.0530963	4.54	0.000	0.1372446	0.3453782
Funct	1.482346	0.4825049	2.91	0.004	0.4566561	2.348037
Number	5.693463	2.139628	2.66	0.008	1.499869	9.887056
Social	0.7968541	1.223242	8.65	8.515	-1.608656	8.187948
Humans	-8.187948	3.438147	-2.36	0.018	-14.84267	-1.373224
See	7.683433	2.646799	2.98	0.004	2.495883	12.87186
Feel	-1.775659	1.887962	-2.94	0.347	-5.475996	1.924678
Motion	-1.487537	1.037011	-1.36	0.175	-3.440844	0.4249664
Time	-2.282403	1.117384	-2.84	0.841	-4.472436	-0.092695
Work	-4.221686	1.197716	-3.52	0.000	-6.569166	-1.874285
Leisure	2.748446	1.835281	0.84	2.65	-2.425805	4.777483
Achieve	-7.179651	5.227201	-1.37	0.170	-17.41878	3.071474
Home	-7.173651	5.227201	-1.37	0.170	-17.41878	3.071474
Money	8.489336	2.572575	3.30	0.001	3.447182	13.53149
WordCount	8.227225	3.8888492	-7.47	2.82	8.885	-4.63583
Celebrity Moneycross	-46.83893	6.273624	-7.47	0.000	-50.1111	-34.53895
_cons	5.31	0.2567212	20.68	0.000	4.806835	5.813164

Table 9: Result analysis.

Prob>chi^2=0.000

Pseudo R^2=0.0236

Like	Coefficient	Std	Z	P>|z|	95%interval	
celebrity	2.101383	0.258531	8.13	0.000	1.594672	2.608095
together	1.664136	0.1340005	12.42	0.000	1.4015	1.926772
sweepstakes	0.579035	0.1124366	5.15	0.000	0.3586631	0.7994066
Exclamation mark	-0.361326	0.1308481	-2.76	0.006	-0.6177831	-0.104868
tag	-0.2917433	0.1349326	-2.16	0.031	-0.5562064	-0.0272803
brand	0.0283964	0.0434627	0.65	0.514	-0.0567889	0.1135817
Funct	0.7149653	0.3894737	1.84	0.066	-0.0483892	1.47832
Number	4.997784	2.033363	2.46	0.014	1.012466	8.983102
Social	-2.995538	1.023455	-2.93	0.003	-5.001472	-0.9896035
Humans	-7.733411	2.830784	-2.73	0.006	-13.28164	-2.185177
See	5.815463	2.301363	2.53	0.012	1.304874	10.32605
Feel	-1.909326	1.684502	-1.13	0.257	-5.210891	1.392238
Motion	0.8682841	0.9610247	0.90	0.366	-1.01529	2.751858

Table 9: (continued).

Time	-1.991641	0.9964971	-2.00	0.046	-3.94474	-0.0385
Work	-5.072803	0.9723475	-5.22	0.000	-6.978569	-3.167037
Leisure	2.044498	0.8864945	2.31	0.021	0.3070008	3.781995
Achieve	-1.051986	1.815955	-0.58	0.562	-4.611192	2.507221
Home	-5.542524	4.191382	-1.32	0.186	-13.75748	2.672434
Money	7.600424	2.587459	2.94	0.003	2.529098	12.67175
WordCount	-0.0011305	0.0066112	-0.17	0.864	-0.0140883	0.01827
Celebrity Moneycross	-38.50025	5.786191	-6.65	0.000	-4.94098	-27.15953
_cons	7.942515	0.2102249	37.78	0.000	7.530481	8.354548

In addition, the analysis results show that celebrity endorsements and money factors are both significant variables, among which only celebrity endorsements have a positive coefficient, indicating that they have a positive impact on interaction (such as likes, comments and sharing). Specifically, the money coefficient of comments and sharing is negative, while the money coefficient of likes is positive. However, when celebrities are combined with money factors, although they are still significantly related to the number of likes, comments and shares, the coefficients all turn negative and become more significant. This shows that the combination of celebrity endorsement and money will weaken or even adversely affect the interactive effect on social media.

5. Conclusion

According to the results of regression analysis, this study found that the brand content that cooperated with celebrities on social platforms had a significant positive impact on the number of likes, comments and shares. This phenomenon can be explained by social identity theorem. The social identity theorem points out that celebrity endorsement may affect fans' choice and attitude in advertising and marketing. When fans interact on social platforms, they often shape their social identity according to their star status. This kind of recognition makes it possible for fans to trust the brand endorsed by celebrities and connect this trust with their own personality, thus enhancing the emotional connection with the brand.

Because celebrities have a huge fan base on social platforms, the social identity effect is particularly significant on this platform. Brand content with celebrity endorsements can attract fans' attention and encourage them to like, comment or share the content to express their identity with celebrities. This behavior not only helps to increase the amount of interaction, but also expands the brand's exposure and influence. Therefore, celebrity endorsement helps to enhance the brand's popularity on social platforms and attract more potential customers by increasing interaction.

However, although celebrity endorsement can significantly improve the interactive effect, the study also found that the addition of elements such as money and lottery may have a negative impact on this effect. This can be explained by the limitation of social identity effect. When advertising or brand content involves secular elements such as money or lottery, fans may feel that such content conflicts with their identity as celebrities. Specifically, fans may think that this kind of content violates the noble image represented by celebrities, thus reducing their participation and interaction with brands.

To sum up, celebrity endorsements can significantly increase the number of likes and comments on social platforms, especially in the promotion of beverage brands. Because the taste and experience of beverage products cannot be directly conveyed on social platforms, celebrity endorsement is an effective strategy to attract consumers' attention and build brand trust. However, brands should choose

their content carefully when cooperating with celebrities, and avoid involving elements that may affect fans' social identity, such as money and lottery. By optimizing the brand content, the brand can not only enhance the social identity effect, but also expand its customer base and promote the development of the brand.

This study has made some empirical contributions to the existing literature. First of all, we verify the role of social identity on social platforms, especially in the field of beverage brands. Secondly, this study provides a new perspective on how to effectively use the social identity effect, especially by avoiding the use of words such as money and lottery. Finally, our research method shows the innovative application in empirical research and promotes the academic development in this field. Before finalizing the report, we think it is necessary to point out several key limitations of this study, and put forward the potential direction of future research according to these limitations. First of all, this study is mainly based on Weibo platform, and whether the conclusions are applicable to other social platforms needs further verification. Therefore, future research should be extended to other platforms in China (such as Tik Tok) and international platforms (such as Facebook and Google) to compare the similarities and differences of celebrity endorsement effects on different platforms.

Secondly, this study only selected five well-known beverage brands in China as the research object, and more brands, such as HEYTEA and Starbucks, can be considered in the future for comparative analysis. Different brands may have significant differences in market positioning, product types and target groups. For example, Starbucks and Luckin Coffee mainly focus on coffee, while other brands focus on drinks such as milk tea. Further research can analyze whether there are differences in the cooperation effects of these brands and how the social media performance of different brands affects fan interaction.

In addition, future research can consider using a longer time-span data set to further expand the data samples. Our current analysis is only based on the content from November 2023 to November 2024. In the future, we can study the content published in the past two to three years to explore the potential impact of long-term trends on brand interaction. At the same time, the influence of the combination of independent variables can be discussed. For example, if celebrities and exclamation points are included in the content at the same time, will this further increase the number of likes, comments and sharing? Will this combined effect have a greater interactive effect? Finally, efforts should be paid on solving the problem of the limitation of the effect of social identity. They should focus on whether the bad reputation of the celebrities may effect the reputation of their brands and thus losing trust. Will customers believe that the brand is as poor as the celebrities and avoid purchasing products from the brand? Even though the numbers of the likes, comments and shares are increased, the attitude of customers should be concerned. In addition, how to evaluate the benefits of cooperation with celebrities by small brands with limited resources is also a topic worthy of further exploration.

To sum up, this study shows that cooperation with celebrities can effectively attract attention on social platforms, and help to enhance the brand exposure of beverage brands and expand the customer base. Although there are some limitations that need to be further explored, the positive role of celebrity endorsement in enhancing brand awareness and interaction is obvious. Future research can verify these findings in a broader context and further enrich the theory and practice in the field of social media marketing.

Authors Contribution

All the authors contributed equally and their names were listed in alphabetical order.

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