

Research on the Impact of Social Factors on Consumer Satisfaction

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Abstract. Against the backdrop of declining consumer expectations caused by the economic downturn, this study employs ordinary least squares regression analysis to explore how four social factors - social mission, celebrity endorsement, community belonging, and fear of missing out (FOMO) affect consumers' satisfaction with low-quality products. Based on the valid survey data from 267 consumers, we construct an empirical model and estimate it using the robust standard errors method. The results show that social mission, celebrity endorsement, community belonging, and fear of missing out are all positively correlated with consumer satisfaction in the corresponding situations. The findings further indicate that the influence of these social factors varies across different satisfaction dimensions, with celebrity endorsement showing the strongest and most consistent effect. These empirical findings suggest that social and psychological motivators beyond product attributes can effectively compensate for quality defects, thereby challenging the traditional view that product performance plays a primary role in shaping satisfaction. This study empirically demonstrates that even if the product quality is poor, social influence factors can maintain consumers' high satisfaction.

Keywords: consumer satisfaction, social mission, celebrity endorsement, fear of missing out

1. Introduction

In recent years, the global economy has been sluggish, and the domestic economy is also facing cyclical adjustments and structural challenges. The downward pressure has continuously spread to the individual level, significantly restraining the growth of residents' actual disposable income. The widespread tightening of income expectations has prompted many consumers to actively adjust their consumption expectations and behavioral patterns. Malika indicates that when budgets are limited, economically strapped consumers will abandon less essential goals and prioritize those that are relevant to themselves, thereby making a trade-off [1]. Under these circumstances, consumer decisions exhibit a clear "cost-effectiveness priority" orientation, as evidenced by their constant sensitivity to price and demand for quality. Due to budget constraints, consumers have become more

cautious during the purchasing process. Under such pressure, social factors begin to play a differentiating role, enabling certain low-priced and low-quality products to stand out from comparable alternatives.

Hamilton implies that due to consumers' economic constraints, their options are limited, which often prompts them to focus their attention on the available choices [2]. This means that consumers have begun to be more meticulous in their daily spending. In the realm of necessities, they tend to opt for discounted promotional items or affordable supermarket own-label products, while for optional purchases, they are actively cutting back on large non-essential expenditures. This shift towards lower-priced products was further explained by Shukla who challenged the common belief that the higher the quality, the greater the satisfaction. He argues that even products with relatively poor quality can successfully meet consumers' expectations and thus achieve an acceptable level of consumer satisfaction [3]. Consequently, consumers tend to display higher satisfaction with lower-priced goods. The explanation for this proposition lies in the fact that consumers typically have lower initial expectations for lower-priced goods when compared to similar products. However, in the context of cheap goods, unexpected issues with the products are a common problem, which can affect customer satisfaction and lead to a decline in their satisfaction.

According to the existing literature, as mentioned by Kencana, if the purchased product exceeds expectations, consumers will indeed feel satisfied [4]. It can be discovered that price is indeed a momentous factor explaining the differences in customer satisfaction. However, this is not sufficient to fully explain why consumers maintain a high level of satisfaction with low-quality products. Various external factors may also affect satisfaction. In this case, the specific contributing factors have not yet been explored in depth.

In traditional cognition, people believe that social factors usually only play a role in the purchase of high-end products or luxury goods, and they consider the relationship to be linear. In Veblen's study, it has been mentioned that some people deem the ostentatious consumption of valuable items as a way to demonstrate their status [5]. However, even in the context of low-quality products, these social factors remain indispensable. During economic downturns, their importance becomes further magnified, serving as key differentiators that explain why consumers can still report high satisfaction with low-quality products. This study will focus on social factors and explore how the following four factors - social mission, celebrity, community belonging, and FOMO - affect consumer satisfaction in the context of low-quality products.

Using a questionnaire survey, this study collected 267 valid responses from Chinese consumers. An empirical analysis was conducted adopting the Ordinary Least Squares (OLS) regression method. The findings reveal that celebrity endorsement and perceived social mission can both exert significant positive influences on consumer satisfaction. While community belonging and FOMO do not demonstrate strong influential effects as the former two, they still exhibited positive effects to some extent.

The main theoretical contributions of this paper lie in the following aspects. First, it expands the frontier research on consumer influencing factors and enriches the existing consumption behavior theoretical models. Previous studies have shown that in the field of low-priced and low-quality products, consumers' decisions are mainly swayed by price and practicality, while the influences of social value factors (such as social mission, celebrity effect, community belonging, and fear of loss) are largely negligible. These factors are usually regarded as the core characteristics of the mid-to-high-end market or luxury consumption. However, this study points out that in the low-price product domain, price and quality can only explain parts of the differences in satisfaction. Social value motivation is a universal consumption driving force, not limited to high-income groups or high-end

markets. Therefore, this paper constructs a more comprehensive theoretical framework to explain why consumers still maintain a high level of satisfaction with low-quality products. Second, this article concentrates on analyzing from the perspective of social factors, examining how factors such as social mission, celebrity effect, and FOMO influence individual thinking patterns, leading to inaccurate judgments and higher evaluations of low-quality products. Moreover, it explains how the emotional mechanism operates to influence people's subjective values and thus enhances their satisfaction.

2. Literature review

2.1. Quality, price, and consumer satisfaction

Consumer satisfaction refers to the psychological evaluation made by consumers after experiencing a product or service. When consumers' evaluation is higher than their actual experience, satisfaction is higher; conversely, satisfaction is lower [6]. Susanti also mentioned that consumer satisfaction is the emotional response of consumers after using the products or services they have purchased [7]. This study focuses on customer satisfaction as the core dependent variable, noting its importance as stated in previous studies, namely that customer satisfaction is directly linked to a company's ultimate profits. Therefore, customer satisfaction and loyalty are key determinants of entity success and profitability [8]. It is worth emphasizing that, due to the recent economic downturn, consumers are gradually lowering their consumption expectations and turning to lower-priced goods [9]. Meanwhile, with the improvement of social moral awareness, more social factors are beginning to influence consumer perceptions. Businesses and individuals are expanding their focus on products to contain their social value. Kotler & Keller illustrated that the total value of money and products traded by consumers is called the price of goods or services, and the owners of these goods or services can make profits through it [10]. However, consumer satisfaction is influenced by the price. This is based on the assumption that when prices are considered reasonable and consistent with the benefits obtained by consumers, prices will increase customers' perceived value of products, thereby enhancing consumer satisfaction. In addition, existing research indicates that product quality is a measure of a product's ability to meet customer needs [11]. Quality and price directly influence consumers' willingness to purchase goods or services. Previous studies have found that, as an intermediary, the original quality and price of a product have a positive impact on customer satisfaction with the product. Kencana also suggested that product quality has a positive and significant impact on customer satisfaction [4].

2.2. Social mission and consumer satisfaction

Existing literature concentrates more on analyzing product price and quality to determine whether they affect consumer satisfaction. Anderson & Self demonstrate that in social missions, the prefix "social" is a valuable description that allows people to perceive that a company and its products are propitious to society and morality [12]. Products with social value give consumers positive psychological cues and can, in turn, influence consumers' evaluations. A company's social mission refers to its operational initiatives that go beyond legal requirements or commercial considerations. It is an attempt to contribute to society, which can help enhance the investment environment, social welfare, and financial benefits. Over the past two decades, the social mission of companies or products has been proven to be effective in specific fields, including its impact on company performance, reputation, and consumer satisfaction. The social responsibility of companies and

products is also a crucial core competitiveness in modern society [13]. Several experts have pointed out that when companies take measures that are conducive to their social mission development, consumers, as key participants in the market, tend to become more closely associated with the company [14]. At the same time, as customers are the main target of the business, companies must strive to meet and guarantee consumer needs. While promoting environmental protection and improving social welfare, companies can intervene in consumers' emotional decision-making by utilizing their social mission to mobilize consumers' positive evaluations of products, thereby increasing consumer satisfaction [15, 16]. It has been displayed that when companies are truly diligent in their social responsibilities and care about the interests of internal stakeholders and consumers, consumer satisfaction improves appreciably [17].

2.3. Celebrity and consumer satisfaction

Zahra & Rina reveal that celebrity endorsements are public figures who are well known for their specific expertise and play a vital role in helping companies promote their products, thereby influencing consumer satisfaction with the products they promote [18]. Considering that celebrities themselves have a certain level of social trustworthiness, celebrity endorsements can enhance consumer trust in a brand. When they endorse a product, the quality is regarded as directly linked to their social trustworthiness. Consumers believe that public figures would not risk losing their social trustworthiness by endorsing inferior products. Therefore, even if the final product does not fully meet consumer expectations, it does not result in a significant loss of satisfaction. Existing research has found that the celebrity effect significantly enhances its influence on consumers [19]. Saldanha, Mulye, and Rahman purport the connection between consumer-celebrity attachment, indicating that, as a means of communication between celebrities and consumers, products are enhanced by the attributes of celebrities. This supposition denotes that celebrity effects should be considered a remarkable factor influencing consumer satisfaction [20].

2.4. Social identity and consumer satisfaction

Social groups serve as cognitive tools for categorizing social environments. They divide social environments into internal and external groups, with all consumers belonging to one of these groups within a given environment [21]. Consumers typically identify people or objects they encounter in their daily lives to determine which specific group or external group within social reality they belong to. When certain brands or products are associated with these groups, they can adopt these products to associate themselves with or distance themselves from the group [22]. Conspicuous consumption describes the behavior of consumers who purchase and use goods primarily to gain or maintain social recognition [5]. For example, consumers can achieve the goal of establishing connections with social groups by purchasing specific products when pursuing cultural capital, wealth, and status [23, 24]. In this context, products associated with consumer social identity are imbued with additional meaning. Consumers may not prioritize the product's functionality at the forefront of their evaluation. On the contrary, whether the product can provide consumers with a sense of social recognition—that is, whether it is endorsed by their peer group of the product—will become the determining factor of consumer satisfaction.

2.5. FOMO and consumer satisfaction

FOMO refers to a common fear of missing out, or the anxiety of missing out on something potentially rewarding that others have not missed. It is essentially a desire to constantly keep pace with others [25]. It is a state of mind that people experience when faced with the unknown [26]. It can also be considered as a relative lack of societal understanding. This situation typically arises because people are unfamiliar with or excluded from certain shared events in society. The fear of encountering such situations drives them to constantly seek participation in every social occasion [27]. When consumers obtain the external rewards provided by FOMO, namely social conformity, they can avoid the risks of incompetence and ignorance. Eliminating this sense of fear can provide consumers with a strong sense of security. When consumers eliminate this fear by purchasing goods, their satisfaction with the purchase increases accordingly [28].

3. Research hypothesis

3.1. The impact of social mission on consumer satisfaction

Social mission is the core element of social entrepreneurship, signifying a company's commitment to creating value for society rather than solely pursuing its own profit [29]. Due to the selfless spirit inherent in social missions, consumers believe that supporting products with social missions can bring them more spiritual value. When purchasing products with social mission value, consumers pay more attention to the emotional value that the product can deliver, and the quality of the product itself does not have the greatest impact on consumer satisfaction, conversely. Therefore, when corporate social responsibility offers added value to products, consumer satisfaction increases. When social responsibility has a positive impact on consumer satisfaction, it also validates that social initiatives exist a positive driving force on customer loyalty [17]. Therefore, this study proposes H1.

H1: Brand social mission has a positive impact on consumer satisfaction.

3.2. The impact of celebrity on consumer satisfaction

The emotional attachment that followers develop toward their favorite celebrities strengthens their feelings and trust toward those celebrities. Because they have established an emotional connection with celebrities, they also develop a positive attitude toward the products or services they endorse [30]. Therefore, companies can leverage celebrity influence to foster connections between customers and products, thereby allowing customers to prioritize brand appeal over place product quality when making purchases. Even if the product quality does not meet customers' expectations, their satisfaction can still be maintained at a high level. This may due the fact that fans purchase products related to celebrities to establish a sense of affinity with them. This impulse does not stem from the love for the product itself, so consumer satisfaction is generated by celebrities [31]. Therefore, the celebrity effect is an essential factor in this article, and it will be proven in the following text which has an impact on customer satisfaction. Therefore, this study proposes H2.

H2: Celebrity endorsement has a positive impact on consumer satisfaction.

3.3. The impact of social identity on consumer satisfaction

Tajfel & Turner argue that social identity is part of individual self-concept, originating from their perception of membership in a social group, while also including values and emotional significance associated with this identity [32]. When businesses utilize goods or services to give consumers a

stronger sense of social identity, consumers perceive these goods or services as a social tool for themselves within a group, rather than traditional goods used to satisfy daily needs. Accordingly, when consumers evaluate their satisfaction with a product, the ultimate factor determining their satisfaction lie in whether the product or service can provide users with a stronger sense of social identity and whether it can serve as a better social medium for them. A sense of belonging as an emotional experience of social feedback can provide consumers with emotional value beyond product usage needs, which can further prompt consumers to make purchasing decisions [33]. Therefore, this study proposes H3.

H3: Social identity has a positive impact on consumer satisfaction.

3.4. The impact of consumers' fear of missing out on consumer satisfaction

FOMO is often associated with negative psychological situations, and it has been proved that it gives a response that positively impacts consumption behavior [34]. When people are afraid of missing out on trendy products, they tend to buy them to alleviate their anxiety, even if they don't really need the product. Therefore, when their expectations are not met, their satisfaction will not decrease significantly because they did not have high expectations for the product from the beginning. Therefore, when consumers fear losing products or services that others possess but they do not, psychological factors cause them to feel little regret upon acquiring products that fail to meet their expectations. This is because the mere avoidance of missing out on such products or services already provides them with sufficient satisfaction. This study proposes H4.

H4: FOMO has a positive impact on consumer satisfaction.

4. Methods and data

4.1. Research design

The study employs a quantitative research cross-sectional survey design to collect data on consumer satisfaction in low-quality goods consumption scenarios through questionnaires. In the survey, "poor quality products" are explicitly described as products with poor durability, inferior materials, or limited functionality (e.g., inexpensive clothing, imitation electronics). This operational definition is implemented to ensure that participants possessed a uniform comprehension of the concept. The focus on low-quality products is intentional, aiming to respond to the prior research emphasis on high-quality products and to fill the gap in understanding consumer psychological mechanisms in low-quality consumption contexts. We also discuss the impact of key social factors on consumer satisfaction. The analysis process can be divided into three stages.

Stage 1: Preliminary tests

Prior to model estimation, this study conducts a series of data quality assessments and assumption diagnostics, including reliability analysis, univariate and multivariate normality test, Box's M test covariance matrices for homogeneity, multivariate outlier detection via Mahalanobis distance, and multicollinearity diagnostics based on variance inflation factors (VIF).

Stage 2: Main model analysis

OLS regression models are constructed to test the relationship between each social factor and its corresponding satisfaction. These models are tested separately and simultaneously using the heteroskedasticity robust standard error correction. Besides, multivariate analysis of variance (MANOVA) is used to assess the joint effects of social factors on satisfaction dimensions.

Stage 3: Robustness and supplementary analyses

The primary model aims to verify its robustness after the removal of outliers. The specific effect sizes of the respective variables on the different satisfaction dimensions are further assessed adopting one-way analysis of variance (ANOVA) with partial Eta² and interpreted with reference to the effect size interpretation criteria.

The three-stage analytical framework is designed to identify potential data issues preceding model estimation, capture both unidimensional and multidimensional effects at the analysis stage, and ensure that conclusions are not confounded by extreme values through robustness tests.

4.2. Variables and measures

The dependent variable in this study is consumers' multidimensional satisfaction with low-quality goods, which is categorized into four contextual dimensions: social mission, celebrity endorsement, community belonging, and FOMO. These dimensions serve as the core independent variables of the study and represent an important source of satisfaction. Consumer satisfaction has long been regarded as a multidimensional construct rather than a single holistic indicator in marketing and consumer psychology research. This study distinguishes between four contextual dimensions of satisfaction: social mission satisfaction, celebrity endorsement satisfaction, community belonging satisfaction, and FOMO satisfaction. This division is predicated on the clear theoretical assumption that different social factors stimulate different facets of consumer psychology. For instance, the concept of social mission primarily triggers ethical and moral dimensions of satisfaction. Similarly, the credibility and attractiveness of a celebrity endorsement affect satisfaction. Furthermore, the relational dimensions of satisfaction are promoted by community belonging. Finally, the scarcity- and anxiety-driven emotional satisfaction triggered by the FOMO is another facet of consumer psychology. The study's ability to establish a more precise correlation between each social factor and satisfaction is contingent upon its handling of dimensionality. While this dimensionality does not negate the existence of overall satisfaction, it establishes a more robust foundation for subsequent research, aiming to elucidate the interplay among these dimensions in explaining overall satisfaction. The measurement of each dimension was conducted using a five-point Likert scale, where 1 denotes "very dissatisfied" and 5 denotes "very satisfied." Additionally, gender, age, education level, and monthly income relative to monthly shopping expenditures are also introduced as control variables. These control variables are used to control the possible confounding effect of demographic characteristics on the empirical results. While product characteristics (e.g., category, price, or frequency of use) may also influence consumer satisfaction, they were not utilized as additional control variables in the present study. The rationale underlying this approach is that the questionnaire was meticulously crafted with a uniform operational definition of "low-quality goods." These goods are characterized by their substandard durability, the utilization of inferior materials, or a limited functionality. This definition was communicated to all respondents in the questionnaire, ensuring a uniform understanding of the research context and minimizing the impact of heterogeneity due to product-specific differences.

4.2.1. Scale reliability and validity

The items measuring the four dimensions of consumer satisfaction in this study are primarily based on and adapted from well-established scales in the existing literature. Specifically, the items for the social mission dimension are based on Mohr, Webb, and Harris' CSR scale [35]; the celebrity endorsement dimension is based on the Celebrity Endorsement Credibility Scale proposed by Ohanian [36]; the community belonging dimension is based on the Algesheimer, Dholakia, and

Herrmann scale [37]; and the FOMO dimension, which refers to the FOMO scale developed by Przybylski, Murayama, DeHaan, and Gladwell [26]. In the context of low-quality goods consumption, some of the question items undergo a moderate modification to ensure a suitable fit with the research context. To ensure the precision of the scale with regard to language and content, the questions undergo both translation and retranslation. To assess the scale's internal consistency, Cronbach's alpha coefficient is employed, with a value greater than 0.70 indicating adequate reliability. To ascertain the validity of the data, the Kaiser-Meyer-Olkin test and the Bartlett's spherical test are employed to evaluate the suitability of the data for factor analysis. These evaluations ensure the applicability and measurement quality of the scale in subsequent empirical studies.

4.3. Data collection and sample

The study employed a convenience sampling strategy, leveraging the snowball sampling method through two digital platforms: the WeChat community and the Questionnaire Star platform. A total of 300 questionnaires are distributed, and 283 are recovered. Consequently, the data can meet the requirements of OLS and MANOVA analysis. To ensure data quality, questionnaires with numerous missing values, inconsistent logic, or patterned responses are excluded, and 267 valid samples are obtained. Among them, 64.79% of respondents identified as female and 35.21% as male. The age of respondents is primarily concentrated in the 18-30 years old, accounting for 70.19% of the sample. The sample encompasses a broad spectrum of demographic characteristics, thereby offering a more comprehensive reflection of the target consumer group in the study.

4.4. Data analysis procedures

All statistical analyses are conducted in Stata 18.0 to ensure the reproducibility and statistical efficacy. All analyses are based on the original data, and the code could be reproducibly implemented. The data analysis procedures are divided into three phases.

4.4.1. Preliminary tests

1. Cronbach's alpha is utilized to assess the internal consistency, with an alpha greater than 0.70 indicating adequate reliability.
2. Shapiro-Wilk normality test. If $p < 0.05$, the variable deviates significantly from normal distribution. Otherwise, it is unacceptable.
3. Box's M-test is used to test for the covariance matrix chi-square. If $p < 0.001$, the hypothesis is not valid. Otherwise, the hypothesis holds.
4. Marginal distance is utilized to identify multivariate outliers and exclude them if they exceed a critical value.
5. VIF test is used to detect multicollinearity. If $VIF > 5$, it is considered to exert severe multicollinearity.

4.4.2. Model estimation steps

1. OLS regression (robust standard error) aims to test the univariate linear relationship between each social factor and the corresponding satisfaction context separately, and use robust standard error to correct heteroskedasticity.

2. MANOVA main model is adopted to examine the joint effects of the four social factors on the four satisfaction dimensions simultaneously, using Wilks' Lambda as the main statistic and referring to Pillai's Trace where necessary.

4.4.3. Robustness and supplementary analyses

1. Robustness tests. After removing outliers identified through the Mahalanobis distance, the OLS and MANOVA are re-run to compare for consistency.

2. One-way ANOVA with partial Eta². Further one-way ANOVA is performed on the independent variables that were significant in MANOVA and partial Eta² is reported as an indicator of effect size.

4.4.4. The significance thresholds

All statistical tests in this study are conducted using two-tailed tests, with the significance level set at $p < 0.05$. To address the risk of Type I error due to multiple comparisons, the Bonferroni correction is implemented in the OLS regression, MANOVA post hoc test, and interpretation of multivariate statistics.

5. Results

5.1. Scale reliability and structural validity

In order to verify the reliability and validity of the scales, this study first conducts a Cronbach's alpha coefficient test on the data to measure inter-item agreement. The findings reveal that the alpha coefficients of the social mission, celebrity endorsement, community belonging, and the FOMO surpass the standard of 0.70, suggesting that the scales of these dimensions exhibit adequate internal consistency and are capable of accurately reflecting the pertinent latent variables. As shown in Table 1, the KMO test and Bartlett's sphericity test are employed to assess the structural validity. The results indicate that the KMO values are all greater than 0.6, and the Bartlett's test results are significant at the 1% level. To sum up, the data fulfills the prerequisites for factor analysis.

Table 1. Reliability and validity test results of the measurement scales

	Cronbach's alpha	Kaiser-Meyer- Olkin	Bartlett's test of sphericity (χ^2)	p-value
social mission	0.8318	0.8330	477.56	0.0000
celebrity endorsement	0.8565	0.8538	549.20	0.0000
community belonging	0.7831	0.7686	382.99	0.0000
FOMO	0.7701	0.6650	227.32	0.0000

5.2. Descriptive statistics and premise hypothesis testing

Before the estimation of the main model, this study first conducts three key hypothesis tests to ensure the validity and robustness of the multivariate analysis. First of all, the normality test shows that the data deviates significantly from normality ($p < 0.001$). However, given that MANOVA with

OLS is somewhat robust to normality violations under large sample conditions, subsequent analyses are retained and robust standard error corrections are applied where necessary. Second, Box's M Test is significant ($p < 0.001$), indicating that the covariate matrices of the different groups are not aligned, so we need to remain cautious when interpreting multivariate significance. Finally, the Mahalanobis distance test identifies four multivariate outliers (distance > 18.47). In addition, the multicollinearity diagnostic shows a mean VIF value of 1.47, which is well below the conservative threshold of 5, suggesting that there is no serious multicollinearity problem.

5.3. OLS regression analysis

In order to assess the univariate linear effects of distinct social factors on their corresponding contextual satisfaction, four OLS regression models are estimated. In each model, the satisfaction dimensions serve as dependent variables, while the corresponding social factors act as independent variables. All models employ robust standard errors to address potential heteroskedasticity. The results are reported in Table 2.

Table 2. The effects of social factors on their corresponding satisfaction contexts

VARIABLES	(1) social mission satisfaction	(2) celebrity endorsement satisfaction	(3) community belonging satisfaction	(4) FOMO satisfaction
social mission	1.1435*** (0.2205)			
celebrity endorsement		1.6176*** (0.1353)		
community belonging			1.2462*** (0.1762)	
FOMO				0.8393*** (0.1666)
Gender	-0.5817* (0.3086)	-0.4763* (0.2673)	-0.2480 (0.2856)	-0.3807 (0.3268)
age	-0.2985 (0.2857)	-0.1321 (0.1834)	-0.2726 (0.1961)	-0.3659 (0.2281)
EducationalLevel	-0.4028 (0.4075)	-0.3691 (0.3175)	-0.6123* (0.3427)	-0.6592* (0.3718)
Incomelevel	0.1593 (0.1376)	0.2906** (0.1236)	0.3158** (0.1233)	0.3538** (0.1427)
spend	0.2025	-0.1515	0.0938	0.2070

Table 2. (continued)

	(0.1463)	(0.1542)	(0.1402)	(0.1669)
Constant	2.6295**	0.9689	1.6401*	2.9002***
	(1.0769)	(0.7739)	(0.9026)	(0.9659)
Observations	267	267	267	267
R-squared	0.184	0.410	0.269	0.173

Note: Robust standard errors are reported in parentheses; *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

The regression results demonstrate that social mission can exhibit a significant positive effect on consumer satisfaction ($\beta = 0.2205$, $p < 0.001$), while the effect of celebrity endorsement is even more pronounced ($\beta = 0.1353$, $p < 0.001$), underscoring its pivotal role in satisfaction enhancement. The impact of group affiliation on satisfaction is validated to be statistically significant, albeit with a relatively modest effect size ($\beta = 0.1762$, $p < 0.05$). In contrast, the effect of FOMO, although positive and significant at the marginal level ($\beta = 0.1666$, $p = 0.072$), suggesting that its potential role has not yet been fully validated.

The coefficients of determination (R^2) for the four models range from 0.173 to 0.410, indicating moderate explanatory power. Among the control variables, it can be found that gender exhibits a significant negative effect in columns (1)-(2), inferring that women report higher satisfaction in the social mission and celebrity endorsement contexts. In columns (3)-(4), education level is found to be significantly negative, indicating lower satisfaction among higher-educated consumers in the community belonging and FOMO contexts. Income level is found to be a significant positive factor in columns (2)-(4), with higher-income groups purporting greater satisfaction. The remaining control variables have not demonstrated consistent significance. In essence, the core independent variables exert a predominant influence, while the effects of the control variables are context-specific and less stable.

5.4. Analysis of MANOVA model

To assess the overall role of the four social factors on multidimensional satisfaction, this study employs a multivariate analysis of variance (MANOVA). The findings indicate a substantial overall model (Wilks' $\lambda = 0.435$, $F = 10.39$, $p < 0.001$), suggesting a collective impact of the four independent variables on multidimensional satisfaction. The test results are shown in Table 3.

Table 3. MANOVA results for the joint effects of social factors on multidimensional satisfaction

Number of obs = 267						
W = Wilks' lambda L = Lawley-Hotelling trace						
P = Pillai's trace R = Roy's largest root						
Source	Statistic	df	F(df1,	df2)=	F	Prob>F
Model 1	W 0.5435	4	16.0	791.9	10.39	0.0000 a
	P 0.4870		16.0	1048.0	9.08	0.0000 a
	L 0.7849		16.0	1030.0	12.63	0.0000 a

Table 3. (continued)

	R 0.7108		4.0	262.0	46.56	0.0000	u
	Residual: 262						
social mission	W 0.9561	1	4.0	259.0	2.98	0.0199	e
	P 0.0439		4.0	259.0	2.98	0.0199	e
	L 0.0460		4.0	259.0	2.98	0.0199	e
	R 0.0460		4.0	259.0	2.98	0.0199	e
celebrity endorsement	W 0.7938	1	4.0	259.0	16.82	0.0000	e
	P 0.2062		4.0	259.0	16.82	0.0000	e
	L 0.2597		4.0	259.0	16.82	0.0000	e
	R 0.2597		4.0	259.0	16.82	0.0000	e
community belonging	W 0.9715	1	4.0	259.0	1.90	0.1104	e
	P 0.0286		4.0	259.0	1.90	0.1104	e
	L 0.0294		4.0	259.0	1.90	0.1104	e
	R 0.0294		4.0	259.0	1.90	0.1104	e
FOMO	W 0.9885	1	4.0	259.0	0.75	0.5584	e
	P 0.0115		4.0	259.0	0.75	0.5584	e
	L 0.0116		4.0	259.0	0.75	0.5584	e
	R 0.0116		4.0	259.0	0.75	0.5584	e
e = exact, a = approximate, u = upper bound on F							

The regression results indicate that social mission can exert a significant effect on consumer satisfaction ($p = 0.0199$), while celebrity endorsement demonstrates the strongest significance ($p < 0.001$), underscoring its pivotal role in enhancing satisfaction. Conversely, neither sense of community belonging nor the experience of FOMO attain a significant level of statistical significance ($p > 0.05$), suggesting that their impact might have been constrained by contextual factors.

5.5. Robustness test

To assess the robustness of the findings, the OLS and MANOVA analyses are re-run after removing the four outliers detected by the Mahalanobis distance. Table 4 presents the results.

Table 4. OLS regression results after removal of multivariate outliers

	(1)	(2)	(3)	(4)
VARIABLES	social mission satisfaction	celebrity endorsement satisfaction	community belonging satisfaction	FOMO satisfaction
social mission	1.2247***			

Table 4. (continued)

	(0.2138)			
celebrity endorsement		1.6273***		
		(0.1356)		
community belonging			1.2313***	
			(0.1802)	
FOMO				0.8389***
				(0.1683)
Gender	-0.4987*	-0.5009*	-0.2511	-0.4340
	(0.3007)	(0.2688)	(0.2884)	(0.3287)
age	-0.4431*	-0.1244	-0.2231	-0.3701
	(0.2592)	(0.1891)	(0.2022)	(0.2344)
EducationalLevel	-0.3523	-0.3835	-0.6470*	-0.6230*
	(0.4073)	(0.3196)	(0.3454)	(0.3732)
Incomelevel	0.2047	0.2841**	0.2918**	0.3561**
	(0.1308)	(0.1259)	(0.1251)	(0.1457)
spend	0.2448*	-0.1230	0.0774	0.2192
	(0.1424)	(0.1537)	(0.1420)	(0.1675)
Constant	2.1959**	0.9081	1.7516*	2.8786***
	(1.0185)	(0.7803)	(0.9177)	(0.9804)
Observations	263	263	263	263
R-squared	0.208	0.413	0.253	0.173

Note: Robust standard errors are reported in parentheses; *** p<0.01, ** p<0.05, * p<0.1

The results demonstrate that the regression coefficients, significance levels, and R^2 are nearly equivalent to those of the original model. The MANOVA model remains statistically significant (Wilks' Lambda = 0.5447, $F = 10.72$, $p < 0.001$), and the significance of social mission and celebrity endorsement is consistent. Furthermore, the significance of celebrity endorsement remains stable. These findings indicate that outliers exerted minimal influence on the primary conclusions, thereby underscoring the robustness of the core findings. However, it is important to note that there are differences in the performance of FOMO across methods. While it is marginally significant in the OLS regression, it fails to reach significance in MANOVA. This discrepancy can be attributed to methodological differences. OLS is more sensitive to weak effects, while MANOVA employs stricter significance criteria in the joint test, thereby weakening the marginal effect of FOMO.

5.6. Univariate ANOVA and effect size (partial Eta²)

In order to further describe the specific effects of the respective variables on different satisfaction dimensions, this study conducts ANOVA based on the grouping of independent variables, and calculates the partial Eta² to measure the effect strength. The relevant statistical results are shown in Table 5.

Table 5. One-way ANOVA results and Partial Eta² effect sizes of social factors across satisfaction dimensions

independent variable	dependent variable	F value	p	Partial Eta
social mission	social mission satisfaction	47.66	0.0000	0.154
social mission	celebrity endorsement satisfaction	35.51	0.0000	0.119
social mission	community belonging satisfaction	39.49	0.0000	0.131
social mission	FOMO satisfaction	36.76	0.0000	0.123
celebrity endorsement	social mission satisfaction	76.78	0.0000	0.227
celebrity endorsement	celebrity endorsement satisfaction	163.12	0.0000	0.384
celebrity endorsement	community belonging satisfaction	136.57	0.0000	0.343
celebrity endorsement	FOMO satisfaction	126.33	0.0000	0.325
community belonging	social mission satisfaction	47.24	0.0000	0.153
community belonging	celebrity endorsement satisfaction	61.83	0.0000	0.191
community belonging	community belonging satisfaction	79.50	0.0000	0.233
community belonging	FOMO satisfaction	57.67	0.0000	0.18
FOMO	social mission satisfaction	18.28	0.0000	0.065
FOMO	celebrity endorsement satisfaction	32.58	0.0000	0.111
FOMO	community belonging satisfaction	32.88	0.0000	0.112
FOMO	FOMO satisfaction	37.14	0.0000	0.124

The results of ANOVA reveal that celebrity endorsement has a pronounced impact ($p < 0.001$) on all dimensions of satisfaction, with partial Eta² values ranging from 0.227 to 0.384, indicating a moderate to strong effect. Social mission likewise shows a significant influence across all dimensions ($p < 0.001$), with partial Eta² values ranging from 0.119 to 0.154, reflecting a moderate effect. In addition, social belonging is also significant across all dimensions ($p < 0.001$), with partial Eta² ranging from 0.153 to 0.233, suggesting a medium effect, though its stability appeared slightly weaker compared with social mission and celebrity endorsement. Finally, FOMO demonstrates significance across all dimensions ($p < 0.001$), but its partial Eta² values (0.065–0.124) indicate only a small to moderate effect, implying that its influence was relatively limited and likely to be context-specific.

6. Discussion

The empirical results of this study indicate that social factors have a significant impact on consumer satisfaction in contexts involving low-quality products. This finding is consistent with previous

literature on the subject. This study focuses on the consumption context of low-quality products, a choice that helps to reveal the particular role of social factors in irrational or low-value-added consumption. However, this study further extends the theoretical boundary by demonstrating that social cues are equally capable of significantly increasing satisfaction in low-quality consumption.

First of all, regarding the fundamental factors influencing customer satisfaction, extant research has predominantly highlighted the beneficial impact of product quality and price [10, 11]. These studies have concluded that satisfaction is notably higher when consumers perceive the price to be equitable and the quality aligns with their expectations. However, the findings of this study extend beyond this preliminary observation, demonstrating that social cues-such as celebrity endorsement, community belonging, social mission, and FOMO, which transcend price and quality-are equally effective in enhancing satisfaction. This observation serves to expand the boundaries of established customer satisfaction theory.

Secondly, with respect to the role of celebrity endorsement, extant literature has demonstrated that such endorsements have led to a substantial augmentation in consumers' emotional attachment and purchase propensity over the past three decades [20]. Our study corroborates this finding and infers that celebrity endorsement exerts the most significant effect on low-quality products. This conclusion further underscores the pivotal role of "authority endorsement" and "visibility cues" in the formation of consumer satisfaction [38]. Contrary to the findings of preceding studies, this study validates the stability and potency of celebrity endorsement in low-quality markets, which demonstrates that it is not solely a marketing strategy for high-value products but also a means to modify consumers' perceptions of satisfaction in low-end markets. This finding provides a new scenario for the application of celebrity endorsement theory.

Thirdly, in terms of social mission, Anderson & Self emphasize that their social values provide positive psychological cues to consumers [12]. Our findings lend credence to their perspective, as they illustrate that social mission exerts a significant influence across various satisfaction dimensions. However, its effect size is comparatively weaker in comparison to celebrity endorsement, indicating that the role of social mission is more contingent on value identification and cognitive processing. This suggests that the potential for social mission to exert its influence is somewhat constrained in the context of low-quality products. Nevertheless, it still expands the boundaries of the existing outreach on the relationship between corporate social responsibility and customer satisfaction.

Fourthly, the outcomes pertaining to community belonging align with the tenets of social identity theory [21], as group affiliation and social feedback have the capacity to offer consumers emotional value, thereby enhancing their satisfaction. However, the weaker stability of community efficacy compared to celebrity endorsement suggests that future research needs to further explore the moderating role of the quality and size of community interactions [39]. Consequently, this study not only validates the role of community belonging in low-quality consumption, but also reveals its lack of stability, providing new empirical evidence on the boundary conditions of community efficacy.

Finally, a notable distinction emerges between our findings on FOMO and the definition proposed by Przybylski *et al.* [26]. While FOMO is indeed a salient phenomenon, its effect size is modest, suggesting that its impact is more pronounced on "purchase triggers" than on "satisfaction maintenance." This finding does not conform to the prevailing literature in this field, which highlights the significant impact of FOMO on consumer behavior. Our finding reveals a pivotal boundary condition that in low-quality consumption, FOMO promotes purchases but has a limited effect on satisfaction [28]. This sheds light on the limited impact of FOMO in the process of

satisfaction formation, thus helping to differentiate between "short-term purchase motivation" and "long-term satisfaction experiences."

In addition to the core independent variables, analyses of the control variables also yield valuable results. Specifically, the gender demonstrates a significant negative relationship in both the "social mission" and "celebrity endorsement" contexts, suggesting that female consumers exhibit greater satisfaction with these two types of social cues. This finding aligns with the extant research that posits women exhibit heightened relational sensitivity and emotional orientation in the consumption process [40, 41]. It also suggests that women may be more inclined to form psychological identities through value congruence and the alignment of the endorser's image with their own values, which is further substantiated by Lazar, who demonstrates that women are more likely to accept recommendations from celebrity brands and perceive products with celebrity endorsements as higher quality [42]. Consequently, this study corroborates the notion that female consumers are more susceptible to the influence of social missions and celebrity endorsements than their male counterparts when control variables are taken into account. This phenomenon culminates in higher levels of satisfaction being attained by female consumers. Moreover, it is noteworthy that this elevated level of satisfaction is not solely attributable to women's subjective perceptions of product quality. Rather, even in instances where product quality falls short of expectations, women demonstrate a propensity to sustain a higher degree of satisfaction, particularly when influenced by social factors. This underscores the pivotal function of affective cognition in consumer evaluation. In contrast, education level exhibits a significant negative correlation with community belonging and FOMO. This implies that consumers with greater educational attainment displays lower levels of satisfaction. This phenomenon may be indicative of a correlation between increased education, enhanced information literacy, and critical thinking skills. Individuals possessing these abilities demonstrate a reduced propensity to depend on emotional and herd-like cues, unveiling a stronger inclination towards an autonomous and rational approach to decision-making. Consequently, heightened educational attainment may serve to attenuate the influence of group affiliation and the phenomenon of FOMO on consumer satisfaction development.

In addition to the empirical results, this study elucidates significant ethical issues. The utilization of social influence, such as celebrity endorsement, community belonging, and FOMO, to enhance consumer satisfaction with low-quality products may yield short-term commercial benefits. However, it also carries the potential to mislead consumers, normalize poor-quality consumption, and promote unsustainable purchasing behaviors. From an ethical standpoint, firms that conceal product defects through manipulative marketing may face challenges due to their lack of transparency and accountability. Consequently, marketing strategies must strike a balance between persuasive tactics and consumer protection measures, along with the cultivation of long-term trust.

7. Conclusion and implication

7.1. Conclusion

Overall, this study, based on questionnaire surveys and multivariate statistical analysis, systematically examines the effects of social factors on consumer satisfaction in the context of low-quality product consumption, and verifies it through OLS and MANOVA models as well as robustness analysis. According to the results, this paper concludes that social factors do have significant positive impacts on consumer satisfaction, which confirms that social factors do not only play a role in the luxury or high-end product market, but also apply to the low-quality product market. Among them, the influence of celebrity endorsements is the most significant, followed by a

sense of community belonging and social mission. While the impact of FOMO is the weakest but still significant positive.

This study has validated, in addition to the practicality and price of the product, the emotional value at the spiritual level also affects consumers' satisfaction. It provides valuable references for the marketing of enterprises' products. Companies can enhance consumers' satisfaction by increasing the added value of their products rather than the products themselves. The differences that can be demonstrated through control variables indicate that enterprises can formulate differentiated marketing strategies based on different demographic characteristics and socio-economic levels. By addressing the pain points of different groups of people, they can further enhance consumers' satisfaction.

7.2. Practical implications

In practical terms, this research provides valuable insights for companies seeking to shape product value and formulate marketing strategies. Most companies hold the view that they don't need to consider social missions or celebrity effects because consumers won't care about these. However, this study proves that these social factors do enhance consumers' satisfaction. This means that enterprises can reduce their reliance on "low-price promotion" and instead strengthen social mission narratives (such as eco-friendly packaging, public welfare cooperation) or build user communities to enhance a sense of belonging to maintain customer satisfaction.

Compared with the low-price promotion strategy that merely focuses on price wars, establishing a positive brand image through the influence of social factors and by leveraging social missions may be more cost-effective. It can also showcase the differences from other companies, leave a deeper impression on customers, and thus effectively enhancing their reputation. Furthermore, research has revealed that celebrity endorsements can significantly enhance the purchasing desire of female consumers, which demonstrates that this characteristic can be utilized to effectively expand the market for the female and the female consumer groups as a whole.

7.3. Future prospects

Although this study explored the relationship between social factors and customer satisfaction in the context of low-quality products, it is still unclear how the quality of the products themselves modulates these effects. Future research could start from a comparative analysis of low-quality products and high-quality products to clarify whether there are differences in the intensity and nature of the influence of social factors at different quality levels. This expansion will help to more comprehensively understand how social factors affect the initial purchase decisions and subsequent satisfaction results.

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