

The Transmission Ways of Social Media Sex Education Content to Parents and Its Influence on Children's Education

Peiqi Luo

Meishi Film Academy, Chongqing University, Chongqing, 400000, China

Keywords: Sex Education, Social Media, Parents.

Abstract: This study focuses on the communication mechanism of sex education content under the emerging background of social media, and the transformation law of parents' multiple roles as information decoder, knowledge reconstructor and educational decision maker. Through literature analysis, questionnaire survey and SPSS data analysis, it is found that algorithm recommendation is the main contact channel, while acquaintance sharing drives efficient transformation. In addition, the study also reveals the contradictory characteristics of the influence of high-frequency users and the dominance of mothers. The research shows that building a dual-track collaborative mechanism of intelligent recommendation technology and acquaintance network communication, realizing accurate content matching through algorithm optimization, strengthening trust endorsement through social relations, and cooperating with authoritative quality certification system can systematically solve the transformation obstacles of social media sex education content in intergenerational communication. It is helpful to bridge the intergenerational gap and upgrade the family education model digitally.

1 INTRODUCTION

In contemporary society, sex education, as the core issue of adolescent growth, is undergoing a paradigm shift from traditional institutions to social media platforms. With the increasingly accurate algorithm recommendation mechanism of social media platform, the communication mode of sex education content is undergoing structural changes. With the increasingly accurate algorithm recommendation mechanism of social media platforms, the communication mode of sex education content is undergoing structural changes, as evidenced by initiatives like the TOUGH YOUTH project initiated by high school students in Fuzhou, China. Through online testing, anonymous answering and campus activities, this student-led program not only attracted 480,000 participants but also inspired cross-city replication of similar campaigns (Wu & Li, 2022), demonstrating social media's superior communication efficiency over traditional classroom approaches in sexuality education dissemination. Besides, research shows that sex education on social media has become common (Döring, 2021). At the same time, this wave of digital education is quietly changing the traditional pattern of family education-

when the sexual knowledge on social media is spread to the audience. Parents also become the recipients of the information, and at the same time they are the disseminators of family education. Although the existing literature focuses on teenagers' direct reception of content, it generally ignores a key group: parents. Eccles's "Parents Socialization Model" points out that parents' media use behavior will affect their children's cognition through demonstration and resource provision (Hammer et al., 2021), but the application of this theory in the field of sex education still stays at the traditional media level.

Under this background, this study puts forward the core question: how does the content of social media sex education break through the intergenerational barrier and penetrate into the parents' group? How does this infiltration affect parents' practice of sex education for their children?

As mentioned above, there have been studies on the direct impact of multi-focus social media on teenagers. For example, in the study of TikTok, its spread highlights the potential of social media as an informal education channel (Fowler et al., 2022). However, Lameiras-Fernández M's systematic review research points out that although the digital platform can break through the limitations of school

sex education, there is a risk of information deviation (Lameiras-Fernández et al., 2021). There are double blind spots in the existing literature: first, the role of parents as secondary communication nodes has been neglected for a long time, and only a few studies reveal the correlation between parents' media use and their children's behavior through the media socialization model; Secondly, the evaluation of communication effect mostly stays at the teenagers' end, and fails to touch the complete transmission chain of "parental reception-knowledge reconstruction-educational behavior change".

Parents play the triple roles of information decoder, knowledge reproducer and educational decision maker in the communication chain of sex education. Based on the methods of literature review and questionnaire survey, this study systematically discusses the cognitive characteristics of parents' social media sex education content and its influence on family education. By systematically combing the relevant literature in recent five years, this paper focuses on analyzing the path characteristics of social media sex education communication and the research gaps of its intergenerational influence. On this basis, a questionnaire survey was designed, to measure their social media usage frequency, sexual education content contact experience and educational behavior change indicators. Correlation analysis and regression model construction are conducted by SPSS, aiming at further research based on the theoretical framework of literature analysis and empirical data of questionnaire survey, so as to provide support for revealing intergenerational education communication.

The theoretical value of this study lies in expanding the research dimension of intergenerational communication in digital education, and breaking through the research formula that the existing literature takes teenagers as a single subject. On the practical level, the research results will help to design the intervention strategy of "parents-children-platform", and provide an empirical basis for bridging the cognitive differences between generations and optimizing the effectiveness of family sex education. At the time of social media deeply reconstructs the pattern of knowledge dissemination, it is of urgent practical significance to reveal the role change of parents in the digital education ecology for building a new model of family education.

Based on the background of the times and experience reflection, the general problem of the research topic is: the transmission ways of social media sex education content to parents and its influence on children's education.

2 LITERATURE REVIEW

2.1 The Necessity of Taking Parents as the Research Subject of Social Media Sex Education Communication

Based on the "parent socialization model" of Eccles, the paper of Hammer, M. et al examines the mediating effect of parents' beliefs on students' self-efficacy indirectly through behaviors (modeling and providing equipment), and discusses how parents' beliefs on digital media (such as intrinsic value and utility value) and behaviors (such as providing equipment and demonstrating use) affect students' digital media self-efficacy (Hammer et al., 2021). Through the questionnaire, the data were analyzed by SEM, CFA and Bootstrap (95% CI). The researchers found that parents have a significant positive impact on the possibility of providing smart phones in terms of intrinsic value (such as "using digital media is interesting") and utility value (such as "digital media is useful for learning"). The study is helpful to the communication of parents' sex education. The "parent socialization model" can be used for reference to analyze how parents influence their children's cognition through the dissemination of sex education content (such as sharing articles and discussing topics), and whether they are willing to apply the content to their children's education, similar to the behavior of providing smart phones predicted in the articles of Hammer, M. and others.

However, Hammer, M. et al's study focuses on the ability to use technology, rather than the content delivery of sex education content from social media to parents. The paper can only be used as a research premise, and it is still indispensable to further study the importance of utilization rate.

Other studies have also pointed out the importance of parents in sex education. In Joy Walker's study, the researchers took British parents (especially mothers), teenagers as the research objects (Walker, 2004). Through literature review, qualitative research, quantitative investigation and case study, and using multivariate regression analysis (adjusting the influence of family structure, education level and other variables on sexual behavior), the study found that parents' open communication was related to their children's higher contraceptive use rate, and the lack of father's participation led to the lack of sex education for boys. This shows that parents play an extremely important role in sex education. Moreover, social media, as the mainstream

platform in today's society, can play an important role in how parents master and teach correct and appropriate sex education content.

In *The Characteristics and Relationship of Parental Sexual Knowledge and Sex Education Attitude to Young Children*, by studying the parents of young children, the researcher tested the main effects of gender, age and educational background through ANOVA (Jin, 2021). Through the parental knowledge questionnaire (PSK, Cronbach's $\alpha=0.790$) and the sex education attitude questionnaire (PSEA, Cronbach's $\alpha=0.864$), the main effects of age and educational background were tested by descriptive statistics, independent sample T test (gender difference) and ANOVA. Back testing (Scheffe method), three-factor analysis of variance (gender $\times$ age $\times$ educational background) and correlation analysis (correlation between sexual knowledge and attitude towards sex education) show that parents' sexual knowledge is above average ($M=3.36-4.28$), but the score of "child development" dimension is the lowest ($M=3.36$), and mothers' sexual knowledge is significantly higher than fathers' ($p=0$). At present, it is found that parents' sexual knowledge and attitude are the key prerequisites for the implementation of sex education, and social media can be used as an important channel to spread the content of sex education to parents. This once again confirms the importance of the content of social media sex education, that is, the importance of Xin Jin's study. And mothers are the main implementers of family sex education (the conclusion of Xin Jin's study), so social media content should be designed for mothers first. In addition, the PSEA survey shows that parents' attitudes towards sex education are generally positive ($M=3.65-4.26$), but the score of "barriers to sex education" is the lowest ($M=3.65$). It can be seen that parents' conservative attitude towards sex education needs to break away from traditional ideas through social media. This shows that social media is of great help to family sex education.

In addition, like this paper, another researchers put the main research object of the paper on parents. To study the influence of parents on their children in media application (Lee et al., 2022). In Hye Eun Lee et al's paper, a questionnaire survey method is used to analyze the path relationship between parents' media use, attitudes and parenting styles on children's media use through Multigroup SEM, and to test the differences among different subgroups (such as gender and age). Reliability test (Cronbach's α of each scale is greater than 0.7, such as parental attitude scale $\alpha=0.85$) and descriptive statistics are made. It is found that parents' media time is positively correlated with

children's media use during the day ($\beta=0.32$) and at night ($\beta=0.28$). Although there is no direct study on the influence of parents' exposure to sex education in the media on their children, Hye Eun Lee et al's study is helpful to strengthen the understanding of the direct influence of parents on children in media use, and to understand the positive attitude of parents is helpful to study the role of parents in the media communication of sex education.

2.2 The Importance of Social Media to the Study of Sex Education Communication

In the research of Sex Education on TikTok: A Content Analysis of Themes, the researcher configured a new account for a hypothetical 15-year-old user in the United States and uses algorithm recommendation to obtain videos. The study methods of data collection, coding and topic induction are adopted. In data analysis, instead of using complex analysis, it simply use descriptive statistics to calculate video theme frequency (such as "female anatomy" accounting for 31%) and user interaction data (median: 516,650 times of video viewing, and some videos exceed 2 million times). Leah R. Fowler, JD et al's study found that the content of sex education on TikTok is different from that in traditional schools or families, suggesting that medical and educational practitioners can add supplementary resources, but they should also pay attention to the accuracy of their information and its impact on teenagers' health cognition. Surely, the article can help to understand the popularity of sex education content on social media such as Tik Tok. However, it only mainly focuses on teenagers, which may be helpful to parents' research. Therefore, it is necessary to further study the influence of parental sex education on media reception and education of children combining with Leah R. Fowler, JD et al's paper.

María Lameiras-Fernández et al's article has the same limitations as the previous paper: the research subjects are only teenagers[5]. In addition, it is a literature review. An important point is that although it was published in recent years, the selected papers are quite old (2015-2020). The study points out that school sex education programs have limited effect in reducing adolescents' risk behaviors, while digital platforms and blended learning programs show greater potential but have biased risks, so it is necessary to combine new technologies and adopt more comprehensive evaluation and design to enhance their effectiveness. In María Lameiras-Fernández et al's paper, heterogeneous processing, classification

analysis, bias evaluation and result stratification are selected for data analysis. However, the high heterogeneity leads to the impossibility of meta-analysis, and the conclusion depends on narrative synthesis. Therefore, more timely and appropriate data analysis is still needed. This confirms the importance of this new research.

As for The Effectiveness of Youtube as an Online Learning Media, although Rahmatika et al's article does not focus on parents as the only subject, it studies the role of social media represented by YouTube in learning and gets a positive answer (Rahmatika et al., 2021). Through qualitative research and interviews, the researcher draws a conclusion based on Miles and Huberman model: YouTube is judged as an "effective" online learning tool. However, there are still some limitation in the research, such as the small sample size and lack of diversity, only three teachers and a bit of parents in a single school. However, it can still be seen from Rahmatika et al's paper that the current research verifies the effectiveness of YouTube (social media) in knowledge dissemination, which is consistent with the media attribute of "sex education content is disseminated through social media". Therefore, the results contribute to the research hypothesis of this paper regarding.

Lastly, the study of Runjie Zhang et al focuses on the parent-child relationship under the family education model in internet plus, pay attention to the differences between traditional and new education models and the transformation strategies (Zhang et al., 2021). Runjie Zhang et al's paper compares the characteristics of traditional family education model and internet plus model through literature review, and then puts forward the potential influence of the Internet on parent-child relationship and the coping strategies (such as information feedback and democratic communication) by logical reasoning. It can be found that the traditional family education model is obviously limited compared with the internet acceptors. The article explains the transformation of parents' education in internet plus era, but it lacks data support and empirical support, and is only theoretical advice. However, it can be explained that intergenerational information transmission depends on the Internet today, that is, the importance of social media.

2.3 Conclusion of the Literature Review

In the past, researchers' studies has first proved that parents play an indispensable role in sex education for their children, and also proved that social media is

necessary in intergenerational communication of sex education.

In addition, previous studies also laid the research foundation for this paper. Such as proving the existence of sex education content in social media. Social media platforms represented by TikTok and YouTube have become important carriers of sex education content. For example, on TikTok, the median number of videos about sex education reached 516,000 times, and some videos exceeded 2 million times. YouTube has also proved to be an effective online learning tool, and its interactivity and accessibility provide a new path for knowledge popularization. In addition, we can also understand the influence of parents' media use on their children. The status quo of parents' sex education: the score of "children's sexual development" is the lowest ($M=3.36$), and the score of "obstacles to sex education" is low.

Taking this situation as one of the reasons, most of the previous studies on the combination of sex education and social media focus on teenagers, ignoring parents, which are an important part of family education or media. Thus, the research in this paper provide evidence of what is currently lacking, which means the further study is of great value.

3 QUESTIONNAIRE SURVEY METHOD

3.1 Research Questions

The decomposition problem is as follows:

(1) What social media platform can be seen by parents of sex education audience?

① What are the commonly used social media platforms and channels?

② Age distribution of users of various media platforms (to find parents' preferences)

(2) What are the channels for teenagers' parents to get in touch with the contents of sex education (seeing by themselves, sharing with friends, recommending by teachers, pushing advertisements, etc.)?

① If parents brush it themselves, how often?

· If parents do not take the initiative to search, can they see it?

· What content users usually like to watch can be pushed by big data for sex education content?

② What kind of sex education videos will be shared and the corresponding sharing groups?

(3) The mode of communication of sex education content preferred by the audience (video, graphic, interactive)?

(4) What is the real popularity or browsing volume of these sex education contents?

(5) What kind of transmission route can bring more efficient results?

① Which way is more popular?

② Which way is more effective to spread information?

③ Which way has a higher real audience (eg. video completion rate)?

(6) Can the content related to sex education seen by parents on social media be implemented in children's education?

3.2 Samples of Study

This study is aimed at parents' social media users, aiming at understanding whether and how parents can share sex education on social media, and further exploring whether such content will have an impact on parents' education outside the media platform, that is, in real life. Based on this research purpose, the first restriction of the questionnaire distribution group is the existence of children, followed by the usual use of social media platforms. A total of 95 questionnaires were collected, of which 3 were invalid.

4 RESULT

4.1 Data Analysis in this Study, Different Data Analysis Methods Are Used to Analyze Different Problems

4.1.1 Descriptive Statistic

In order to present the characteristics of data distribution and describe the basic trend of samples,

this study uses descriptive statistical data analysis methods. In terms of statistical results (see Table 1), it can be found that most parents have been exposed to sex education content on social media, but the actual application ratio is only about half. Algorithm push is an important channel for parents to get in touch with sex education content.

Table 1. Descriptive Statistics of Parents' Exposure and Application of Sex Education Content on Social Media

Index	Result
Proportion of contact with sex education content	82/92 (89.1%)
Actual application ratio	45/92 (48.9%)
Recommend contact ratio through algorithm	65/82 (79.3%)
Mean value of gender distribution (male =1, female =2)	1.457±0.501
Scientific cognitive mean (1-5 scale)	1.587±0.495

4.1.2 Frequency Analysis and Cross Comparison

In order to know through what channels the sex education content learned on social media is more likely to be applied by parents, this study applied this quantitative data analysis method. By constructing a cross table (see Table 2 and Table 3), it is found that the application rate of sex education content learned through acquaintance recommendation is higher. At the same time, through frequency analysis, it can also be found that high-frequency users of social media are much more influenced by the content of sex education in the media than low-frequency users.

Table 2. Cross-Tabulation Analysis of Content Application Rates by Contact Channel and User Frequency.

Grouping dimension	Key indicators	Channel group recommended by the algorithm (n=65)	Acquaintance sharing group (n=28)	Entirety(n=92)
Content application ratio	Will use content to educate children.	50.0%	81.0%	48.9%
High frequency users (3 hours+/day)	Consider it has a significant impact	48.7%	\-	42.4%
Low frequency users (< 1 hour/day)	Consider it has a significant impact	16.7%	\-	7.6%

(The results of grouping comparison and chi-square test are as follows)

Table 3. Chi-Square Test Results for Group Comparisons

Grouping comparison	χ^2	p	Cramer's V
Algorithm recommendation vs Acquaintance sharing application rate	8.762	0.003	0.312
High-frequency vs Low-frequency user influence perception	6.941	0.008	0.285

4.1.3 Correlation Analysis

In order to further explore whether the duration and contact frequency of social media are positively related to the influence of educational concepts,

correlation analysis is a necessary means. Through correlation analysis (see Table 4), it is not difficult to find that both of them are positively related to parents' educational concepts.

Table 4. Correlation Analysis Between Social Media Usage Patterns and Educational Concept Influence

Pair of variable	Pearson correlations coefficients (r)	p
Duration of use vs Degree of conceptual influence	0.45	0.003
Contact frequency vs Willingness to apply	0.38	0.012

4.1.4 One-Sample t-Test

As shown in the Table 5 and Table 6, the average sex variable is 1.457 (standard deviation =0.501), which is significantly higher than that of comparative value ($t = 0(t=27.894, p<0.01)$). Therefore, it can be found that the proportion of mothers in the sample is significantly higher than that of fathers, and the

gender distribution is obviously biased. At the same time, regarding the scientific cognition of social media sex education content, the average value of 1.587 (standard deviation =0.495) is also significantly different from the benchmark value ($t=30.746, p<0.01$), and the effect is extremely large (Cohen's $d=3.205$).

Table 5. One-Sample t-Test Results for Gender Distribution and Perceived Scientific Quality

Index	Sample size	Minimum	Maximum	Average	Standard deviation	t	p
Sex	92	1.000	2.000	1.457	0.501	27.894	0.000**
Think the sex education content on social media is scientific and comprehensive enough or not	92	1.000	2.000	1.587	0.495	30.746	0.000**

* $p<0.05$ ** $p<0.01$

Table 6. Effect Size Indicators for Gender and Scientific Perception Variables

Index	Average	Contrast figure	Difference	Difference 95% CI	df	Standard deviation	Cohen's d
Sex	1.457	0.000	1.457	1.353 ~ 1.560	91	0.501	2.908
Think the sex education content on social media is scientific and comprehensive enough or not	1.587	0.000	1.587	1.484 ~ 1.689	91	0.495	3.205

5 CONCLUSION

Through the data analysis of 92 valid questionnaires, it can be seen that social media platform plays a key role in the dissemination of sex education content for parents, but it also exposes a series of contradictions worthy of attention. The survey found that more than 80% of parents had contacted related topics through WeChat, Tik Tok and other channels, but less than 70% actually applied the content to their children's education. This data difference between reception and application reflects the deep problems of the current communication system.

Through the first stage of preliminary research, it can be found that algorithmic push opens parents' cognition, but acquaintance relationship promotes action. Although about 79% of parents are exposed to the content of sex education because of the platform recommendation mechanism, only half of these groups have really turned into educational practice. It is noteworthy that the parents who get the content through sharing with friends, relatives or educators, their practical application will reach 81%.

In terms of content quality evaluation, parents show pragmatic coping strategies. Most parents use the current content in a compromise way (under the restriction of realistic conditions, a pragmatic strategy to balance the needs of many parties by adjusting or simplifying the original scheme to ensure that the core objectives can still be promoted in a non-ideal environment). In this study, although nearly 70% of the respondents questioned the professionalism and comprehensiveness of social media content, 60% of parents still chose to use it in a limited way. Behind this seemingly contradictory decision-making logic, there is a set of clear screening criteria: age is the primary consideration, and 89.5% of the participants list it as the key indicator of content selection. Many parents emphasized the necessity of grading mechanism in the suggestion column.

Finally, at the application level, it is not difficult to find that the longer parents brush, the easier it is for the content to influence their educational concepts. Nearly half of the high-frequency users who spend more than three hours a day admit that social media content significantly affects their educational concepts, which is three times that of low-frequency users. Statistically, the correlation coefficient between usage duration and influence degree is 0.45, and the significant coefficient is 0.003. However, deep dependence is accompanied by a stronger voice of doubt, and the questioning rate of this group on information quality has exceeded 70%. It confirms the tension between the inertia of use brought by

technological innovation and traditional educational values.

In addition, mothers play a major role in the application of social media communication content in sex education. Among the parents, the gender distribution and the cognition of the scientific content of social media sex education are characterized by significant deviation from the benchmark value. It can be seen that in the algorithm push, the role of mother especially needs the reception of sex education content, and at the same time, fathers should take on greater responsibility in education.

Based on the comprehensive research results, optimizing the path requires multi-dimensional collaborative efforts. The first task is to establish and improve an accurate push mechanism, especially the push content of female parents, and improve the content matching degree by combining deep learning algorithm and age tag system; Secondly, pay attention to the communication efficiency of interpersonal network and encourage the content sharing between teachers and parents. Finally, it is necessary to build an audit and certification system led by the education department to control the information quality in time. These measures not only help to bridge the gap between the acceptance rate and the application rate, but also respond to the urgent expectations of the public for the professionalism and age-appropriate content.

REFERENCES

- Döring, N. 2021. Sex education on social media. *Encyclopedia of Sexuality and Gender*, 1:12
- Fowler, L. R., Schoen, L., Smith, H. S., et al. 2022. Sex education on TikTok: A content analysis of themes. *Health Promotion Practice*, 23(5):739–742
- Hammer, M., Scheiter, K., & Stürmer, K. 2021. New technology, new role of parents: How parents' beliefs and behavior affect students' digital media self-efficacy. *Computers in Human Behavior*, 116:106642
- Jin, X. 2021. The characteristics and relationship of parental sexual knowledge and sex education attitude to young children. *Creative Education*, 12(9):2002–2010
- Lameiras-Fernández, M., Martínez-Román, R., Carrera-Fernández, M. V., et al. 2021. Sex education in the spotlight: What is working? Systematic review. *International Journal of Environmental Research and Public Health*, 18(5):2555
- Lee, H. E., Kim, J. Y., & Kim, C. 2022. The influence of parent media use, parent attitude on media, and parenting style on children's media use. *Children*, 9(1):37

- Rahmatika, R., Yusuf, M., & Agung, L. 2021. The effectiveness of YouTube as an online learning media. *Journal of Education Technology*, 5(1):152–158
- Walker, J. 2004. Parents and sex education—Looking beyond ‘the birds and the bees’. *Sex Education: Sexuality, Society and Learning*, 4(3):239–254
- Wu, J. H., & Li, J. W. 2022, November 14. Breaking traditional taboos, being yourself is cool [Newspaper article]. *China Women's News*, (005)
- Zhang, R. J., Yang, T. Y., & Sun, L. Z. 2021. Research on the training strategy of parent-child relationship under the “Internet Plus” new family education mode. *Advances in Psychology*, 11:61

