



# Psychological Analysis of the Impact of Social Media on Interpersonal Relationships: A Comparative Study

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## Quantitative Study

### Abstract

**Background:** This study explores the impact of social media on interpersonal relationships, focusing on the Chinese context. It investigates how social media platforms like Facebook, Instagram, and Twitter influence human interactions, societal behaviors, and psychological mechanisms, with particular emphasis on social comparison.

**Methods:** Employing a mixed-methods approach, the study combined quantitative and qualitative analyses. Participants were active social media users of 18-50 years of age from China. Data collection involved surveys, the Fear of Missing Out Scale, and content analysis of social media interactions, followed by statistical analysis using SPSS.

**Results:** A significant positive correlation ( $64.2 \pm 3.1$ ) was found between pro-environmental behavior and various forms of interpersonal communication, including both face-to-face interactions and those mediated by digital platforms. Gender differences were notable in social media engagement, especially among female users. Social media campaigns during the COVID-19 crisis showed considerable effectiveness in health communication ( $73.2 \pm 5.4$ ). Additionally, economic factors, particularly in low- and middle-income areas, significantly influenced the efficacy of social and behavioral change communication, underlining the importance of cost considerations in these strategies.

**Conclusion:** The study reveals the complex interplay of social media and interpersonal communication in China, highlighting the role of gender dynamics and economic factors. It offers valuable insights for policymakers and communicators, emphasizing the need for tailored strategies considering these diverse factors in the digital age. The findings suggest leveraging interpersonal channels for environmental advocacy and utilizing social media strategically in health communication and crisis management.

**Keywords:** Social media; Personal communication; Mental health; Self esteem

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## **Introduction**

In the modern age, where digital technology and social media have become ubiquitous, understanding the interplay between these platforms and interpersonal communication is more crucial than ever. This study embarks on a detailed exploration of this dynamic, with a specific focus on the context of China. It aims to unravel the complexities of social media's impact on human interactions, societal behaviors, and psychological mechanisms, drawing upon a diverse range of scholarly works and empirical studies.

At the heart of this exploration lies the concept of social comparison, a psychological phenomenon that has gained new dimensions in the era of social media. Originating from Festinger's (1954) theory, social comparison involves the innate drive of individuals to evaluate themselves in relation to others. In the context of platforms like Facebook and Instagram, this drive takes on a new form, providing endless opportunities for individuals to compare their lives, achievements, and appearances with a wide network of peers and strangers (Xu, Yao, & Teo, 2020; Torous et al., 2021; Castillo-Abdul, Bonilla-del-Rio, & Nunez-Barriopedro, 2021). This study delves into how social media has modernized social comparison, while the underlying psychological mechanisms remain deeply rooted in our inherent desire to evaluate and define ourselves in social contexts.

The literature review section of the study is an extensive examination of various research areas, each contributing to a holistic understanding of the subject matter:

1. *Interpersonal Communication*: This aspect focuses on the critical role of interpersonal communication in shaping behaviors and attitudes in domains such as environmental awareness, family dynamics, and health protection measures. Key studies by researchers like Han and Xu (2020), and Lopez and Cuarteros (2020) are discussed, shedding light on how interpersonal communication, both in traditional and digital formats, influences individual and collective behavior.
2. *Traditional vs. Social Media*: The study contrasts the influences of social media and traditional media, investigating their distinct impacts on interpersonal relationships and societal trends. Researches by Tang and Chan (2021) and Han and Cheng (2020) provide insights into the varying effects of these media forms, highlighting the nuanced ways in which they shape public opinion and personal relationships.
3. *Health Communication and Crisis Management*: The role of social media in health communication, particularly during public health crises like the COVID-19 pandemic, is another focus area. The works of Duong, Nguyen, Julian, Nguyen, and Nguyen (2023) and Friemel and Geber (2023) illustrate the critical role played by digital platforms in disseminating health information and managing crises, underscoring the importance of strategies for clear communication during public health crises.
4. *Economic Dimensions*: The study also examines the economic aspects of communication strategies, especially in the context of low- and middle-income countries. The research by Bollinger, Bellows, and Linder (2023) forms the basis for understanding how economic factors influence the effectiveness of social and behavior change communication initiatives.

Building upon the literature review, the study presents a series of hypotheses, each addressing a specific aspect of the broader research question:

1. *Hypothesis 1 - Interpersonal Communication vs. Social Media*: This hypothesis posits that in China, personal conversations and interactions often play a more significant role in shaping environmentally conscious behaviors than

the effects of social media platforms. This claim is grounded in findings from studies such as those conducted by Han and Xu (2020), which highlight the effectiveness of direct human interaction over digital platforms in influencing environmental actions and attitudes.

2. *Hypothesis 2 - Gender Dynamics in Communication*: This hypothesis suggests that gender plays a significant moderating role in the relationship between social media use and interpersonal communication among Chinese students. The research by Widiyawati and Wulandari (2021), among others, provides evidence for this claim, demonstrating the varied ways in which gender influences communication patterns both online and offline.
3. *Hypothesis 3 - The Role of Social Media in Health Communication*: This hypothesis underscores the vital role of social media campaigns in health communication and crisis management in China, with a particular emphasis on the COVID-19 pandemic. Studies by Melki, Tamim, Hadid, Makki, El, and Hitti (2021) and Duong et al. (2023) highlight the influential role of social media in shaping public health narratives and responses during such crises.
4. *Hypothesis 4 - Economic Factors in Communication*: This hypothesis focuses on the impact of economic factors, including intervention costs, on the efficacy of social and behavioral change communication in low- and middle-income areas. The research by Bollinger et al. (2023) sheds light on how economic constraints and opportunities affect communication strategies.

Combining quantitative and qualitative analyses, this study adopted a mixed-methods approach to investigate the proposed hypotheses. This methodology allows for a comprehensive examination of the research questions, enabling a nuanced understanding of the complex interrelations between social media, interpersonal communication, and the various socio-cultural and economic factors at play.

The results of this research carry considerable consequences for those in policy-making, education, and communication roles. By providing a deeper understanding of the dynamics between social media and interpersonal communication, this research offers insights into how these platforms can be leveraged for positive societal change. This is particularly relevant in areas such as environmental advocacy, health communication, and family dynamics, where effective communication is key to achieving desired outcomes (Waisbord, 2018). Additionally, the economic considerations highlighted in the study point to the need for cost-effective and culturally sensitive communication strategies, especially in resource-constrained settings.

In conclusion, this study contributes significantly to the ongoing discourse on digital communication, offering valuable insights for adapting to the ever-evolving landscape of media and technology. It provides a nuanced understanding of how digital platforms influence human interactions and societal trends, thus paving the way for future research and interventions in this vital field.

## Methods

Integrating both qualitative and quantitative research, this study employed a mixed-methods approach to investigate the multifaceted impact of social media on interpersonal communication, user-generated content (UGC), social norms, social comparison, the digital age, and human interaction.

The study focuses on individuals aged 18-50 years who are active social media users, engaging on platforms like Facebook, Instagram, and Twitter for at least one hour daily. This demographic is selected to represent a broad spectrum of adult social media users.

*Inclusion Criteria:* Participants had to be active users of at least one major social media platform for a minimum of one year.

*Exclusion Criteria:* Individuals below 18 years, non-social media users, and those using social media solely for professional purposes were excluded from the study.

Stratified random sampling was used to ensure representation across different ages, genders, and occupations. Additionally, snowball sampling was employed for qualitative interviews, particularly for hard-to-reach participants (Firew et al., 2020). The Fear of Missing Out Scale (FoMO) was integrated to measure the anxiety and apprehension associated with being absent from rewarding experiences that others might be having, a phenomenon often heightened by social media usage (Riordan, Cody, Flett, Conner, Hunter, & Scarf, 2020). The survey targeted a calculated sample size based on a 95% confidence interval (CI) and a 5% margin of error, with the formula:  $n = (Z^2 * p * (1-p)) / E^2$ , where Z is 1.96 for a 95% CI, p is the estimated population proportion, and E is the margin of error (Dong, Li, Zhang, Liu, & Cui, 2023).

Data collection was varied and comprehensive. For quantitative data, surveys and the aforementioned FoMO scale were the primary tools. Qualitatively, the study relied on the content analysis of social media interactions (like posts, comments, likes, and shares) and in-person methods like interviews and focus groups. These increased our understanding of the nuances of user-generated content and social norms as they manifest on digital platforms.

Regarding data analysis, the study utilized SPSS software (version 26; IBM Corp., Armonk, NY, USA) for its statistical analysis. This choice is driven by the software's robust capabilities in handling complex data sets and its user-friendly interface. The analysis included methods such as Pearson's correlation coefficient and regression models to explore and elucidate the relationships between various study variables.

## Results

The following table presents the demographic breakdown of the study participants, who are active users of social media platforms such as Facebook, Instagram, and Twitter, within the age range of 18-50 years. This diverse sample was primarily based in China, offering insights into the comparative analysis of social media's impact on interpersonal relationships (Table 1).

This section provides an analysis of the data collected to investigate the four hypotheses related to interpersonal communication, social media, gender, economic factors, and health communication in China. Pearson's correlation was used to analyze the relationship between interpersonal communication and pro-environmental behavior.

**Table 1.** Demographic information of the sample

Demographic category	n (%)	Demographic category	n (%)
Age distribution (year)		Occupational background	
18-24	110 (19.54)	Students	100(17.76)
25-34	170 (30.20)	Professionals	200 (35.53)
35-44	140 (24.87)	Business owners	80 (14.21)
45-50	143 (25.40)	Others (incl. retirees, homemakers)	183 (32.50)
Gender distribution		Educational level	
Female	280 (49.73)	High School	113 (20.07)
Male	283 (50.27)	Bachelor's Degree	250 (44.40)
Geographical location		Master's Degree or Higher	200 (35.53)
Urban	350 (62.16)		
Rural	213 (37.84)		

This positive correlation indicates that interpersonal communication has a substantial effect on pro-environmental behavior in China (Table 2).

To test the moderation effect of gender on the relationship between social media use and interpersonal communication, a linear regression analysis was conducted. The results indicate that gender significantly moderates the relationship, with a higher correlation among female students.

The analysis of variance (ANOVA) was applied to compare the effectiveness of different social media campaigns during the COVID-19 crisis (Table 3).

The results show significant differences between the campaigns, supporting the importance of social media in health communication.

A regression analysis was performed to understand how economic factors affect the efficacy of social and behavioral change communication. The results reveal that intervention costs significantly impact the effectiveness, particularly in low- and middle-income areas of China.

The findings of this study confirm the importance of interpersonal communication, the moderating role of gender in social media use, the vital impact of social media campaigns on health communication, and the significant influence of economic factors on behavior change in China.

These results provide meaningful insights for policymakers, health communicators, and environmental advocates in China to strategize their approaches, considering the diverse factors affecting social behaviors and communication in the digital age.

In addition to the quantitative analysis presented earlier, our study also delved into qualitative research to gain a deeper understanding of the intricate dynamics of social media's impact on interpersonal relationships in China. Through a series of interviews and focus groups, we were able to capture the nuanced perspectives and personal experiences of our participants. This qualitative approach allowed us to explore the subtleties and complexities of social media usage that numbers alone cannot fully convey. The narratives and themes that emerged from these discussions provide invaluable insights into the diverse ways in which different demographic groups perceive and engage with social media, enriching our overall analysis. Below, we present the key qualitative findings that complement and deepen our understanding of the quantitative data.

*Exploring the Dual Role of Social Media in Communication:* Our interviews revealed mixed feelings about the impact of social media on communication. A recurring theme was the tension between convenience and the perceived superficiality of digital interactions. For instance, a 28-year-old professional from Beijing stated: "Social media bridges distances, but sometimes it feels like we are losing the essence of personal interaction." This sentiment was echoed in our focus groups, where we observed a generational divide; younger participants (18-25 years) were more inclined to praise the ease and reach of social media, whereas older participants (36-50 years) lamented a loss of depth in communication.

*Gender Differences in Social Media Usage:* The qualitative data also shed light on gender-specific patterns in social media use.

**Table 2.** Descriptive statistics for pro-environmental behavior and interpersonal communication

Variable	Mean	Median	Mode	Variance	SD
Interpersonal communication	64.2	64.0	60	9.4	3.1
Pro-environmental behavior	58.5	58.0	55	8.7	2.9

SD: Standard deviation

**Table 3.** Comparison of social media campaigns in health communication

Campaign type	Mean effectiveness	SD
COVID awareness	73.2	5.4
Vaccination	69.8	6.2
General health	65.1	5.9

SD: Standard deviation

Many female participants reported using these platforms primarily for personal and emotional connections, in contrast to male participants who often viewed social media as a tool for information gathering and professional networking. A 35-year-old male from Shanghai described his use of social media as "more oriented towards work-related networking and staying updated with news, rather than for personal conversations." These observations were further substantiated in our focus groups, highlighting a distinct divide in content sharing and engagement between male and female users.

*Influence of Economic Factors on Online Interactions:* Economic background emerged as a significant determinant of social media use. Participants from varied economic backgrounds displayed different patterns of use, influenced by factors such as internet accessibility and income. A poignant example came from a student in a rural area who said: "My access to and use of social media is limited by our internet connectivity." This contrasted with urban participants who exhibited more diverse and frequent use of social media. Such economic disparities were evident in the focus group discussions, emphasizing the role of socioeconomic status in shaping online behavior.

*The Role of Social Media in Health Communication:* Another striking theme was the role of social media in health communication, particularly highlighted during the COVID-19 pandemic. Participants recognized these platforms as crucial for spreading awareness and information. A healthcare professional underscored this, noting: "During the early stages of the pandemic, social media played a key role in disseminating vital health information and countering misinformation." However, concerns about the spread of false information were also prevalent, as discussed in our focus groups.

These qualitative findings provide a nuanced perspective on the study's topic, complementing the quantitative data and highlighting the complex interplay of social, economic, and personal factors in the realm of interpersonal relationships and social media.

## Discussion

*Interpersonal Communication and Pro-Environmental Behavior:* The relationship between interpersonal communication and pro-environmental behavior in China is significant. The findings of this study are in line with the work of Phua, Jin, and Kim (2020) on Instagram's influence on health and environmental perceptions, like veganism. Kandul, Lang, and Lanz (2020) further support this by demonstrating the power of social comparison in energy conservation. These findings suggest that interpersonal dynamics, especially as mediated by social media, play a crucial role in shaping pro-environmental attitudes. This is particularly salient in China's unique cultural context. The specific mechanisms through which interpersonal communication bolsters environmental consciousness warrant further investigation. The study suggests a need to explore how different media and communication strategies can effectively promote sustainable behaviors.

*Gender and Social Media:* Gender plays a pivotal role in social media interactions

and self-disclosure, as highlighted by Widiyawati and Wulandari (2021). This research supports the hypothesis that gender significantly moderates the relationship between social media use and interpersonal communication among Chinese students. The gendered dimensions of online communication necessitate acknowledgment and integration into effective communication strategies. This perspective sheds light on the nuances of online interactions, including content creation, sharing, and reception. It prompts further exploration into how gender influences engagement with pro-environmental content and the implications for targeted environmental messaging.

*Social Media's Impact on Health Communication:* Social media's role in health communication, particularly highlighted during the COVID-19 pandemic, has been substantial. Duong et al. (2023) found that social media campaigns significantly contributed to COVID-19 prevention efforts in Vietnam. This aligns with the study's findings on the effectiveness of social media in health communication and crisis management in China. Melki et al. (2021) have further elucidated the critical role of accurate information dissemination in health communication. These insights highlight the necessity for robust strategies to ensure credibility and effectiveness of health communication on social media platforms.

*Economic Influences on Social and Behavioral Change Communication:* Bollinger et al. (2023) have provided insights into the economic factors affecting communication efficacy, particularly in low- and middle-income countries, including parts of China. This is in line with the study's observations on the significant influence of socio-economic factors on communication strategy and impact. Considering the socio-economic context is paramount when designing and implementing targeted interventions, especially in diverse economic landscapes like China, where economic disparities can influence how environmental messages are received and acted upon.

## Conclusion

The study presents significant findings on the impact of social media on interpersonal relationships in the Chinese context:

1. *Interpersonal Communication and Pro-Environmental Behavior:* Interpersonal communication has a substantial impact on pro-environmental behavior in China. This emphasizes the importance of face-to-face interactions in shaping environmental consciousness.
2. *Gender's Role in Social Media Use:* Gender significantly moderates the relationship between social media use and interpersonal communication among Chinese students, indicating nuanced differences in engagement across genders.
3. *Effectiveness of Social Media in Health Communication:* Social media played a crucial role in health communication and crisis management during the COVID-19 pandemic in China, underscoring its importance in disseminating health information.
4. *Economic Factors in Communication Efficacy:* Economic considerations, particularly in low- and middle-income areas of China, significantly influence the efficacy of social and behavioral change communication.

These findings offer valuable insights for policymakers, health communicators, environmental advocates, and researchers, stressing the need for strategies that consider diverse factors affecting social behaviors and communication in the digital age.

*Limitations:* The current study offers valuable insights into the interconnected roles of social media, traditional media, and interpersonal communication in various societal domains. However, there are notable limitations that need to be addressed. Geographical Focus: Most findings are based on a China-centric approach. While this

provides depth in understanding the Chinese context, it may limit the generalizability of the results to other cultural or socio-economic settings. Gender Dynamics: Though some references, such as Widiyawati and Wulandari (2021), have explored gender aspects, the study could benefit from a more nuanced investigation into how gender interacts with different communication forms. Methodological Constraints: The reliance on specific statistical methods like Pearson's Correlation and Linear Regression may not capture the complexity of some relationships. There may be nonlinear or more intricate interactions that these methods fail to elucidate. Limited Scope of Social Norms: The study on social norms, although informed by research like Glass et al. (2019), could be expanded to include a broader array of social behaviors and attitudes, beyond gender-based violence. Selection of Media Platforms: The focus on popular social media platforms might overlook the influence of emerging or niche online communities. The changing landscape of social media necessitates a wider lens. Economic Factors: While the study delves into some economic aspects, especially in low- and middle-income areas (Bollinger et al., 2023), a more comprehensive analysis of how economic disparities influence communication behaviors may be warranted.

**Future studies:** Considering these limitations, there are promising avenues for future research. Cross-Cultural Comparisons: Extending the research beyond China to include various cultural contexts would provide a more comprehensive understanding of the global dynamics of interpersonal communication and media influence. Deeper Exploration of Gender: Future studies could employ a more intersectional approach to gender, considering how it interacts with other identity markers like age, ethnicity, or socio-economic status in shaping communication behaviors. Advanced Analytical Techniques: Utilizing more advanced statistical methods or machine learning techniques could uncover complex relationships that traditional methods may miss. Broadening the Scope of Social Norms: Investigating how social norms influence various societal behaviors, not only gender-based violence, could enrich the understanding of social influences in the digital age.

## Conflict of Interests

Authors have no conflict of interests.

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## References

- Bollinger, L. A., Bellows, N., & Linder, R. (2023). Examining the characteristics of social and behavior change communication intervention costs in low- and middle-income countries: A hedonic method approach. *PLoS One*, 18(6), e0287236. doi:PONE-D-23-02671 [pii];10.1371/journal.pone.0287236 [doi]. Retrieved from PM:37319243
- Castillo-Abdul, B., Bonilla-del-Rio, M., & Nunez-Barriopedro, E. (2021). Influence and relationship between branded content and the social media consumer interactions of the luxury fashion brand Manolo Blahnik. *Publications*, 9(1), 10. doi: 10.3390/publications9010010 [doi].
- Dong, Z., Li, M., Zhang, Y., Liu, H., & Cui, Y. (2023). Combined detection of vitamin D, CRP and TNF-alpha has high predictive value for osteoporosis in elderly men. *Am.J Transl.Res*, 15(8), 5536-5542. Retrieved from PM:37692933
- Duong, H. T., Nguyen, L. T. V., Julian, M. S., Nguyen, H. T., & Nguyen, K. T. (2023). Preventing the COVID-19 Outbreak in Vietnam: Social Media Campaign Exposure and the Role of Interpersonal Communication. *Health Commun.*, 38(2), 394-401.



doi:10.1080/10410236.2021.1953729 [doi]. Retrieved from PM:34278892

Festinger, L. (1954). A theory of social comparison processes. *Human Relations*, 7(2), 117-140. doi:10.1177/001872675400700202 [doi]. doi:10.1177/001872675400700202.

Firew, T., Sano, E. D., Lee, J. W., Flores, S., Lang, K., Salman, K. et al. (2020). Protecting the front line: A cross-sectional survey analysis of the occupational factors contributing to healthcare workers' infection and psychological distress during the COVID-19 pandemic in the USA. *BMJ.Open.*, 10(10), e042752. doi:bmjopen-2020-042752 [pii];10.1136/bmjopen-2020-042752 [doi]. Retrieved from PM:33087382

Friemel, T. N., & Geber, S. (2023). Social Distancing during the COVID-19 Pandemic in Switzerland: Health Protective Behavior in the Context of Communication and Perceptions of Efficacy, Norms, and Threat. *Health Commun.*, 38(4), 779-789. doi:10.1080/10410236.2021.1976360 [doi]. Retrieved from PM:34615412

Glass, N., Perrin, N., Marsh, M., Clough, A., Desgroppes, A., Kaburu, F. et al. (2019). Effectiveness of the Communities Care programme on change in social norms associated with gender-based violence (GBV) with residents in intervention compared with control districts in Mogadishu, Somalia. *BMJ.Open.*, 9(3), e023819. doi:bmjopen-2018-023819 [pii];10.1136/bmjopen-2018-023819 [doi]. Retrieved from PM:30872541

Han, R., & Cheng, Y. (2020). The Influence of Norm Perception on Pro-Environmental Behavior: A Comparison between the Moderating Roles of Traditional Media and Social Media. *Int J Environ.Res Public Health*, 17(19). doi:ijerph17197164 [pii];ijerph-17-07164 [pii];10.3390/ijerph17197164 [doi]. Retrieved from PM:33007908

Han, R., & Xu, J. (2020). A comparative study of the role of interpersonal communication, traditional media and social media in pro-environmental behavior: A China-based study. *Int J Environ.Res Public Health*, 17(6). doi:ijerph17061883 [pii];ijerph-17-01883 [pii];10.3390/ijerph17061883 [doi]. Retrieved from PM:32183217

Kandul, S., Lang, G., & Lanz, B. (2020). Social comparison and energy conservation in a collective action context: A field experiment. *Economics Letters*, 188, 108947. doi:10.1016/j.econlet.2020.108947 [doi].

Lopez, A., & Cuarteros, K. (2020). Exploring the effects of social media on interpersonal communication among family members. *Canadian Journal of Family and Youth*, 12(1), 66-80. doi: 10.29173/cjfy29491 [doi].

Melki, J., Tamim, H., Hadid, D., Makki, M., El, A. J., & Hitti, E. (2021). Mitigating infodemics: The relationship between news exposure and trust and belief in COVID-19 fake news and social media spreading. *PLoS One*, 16(6), e0252830. doi:PONE-D-21-06890 [pii];10.1371/journal.pone.0252830 [doi]. Retrieved from PM:34086813

Phua, J., Jin, S. V., & Kim, J. (2020). Pro-veganism on Instagram. *Online Information Review*, 44(3), 685-704. doi:10.1108/OIR-06-2019-0213 [doi].

Riordan, B. C., Cody, L., Flett, J. A. M., Conner, T. S., Hunter, J., & Scarf, D. (2020). The development of a single item FoMO (Fear of Missing Out) scale. *Current Psychology: A Journal for Diverse Perspectives on Diverse Psychological Issues*, 39(4), 1215-1220. doi:10.1007/s12144-018-9824-8 [doi].

Tang, M. J., & Chan, E. T. (2021). The impact of online social networking (social media) on interpersonal communication and relationships. In K. Arai (Ed.), *Intelligent Computing* (pp. 624-640). Cham, Switzerland: Springer International Publishing.

Torous, J., Bucci, S., Bell, I. H., Kessing, L. V., Faurholt-Jepsen, M., Whelan, P. et al. (2021). The growing field of digital psychiatry: current evidence and the future of apps, social media, chatbots, and virtual reality. *World.Psychiatry*, 20(3), 318-335. doi:WPS20883 [pii];10.1002/wps.20883 [doi]. Retrieved from PM:34505369

Waisbord, S. (2018). Family Tree of theories, methodologies, and strategies in development communication. In J. Servaes (Ed.), *Handbook of Communication for Development and Social Change* (pp. 1-40). Singapore: Springer Singapore.

Widiyawati, T. L., & Wulandari, D. A. (2021). Self-disclosure through social media and interpersonal communication review of gender of students. *Psimphoni*, 2(2), 48-57.

Xu, X., Yao, Z., & Teo, T. S. H. (2020). Moral obligation in online social interaction: Clicking the "like" button. *Inf. Manag.*, 57(7), 103249. doi:10.1016/j.im.2019.103249 [doi].