My virtual influencer friend: The role of self-disclosure in consumer's trust and relationship outcomes

Terry Haekyung Kim and Hyunjoo Im, University of Minnesota, USA

Keywords: Virtual influencer, self-disclosure, anthropomorphism, mind experience, trust

Introduction Virtual influencers (VIs), 3D and computer-generated personalities, have garnered a significant following on social media in recent years (Mrad et al., 2022). Lil Miquela, probably the most successful VI, has amassed over 3 million followers. Just like human influencers, they appear in brand advertising and share their daily lives with their followers on social media by disclosing their private thoughts, emotions, and beliefs (Leite & Baptista, 2021). Thus, VIs not only look human but also communicate like humans. It has been known that self-disclosure is an important predictor of building intimate relationships (Leite & Baptista, 2021). Then, an important question is to what degree consumers would build relationships with VIs like they do with humans. Since VIs continue to attract more followers and some VIs share very personal (albeit made-up) stories and inner feelings, it is timely to investigate how their self-disclosure affects relationship outcomes such as trust. However, research on the VI's communication styles has yet to be explored. Thus, this study aims to examine how the VI's intimate self-disclosure influences perceptions of the VI's humanness, trust, and relationship outcomes.

Theoretical Background & Hypothesis Development According to social penetration theory (Altman & Taylor, 1973), relationships develop through intimate self-disclosure because individuals' total personality consists of multiple layers from the peripheral layers (which contains visible information that others can easily assess without significant investigation) to the deeper layers (which contains intimate self-related information such as vulnerability and weakness) (Berg & Archer, 1983). Revealing fears, self-concepts, and values (i.e., deeper layer) are considered higher in intimacy than disclosing biographical characteristics, attitudes, and opinions (i.e., peripheral layer). According to the mind perception dimensions literature (Gray & Wegner, 2012), mind experience (i.e., the capacity to feel and sense) is a uniquely human trait not shared with other agents like animals. Intimate personal disclosure reveals personal feelings and experiences through various senses. Therefore, VIs' intimate personal disclosure will imply mind experience and make them more humanlike. *H1. The VI's high (vs. low) self-disclosure will increase mind experience; H2. Mind experience will increase the perceived humanness.*

The sense of closeness is an essential outcome or reward of intimate self-disclosure in interpersonal relationships and has been found to strengthen trust in the partner (Lee & Choi, 2017; Sprecher et al., 2013). In the context of VIs, the feeling of closeness is likely to be enhanced through the heightened humanness perception because humanness increases perceived similarity (Li & Sung, 2021). Therefore, *H3. The VI's humanness will increase closeness toward the VI; H4. Closeness will increase the trust in the VI.*

However, research in human-robot interactions showed that highly humanlike robots are perceived as unnatural, uncomfortable, eerie, or uncanny and thus rejected (Uncanny valley hypothesis; Mori, 1970; Ho & MacDorman, 2017). Hence, the heightened humanness of the VI may evoke eerie feelings in viewers (Gray & Wegner, 2012) and negatively impact their perceptions toward the VI (Ho & MacDorman, 2017). Thus, *H5. The VI's humanness will increase eeriness; H6. Eeriness will decrease the trust in the VI.*

Finally, trust reduces relationship uncertainty (Baack et al., 2000), further strengthening the relationship (Hwang et al., 2015). Individuals are more likely to disclose personal information to a partner they perceive as trustworthy (Lee, 2002). Moreover, trust is a core determinant of friendship (Lee, 2002). Thus, *H7. Trust will increase (a) intention to follow the VI, (b) intention to self-disclosure to the VI, and (c) friendship with VI.*

Methods A single-factor (High vs. low self-disclosure) between-subjects online experiment was conducted (Prolific, n=236, US female consumers aged 18-39). Participants without previous knowledge of VIs only were recruited and randomly assigned to one of the two conditions. Participants were introduced to the VI, Miquela (e.g., country of origin, age, occupation) and viewed the Instagram profile page and 2 posts of the VI. In the high self-disclosure condition, the VI disclosed confusion about her self-identity and the breaking-up incident with her boyfriend. In the low condition, the VI's shared her biographical characteristics, opinions, and attitudes toward her friend and social issues. After viewing the stimuli, participants completed a questionnaire. All measurement items were adapted from a previously validated instrument and measured on a 7-point Likert scale. The data were analyzed using SmartPLS software and SPSS.

Figure 1. Results
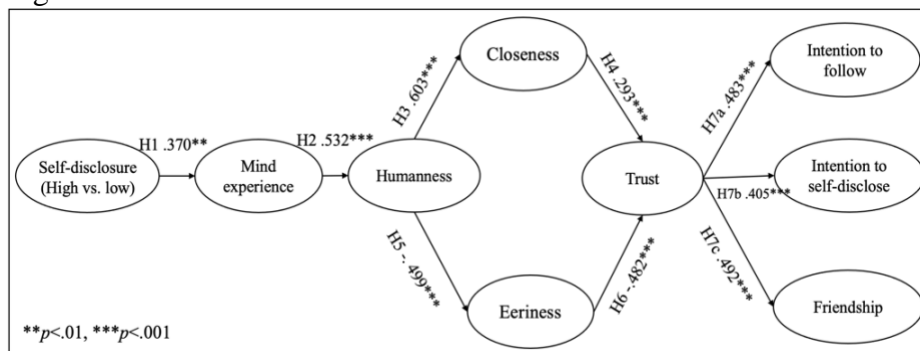
Results Psychometric properties of the measurement scales were ensured (i.e., reliability, validity). Results showed that participants in the high self-disclosure condition reported a higher mind experience than those in the low self-disclosure condition (β=.370***; M_{high} = 2.60, M_{low} = 2.06, t = -2.78, p <.01), supporting H1. Mind experience had a positive effect on humanness (β=.532***, H2 supported). Furthermore, humanness positively influenced closeness (β=.603***, H3 supported), but negatively influenced eeriness (β=-.499***, H5 rejected). Closeness increased trust (β=.293***, H4 supported), while eeriness decreased trust (β=-.482***, H6 supported). Trust positively affected the intention to follow the VI (β=.483***), the intention to self-disclose to the VI (β=.405***), and perceived friendship (β=.492***; H7

supported). Additionally, the indirect effect of self-disclosure (high vs. low) on closeness (β=.119***), eeriness (β=-.098***), trust (β=.082***), intention to follow (β=.040***), intention to self-disclose (β=.033***), and friendship (β=.041***) were significant.

Discussion & Conclusion This study integrates anthropomorphism, mind perception, and social penetration theories to demonstrate how the VI's intimate self-disclosure and mind experience influence trust and relationship outcomes. Our findings mostly supported our theoretical model and revealed that VI's intimate self-disclosure can promote the formation of closeness and trust with followers by increasing their perceived humanness, ultimately leading to stronger relationship outcomes. Surprisingly, heightened humanness reduced eeriness. This finding suggests the uncanny valley hypothesis may not be applicable to virtual influencers whose presence is in a mediated environment. This study highlights the significance of the role of VI posts in enhancing their mental humanness and establishing deeper relationships with users. Brands and marketers should consider partnering with VIs that display sufficient mental humanness, as this can enhance trust and is likely to bolster their marketing efforts.

References
Altman, I. & Taylor, D. A. (1973), *Social penetration: The development of interpersonal relationship.* New York, NY: Holt, Rinehart and Winston.
Baack, D., Fogliasso, C., & Harris, J. (2000). The personal impact of ethical decision: A social penetration theory. *Journal of Business Ethics*, *24*(1), 39-49.
Berg, J., & Archer, R. (1983). The disclosure-liking relationship. *Human Communication Research, 10*(2), 269-281.
Gray, K., & Wegner, D. M. (2012). Feeling robots and human zombies: Mind perception and the uncanny valley. *Cognition*, *125*(1), 125-130.
Ho, C. C., & MacDorman, K. F. (2017). Measuring the uncanny valley effect. *International Journal of Social Robotics, 9*(1), 129-139.
Hwang, J., Han, H. & Kim, S. (2015), How can employees engage customers? Application of social penetration theory to the full-service restaurant industry by gender. *International Journal of Contemporary Hospitality Management, 27*(6), 1117-1134.
Lee, E. J. (2002). *Factors that enhance consumer trust in human-computer interaction: an examination of interface factors and the moderating influences* (Publication No. 3086834) [Doctoral dissertation, The University of Tennessee]. ProQuest Dissertations Publishing.
Lee, S., & Choi, J. (2017). Enhancing user experience with conversational agent for movie recommendation: Effects of self-disclosure and reciprocity. *International Journal of Human-Computer Studies*, *103*, 95-105.
Leite, F. P., & Baptista, P. D. P. (2021). The effects of social media influencers' self-disclosure on behavioral intentions: The role of source credibility, parasocial relationships, and brand trust. *Journal of Marketing Theory and Practice*, 1-17.

Li, X., & Sung, Y. (2021). Anthropomorphism brings us closer: The mediating role of psychological distance in user–AI assistant interactions. *Computers in Human Behavior, 118,* 106680.

Mori, M. (1970). Bukimi no tani [the uncanny valley]. *Energy, 7*(4), 33–35.

Mrad, M., Ramadan, Z., & Nasr, L. I. (2022). Computer-generated influencers: the rise of digital personalities. *Marketing Intelligence & Planning, 40*(5), 589-603.

Sprecher, S., Treger, S., Wondra, J. D., Hilaire, N., & Wallpe, K. (2013). Taking turns: Reciprocal self-disclosure promotes liking in initial interactions. *Journal of Experimental Social Psychology*, *49*(5), 860-866.