Anusandhanvallari
Vol 2026, No.1
October 2026
ISSN 2229-3388

Social Network Usage, Fear of Missing Out, AR-AI Virtual Try-On Attitudes, and Online Purchase Intention: A Systematic Evidence Review and Meta-Analysis

[1]Melinda T, [2]Dr. P.Susai Manickam,

[1]Research scholar, Madurai kamaraj University

[2]Associate professor, Anugraha institute of social science college Dindigul

Abstract: Background: Social networking environments increasingly combine interpersonal exposure, influencer communication, social comparison and commerce. Fear of Missing Out (FoMO) may make socially visible consumption more salient, while augmented-reality and artificial-intelligence-enabled virtual try-on (AR-AI VTO) technologies can change product evaluation before online purchase.

Objective: This review synthesises evidence concerning four relationships: social network usage and online purchase intention; FoMO and online purchase intention; social network usage and FoMO; and AR-AI VTO-related attitudes/experiences and online purchase intention, with particular attention to students and young digital consumers.

Methods: PRISMA 2020 principles were used to structure the review. Peer-reviewed, web-accessible empirical studies were screened for conceptual relevance and quantitative information. Pearson correlations were extracted where directly reported and conceptually comparable. A random-effects meta-analysis was conducted for the FoMO–purchase-intention relationship using five independent samples with directly extractable correlations. Published meta-analytic evidence was used to contextualise the social-media-use–FoMO relationship. AR-AI VTO evidence was synthesised narratively because the available studies used non-equivalent constructs and SEM coefficients rather than a common correlation.

Results: Five independent samples (total N = 1148) provided directly extractable FoMO–purchase-intention correlations ranging from r = .24 to .70. The random-effects pooled association was r = 0.41, 95% CI [0.20, 0.59], with substantial heterogeneity (Q = 64.92, df = 4, I^2 = 93.8%, τ^2 = 0.067). A separate published meta-analysis of social-media use and FoMO included 65 studies and 70 independent effect sizes and reported significant heterogeneity. Student-specific primary evidence included a 2,058-student international sample showing positive correlations between two forms of social-media use and purchase intention, and a 2025 Danang student study linking FoMO with purchase intention through psychological pathways.

Conclusion: FoMO is positively associated with purchase intention in the directly extractable consumer evidence, but the high heterogeneity and differences in populations and purchase contexts limit causal or student-specific generalisation. AR-AI VTO findings support its relevance to purchase intention, but a common quantitative effect should not be manufactured from heterogeneous SEM models.

Keywords: social network usage; fear of missing out; FoMO; augmented reality; artificial intelligence; virtual try-on; purchase intention; students; social commerce; meta-analysis

1. Introduction

Digital platforms increasingly combine social interaction with commercial activity. Students encounter products through social networking sites, influencers, short-form video, peer recommendations, electronic word-of-mouth and social-commerce interfaces. Purchase intention in such environments is therefore shaped by both informational and psychological processes.

FoMO is defined as an uneasy concern that others may be experiencing rewarding events in one's absence, accompanied by a desire to remain connected. Meta-analytic research has established a positive association between FoMO and social-media use. Zhang, Li and Yu synthesised 65 studies and 70 independent effect sizes and reported significant heterogeneity, supporting the importance of differentiating social-media indicators rather than treating all use as equivalent. Fioravanti et al. likewise synthesised 33 independent samples involving 21,473 participants and found positive associations between FoMO and both social-network use and problematic social-network use. □cite□turn0search2□turn0search0□

The consumer literature extends FoMO into purchasing. Dinh and Lee's study of 243 respondents found a positive association between FoMO and buying intention (r = .696). A later SAGE Open study of 272 influencer-exposed respondents reported r = .261 between FoMO and purchase intention. Bläse et al. examined three independent samples and reported FoMO–purchase-intention correlations of .49 (n = 202), .28 (n = 230), and .24 (n = 201). □cite□turn8search1□turn1search0□turn6search0□turn7view0□turn7view1□

The student literature is particularly relevant but should not be conflated with general consumer evidence. Hu and Zhu studied 2,058 international students from 135 countries and found that informational social-media use correlated with purchase intention at r = .372 and socialising use at r = .413. Their model further examined cultural intelligence as a mediator. □cite□turn10search0□turn10search1□ A 2025 study of 207 university students in Danang reported that FoMO affected purchase intention through anticipated excitement, self-enhancement and anticipated expense regret. □cite□turn9search1□

AR-AI VTO represents a separate technological pathway. A 2024 study of 238 Tunisian women using a L'Oréal VTO application found that perceived value was related to online purchase intention. A 2025 study of 388 U.S. female participants reported that perceived ease of use, perceived usefulness, fit confidence and body esteem affected attitude and purchase intention in an AR-VTO apparel scenario. A 2026 cosmetics study of 199 women found positive paths from AR-VTO to product attitude and from product attitude to purchase intention, with a significant indirect effect. These studies demonstrate relevance but use different populations, VTO implementations and constructs. □cite□turn0search9□turn5view3□turn0search5□

Accordingly, the present review treats the four relationships as analytically distinct. It does not assume that FoMO is necessarily a mediator of social-network use and purchase intention, nor that attitude toward an AR-AI VTO application is equivalent to attitude toward the product shown through that application.

2. Objectives and Research Questions

The review asks: (RQ1) What evidence links social-network usage with online purchase intention? (RQ2) What is the pooled association between FoMO and online purchase intention where directly comparable correlations are available? (RQ3) What does existing meta-analytic evidence indicate about social-network usage and FoMO? (RQ4) What evidence links AR-AI VTO experiences or attitudes with online purchase intention? (RQ5) What population, measurement and contextual factors may explain heterogeneity?

3. Method

3.1 Review approach

The manuscript follows PRISMA 2020 principles for transparent review reporting. PRISMA 2020 emphasises explicit reporting of study identification, selection, data collection, risk of bias and synthesis. Because the present evidence search was conducted through web-accessible publisher and repository records rather than a documented export from each subscription database, exact database-level retrieval counts are not claimed. The final submission should add database exports and a reproducible search log if the target journal requires a fully exhaustive systematic search. □cite□turn2search0□

3.2 Eligibility

Domain	Inclusion	Exclusion
Population	Students/young consumers or broader consumer samples for the consumer synthesis	Non-human; unrelated populations
Social construct	Social-network/social-media use or FoMO	Unrelated digital constructs
Technology construct	AR, AI, virtual try-on or VTO attitude/experience	General AR unrelated to shopping
Outcome	Online purchase/buying intention or directly equivalent intention	Actual sales without intention; unrelated outcomes
Quantitative pooling	Directly reported Pearson r with sufficient N	Non-comparable SEM paths/regression coefficients when r unavailable
Publication	Peer-reviewed empirical research with accessible methods/results	Editorials, reviews, purely conceptual papers

Table 1. Eligibility criteria.

3.3 Evidence sources and search concepts

Search concepts included combinations of social media/social networking/social network usage with purchase intention/online shopping/social commerce; FoMO with purchase intention/buying intention/consumer behaviour; and augmented reality/artificial intelligence/virtual try-on with purchase intention/attitude. Searches were conducted across publisher pages, PubMed/PMC records, institutional repositories and indexed web records. Key sources included Frontiers, Wiley, SAGE, Emerald, ScienceDirect, Taylor & Francis, and university repositories.

Relationship	Verified evidence located	Quantitative status
Social network usage → purchase intention	Hu & Zhu (2022), N=2,058 international students; two usage dimensions correlated with PI at r=.372 and r=.413	Direct correlations available, but evidence base located here is insufficient for a defensible exhaustive pooled estimate
FoMO → purchase intention	Dinh & Lee (2022); Dinh et al. (2023); Bläse et al. (2024), three independent samples	Five independent samples pooled
Social network usage → FoMO	Zhang et al. (2021), 65 studies/70 effects; Fioravanti et al. (2021), 33 independent samples/21,473 participants	Existing meta-analytic evidence; not recomputed here
AR-AI VTO → purchase intention	Multiple recent VTO studies, including 2024, 2025 and 2026 studies	Narrative synthesis because constructs/statistics are non-equivalent

Table 2. Evidence map and synthesis decision.

3.4 Effect-size calculation

For the FoMO–purchase-intention meta-analysis, Pearson r was transformed to Fisher's z. Sampling variance was calculated as 1/(N−3). A DerSimonian–Laird random-effects model was used because the samples differed in product category, country, measurement, recruitment source and consumer context. Pooled estimates were transformed back to Pearson r for interpretation. Heterogeneity was assessed using Q, I^2 and τ^2.

3.5 Risk of bias

Risk-of-bias considerations included cross-sectional design, convenience/online sampling, self-report measurement, construct adaptation, potential common-method variance, and selective reporting of effect estimates. Because the included consumer studies differed substantially in design and measurement, a single numerical quality score was not used to weight effect sizes.

3.6 Publication bias and sensitivity

Funnel-plot asymmetry tests were not treated as definitive because the quantitative pool contained only five independent samples. A leave-one-out sensitivity analysis was nevertheless performed to examine whether the pooled estimate was dominated by one sample.

4. Results

4.1 Included evidence

The verified evidence base consisted of primary studies and prior meta-analyses located through the web-accessible scholarly search. The student-focused evidence included 2,058 international students in China and 207 university students in Danang. Broader consumer evidence was retained for the FoMO–purchase-intention meta-analysis because restricting the quantitative pool to student-only samples would not yield enough directly extractable correlations for a stable meta-analysis.

Study	Population/context	N	FoMO–PI r
Dinh & Lee (2022)	MTurk consumers; influencer-endorsed products	243	.696
Dinh, Wang, & Lee (2023)	Influencer-exposed consumers; U.S.	272	.261
Bläse et al. (2024), Analysis 1	France/Switzerland; fast fashion	202	.490
Bläse et al. (2024), Analysis 2	U.S.; fast fashion	230	.280
Bläse et al. (2024), Analysis 3	U.S.; slow fashion	201	.240

Table 3. Studies contributing directly extractable correlations to the FoMO–purchase-intention synthesis.

4.2 Meta-analysis: FoMO and online purchase intention

Across five independent samples (N = 1148), the random-effects pooled association between FoMO and purchase intention was r = 0.41, 95% CI [0.20, 0.59]. Heterogeneity was substantial (Q = 64.92, df = 4, p <

.001; I^2 = 93.8%; τ^2 = 0.067). The observed study estimates ranged from r = .24 to r = .70. The relatively wide confidence interval and high heterogeneity indicate that the pooled association should be interpreted as an overall estimate across heterogeneous purchasing contexts rather than a universal effect for students.

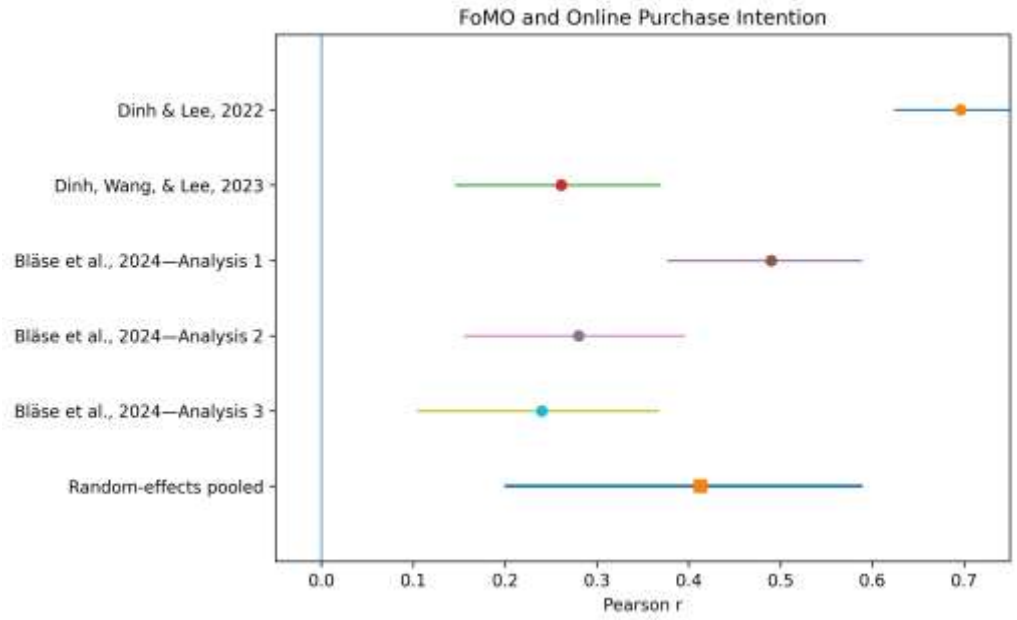


Figure 1. Random-effects forest plot of directly extractable FoMO–purchase-intention correlations.

Statistic	Value
k	5 independent samples
Total N	1,148
Pooled r	0.413
95% CI	[0.201, 0.588]
Q	64.919
df	4
I^2	93.8%
τ^2	0.067
Model	Random effects

Table 4. Meta-analytic summary for FoMO and purchase intention.

4.3 Social network usage and purchase intention

The strongest student-specific quantitative evidence located was Hu and Zhu's international-student study. Among 2,058 students from 135 countries, informational social-media usage correlated with purchase intention at r = .372 and socialising social-media usage at r = .413. Both dimensions were incorporated into a structural model in which cultural intelligence mediated the relationship with purchase intention. These results

demonstrate an association in a large student sample, but they do not justify combining the two correlations as independent studies because they originate from the same sample. □cite□turn10search0□turn10search1□

Sample	N	Social-network construct	Purchase intention correlation
Hu & Zhu (2022)	2,058	Informational use	.372
Hu & Zhu (2022)	2,058	Socialising use	.413

Table 5. Student-specific social-network usage evidence.

4.4 Social network usage and FoMO

This relationship has a stronger pre-existing quantitative evidence base. Zhang et al. included 65 studies and 70 independent effect sizes and reported significant heterogeneity, while Fioravanti et al. synthesised 33 independent samples and 21,473 participants and found positive associations between FoMO and both social-network use and problematic social-network use. These published syntheses support the relationship but also show why the construct should be operationalised carefully. □cite□turn0search2□turn0search0□

Review	Evidence base	Main finding
Zhang, Li, & Yu (2021)	65 studies; 70 independent effects	Positive association; significant heterogeneity
Fioravanti et al. (2021)	33 independent samples; N=21,473	Positive associations with SNS use and problematic SNS use
Akbari et al. (2021)	86 effect sizes; N=55,134	FoMO–internet-use association ranged from r=.11 to .63; COVID-19 period moderated the relationship

Table 6. Existing quantitative syntheses of FoMO and digital/social-network use.

4.5 AR-AI virtual try-on and purchase intention

The AR-AI VTO literature was synthesised narratively because the located studies differ in their focal construct and statistical reporting. A 2024 European Journal of Innovation Management study surveyed 238 Tunisian women using a L'Oréal VTO application and reported that perceived value was positively related to purchase intention. A 2025 Young Consumers study used 388 U.S. female participants in an AR apparel VTO scenario and found that perceived ease of use, perceived usefulness, fit confidence and body esteem affected attitude and purchase intention, with attitude partially mediating intention. A 2026 cosmetics study involving 199 women reported AR-VTO → product attitude β = .531, product attitude → purchase intention β = .583, and an indirect effect β = .310. Because these are not directly comparable Pearson correlations, they were not pooled. □cite□turn0search9□turn5view3□turn0search5□

Study	Sample	Context	Reported quantitative evidence
2024 VTO study	238 women	L'Oréal cosmetics VTO	Perceived value positively related to purchase

			intention
Mollel & Chen (2025)	388 U.S. women	Apparel AR-VTO scenario	PEOU, PU, fit confidence and body esteem affected attitude/purchase intention
Cahyadi et al. (2026)	199 women	Maybelline cosmetics VTO	AR-VTO → attitude β=.531; attitude → PI β=.583; indirect β=.310
Baber et al. (2026)	Consumer sample	Luxury jewellery AR-VTO	AR experience examined through immersion, innovativeness, engagement and purchase intention

Table 7. AR-AI/AR-VTO evidence and synthesis decision.

4.6 Heterogeneity and sensitivity

The FoMO–purchase-intention pool showed substantial heterogeneity (I^2 = 93.8%). This is consistent with differences in product category, participant age, geographic setting, FOMO operationalisation and purchase context. The largest observed correlation was .696 in Dinh and Lee's influencer-endorsed-product study, whereas the three Bläse samples ranged from .24 to .49 and the later influencer study reported .261. This spread argues against interpreting the pooled value without its heterogeneity.

Excluded study	Leave-one-out pooled r
Dinh & Lee, 2022	0.322
Dinh, Wang, & Lee, 2023	0.448
Bläse et al., 2024—Analysis 1	0.393
Bläse et al., 2024—Analysis 2	0.444
Bläse et al., 2024—Analysis 3	0.452

Table 8. Leave-one-out sensitivity analysis.

5. Discussion

5.1 Principal finding

The directly extractable consumer evidence yielded a positive pooled FoMO–purchase-intention association (r = 0.41), but with substantial heterogeneity. The result is consistent with the broader literature describing FoMO as a psychological mechanism relevant to digital engagement and with empirical consumer studies in which FoMO is associated with purchase intention. The magnitude should not be interpreted as a student-specific population estimate because most contributing samples were broader consumer samples.

5.2 Social-network usage and purchase intention

The large international-student study provides useful evidence that both informational and socialising forms of social-media usage are associated with purchase intention. Importantly, the study did not conceptualise social-media usage as a simple causal stimulus; cultural intelligence mediated the association and cultural distance moderated parts of the model. This supports a differentiated interpretation in which social-network usage may create information and social-context resources that influence purchasing through intermediate processes. □cite□turn10search0□

5.3 FoMO and purchase intention

The pooled association is compatible with theoretical accounts based on social comparison and anticipated exclusion. Dinh and Lee's influencer study found that FoMO was correlated with buying intention and reported a mediation pathway involving social comparison. The later influencer study similarly found a positive FoMO–purchase-intention correlation. Bläse et al. replicated a positive association across fast- and slow-fashion contexts, although the magnitude varied. □cite□turn8search1□turn1search0□turn7view0□turn7view1□

5.4 AR-AI virtual try-on

The VTO literature indicates that technology-mediated product visualisation can be related to purchase intention through perceived value, usefulness, attitude, fit confidence, immersion and engagement. The studies also show why a meta-analysis requires construct-level discipline. A coefficient linking VTO exposure to product attitude is not interchangeable with a coefficient linking VTO attitude to purchase intention, and a mediated SEM path is not equivalent to a zero-order correlation.

5.5 Student-specific interpretation

The student evidence supports the relevance of social commerce and FoMO but remains narrower than the broader consumer evidence. The 2,058-student study is multinational and therefore provides unusually broad student coverage, whereas the 207-student Danang study provides a more focused student/influencer context. The available evidence does not justify claiming that the pooled FoMO effect from broader consumers is the exact effect among students.

5.6 Theoretical implications

Three theoretical perspectives are useful. Social Comparison Theory explains how exposure to socially visible consumption can create comparison processes. Self-Determination Theory provides a psychological account of FoMO in relation to belonging and connectedness. The Stimulus–Organism–Response framework is particularly useful for VTO, where technology features can act as stimuli, product or technology attitudes as organismic states, and purchase intention as a response. These theories organize interpretation but do not establish causality.

5.7 Limitations

First, the web-accessible search does not provide the same auditable retrieval log as direct database exports; therefore, exact PRISMA identification counts should not be invented. Second, the FoMO meta-analysis combines broader consumer samples rather than students only. Third, the number of directly extractable FoMO–purchase correlations is small. Fourth, AR-AI VTO studies use heterogeneous constructs and SEM statistics, preventing a defensible common-effect meta-analysis at this stage. Fifth, most primary studies are cross-sectional and self-report based.

5.8 Future research

Future studies should report zero-order correlations among core constructs, distinguish social-network exposure from problematic use, use validated FoMO measures, separate purchase intention from actual purchasing, and

report VTO-specific attitudes consistently. Student-focused longitudinal studies would be especially useful for testing whether social-network exposure precedes FoMO and whether FoMO subsequently predicts purchasing. Direct tests of mediation should use appropriate temporal or experimental designs.

6. Conclusion

The evidence indicates a positive association between FoMO and purchase intention across five directly extractable consumer samples (pooled r = 0.41), but the substantial heterogeneity and broader-consumer composition of the pool require cautious interpretation. Student research indicates positive relationships between social-media usage and purchase intention, while the broader literature consistently links social-media use with FoMO. AR-AI VTO research also supports relationships with purchase-related attitudes and intentions, but current studies are too heterogeneous for a single pooled estimate. The central contribution of this synthesis is therefore an evidence-structured framework that connects social exposure, FoMO and technology-mediated product evaluation without overstating causal or mediation claims.

7. References

[1] Akbari, M., Seydavi, M., Palmieri, S., Mansueto, G., Caselli, G., & Spada, M. M. (2021). Fear of missing out (FoMO) and internet use: A comprehensive systematic review and meta-analysis. Journal of Behavioral Addictions, 10(4), 879–900. https://doi.org/10.1556/2006.2021.00083

[2] Bläse, R., Filser, M., Kraus, S., Puumalainen, K., & Moog, P. (2024). Non-sustainable buying behavior: How the fear of missing out drives purchase intentions in the fast fashion industry. Business Strategy and the Environment, 33(2), 626–641. https://doi.org/10.1002/bse.3509

[3] Cahyadi, R. A., Pamungkas, B. A., & Bernessa, R. T. (2026). The influence of augmented reality virtual try-on on purchase intention: The mediating role of attitude toward the product in cosmetics. Journal of Language, Literature, and Arts, 6(8), 1039–1052. https://doi.org/10.17977/2797-4480.1248

[4] Dinh, T. C. T., & Lee, Y. (2022). "I want to be as trendy as influencers" – how "fear of missing out" leads to buying intention for products endorsed by social media influencers. Journal of Research in Interactive Marketing, 16(3), 346–364. https://doi.org/10.1108/JRIM-04-2021-0127

[5] Dinh, T. C. T., Wang, M., & Lee, Y. (2023). How does the fear of missing out moderate the effect of social media influencers on their followers' purchase intention? SAGE Open, 13(3). https://doi.org/10.1177/21582440231197259

[6] Fioravanti, G., Casale, S., Bocci Benucci, S., Prostamo, A., Falone, A., Ricca, V., & Rotella, F. (2021). Fear of missing out and social networking sites use and abuse: A meta-analysis. Computers in Human Behavior, 122, 106839. https://doi.org/10.1016/j.chb.2021.106839

[7] Hu, S., & Zhu, Z. (2022). Effects of social media usage on consumers' purchase intention in social commerce: A cross-cultural empirical analysis. Frontiers in Psychology, 13, 837752. https://doi.org/10.3389/fpsyg.2022.837752

[8] Mollel, J., & Chen, Y. (2025). Does AR virtual try-on boost online apparel purchase intentions? An integration of TAM, IDT, FIT perception and body esteem. Young Consumers, 26(3), 385–402. https://doi.org/10.1108/YC-08-2024-2196

[9] Page, M. J., McKenzie, J. E., Bossuyt, P. M., et al. (2021). The PRISMA 2020 statement: An updated guideline for reporting systematic reviews. BMJ, 372, n71. https://doi.org/10.1136/bmj.n71

[10] Przybylski, A. K., Murayama, K., DeHaan, C. R., & Gladwell, V. (2013). Motivational, emotional, and behavioral correlates of fear of missing out. Computers in Human Behavior, 29(4), 1841–1848. https://doi.org/10.1016/j.chb.2013.02.014

[11] Rethlefsen, M. L., Kirtley, S., Waffenschmidt, S., et al. (2021). PRISMA-S: An extension to the PRISMA statement for reporting literature searches in systematic reviews. Systematic Reviews, 10, 39. https://doi.org/10.1186/s13643-020-01542-z

[12] Zhang, Y., Li, S., & Yu, G. (2021). The relationship between social media use and fear of missing out: A meta-analysis. Acta Psychologica Sinica, 53(3), 273–290. https://doi.org/10.3724/SP.J.1041.2021.00273

[13] Đỗ, H. T., Trần, K. H., Nguyễn, T. M. T., Nguyễn, B. M. T., & Phan, H. L. (2025). The impact of FOMO and exposure to influencers on purchase intention: The case of Danang students. Journal of Asian Business and Economic Studies, 36(3), 108–123. https://doi.org/10.24311/jabes/2025.36.3.06

[14] Baber, R., Baber, P., & Narula, S. (2026). Driving AR experience to purchase intention: Examining the role of users' immersiveness, perceived innovativeness and engagement in virtual try-on. International Journal of Consumer Studies, 50(2), e70185. https://doi.org/10.1111/ijcs.70185