



THE ROLE OF SOCIAL NETWORKS IN SHAPING ADOLESCENTS'  
DEVELOPMENTAL TRAJECTORY: AN EXPERIMENTAL TEST

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**Abstract.** *Research suggests that while social media has a significant impact on adolescent identity development, the nature of this impact is complex and multifaceted. These insights provide a deeper understanding of the digital dimension of adolescent development, with implications for parents, educators, and policymakers in supporting positive online experiences.*

**Keywords:** *social networks, adolescence, personality formation, digital age.*

*Participant Recruitment and Consent.* Recruitment began through schools, community centers, and online forums targeting adolescents aged 13–18 years. Detailed presentations and information sessions were conducted to explain the purpose, significance, and procedures of the study. Institutional Review Board (IRB)-approved consent forms were distributed to both adolescents and their guardians, ensuring a clear understanding of participant rights and the ethical aspects of the study.

*Baseline data collection.* After consent was obtained, participants were enrolled in the study and baseline data were collected using an online platform. This initial phase involved participants completing the Social Media Usage Questionnaire, the Big Five Personality Inventory (BFPI), the Rosenberg Self-Esteem Scale (RSES), the Social Comparison Orientation Scale (SCOS), and the Riff Psychological Well-Being Scale. This process created a baseline data set from which changes could be measured over time<sup>35</sup>.

*Longitudinal Study Design.* The longitudinal design of the study required participants to complete the same questionnaires annually for three years. Reminder emails and messages, along with small incentives, were used to encourage participation and reduce attrition. Data collected over this time period allowed for analysis of trends and changes in personality development and patterns of social media use.

*Qualitative interviews.* Following the first round of follow-up surveys, a purposively selected set of participants were invited to semi-structured interviews. These interviews were designed to further explore the quantitative findings and explore participants' personal experiences with social media and its impact on their self-concept and interpersonal relationships. The interviews were conducted in person or via secure videoconferencing platforms, according to participants' preferences, and were audio-recorded with their consent.

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<sup>35</sup> Tynan, M. C., Credé, M., & Harms, P. D. (2020). Are individual characteristics and behaviors necessary-but-not-sufficient conditions for academic success?: A demonstration of Dul's (2016) necessary condition analysis. *Learning and Individual Differences*, 77. <https://doi.org/10.1016/j.lindif.2019.101815>



*Data Coding and Analysis.* Quantitative data from the surveys were coded and analyzed using statistical software, with analyses including descriptive statistics, longitudinal growth models, and regression analyses to examine the relationship between social media use and personality development indicators. Qualitative data from the interviews were transcribed verbatim, then coded and analyzed using NVivo software to identify recurring themes and patterns.

*Integration of Findings.* The final step involved combining quantitative and qualitative findings to provide a comprehensive understanding of the impact of social media on adolescent identity development. This integrated analysis highlighted how qualitative insights complemented and enriched the understanding of quantitative trends, contributing to a nuanced interpretation of the data<sup>36</sup>.

*Ethical and data integrity measures.* Strict ethical guidelines were followed throughout the study to protect participant confidentiality and data integrity. All data were anonymized and stored securely, accessible only to the research team. Participants were reminded of their right to withdraw from the study at any stage without penalty.

The detailed procedural design of this study ensured a rigorous, ethical, and comprehensive examination of the impact of social media on personality development during adolescence. By carefully examining each step of the process, from recruitment to data analysis and integration, the study provides valuable insights into a complex phenomenon that will make a significant contribution to the field of developmental psychology.

The initial step involved calculating descriptive statistics for all variables, including measures of central tendency (mean, median) and dispersion (standard deviation, range), social media usage patterns, personality traits, self-esteem, social comparison orientation, and psychological state. - Being a score. This provided a basic understanding of the characteristics of the data set and the demographic profile of the participant group.

Longitudinal growth models were used to examine changes in personality development over time. These models allowed us to estimate individual growth trajectories across different levels of social media engagement, controlling for potential confounding factors such as age, gender, and socioeconomic status. The analysis used hierarchical linear modeling (HLM) to account for the internal structure of the data, with time points located within individuals.

Pearson correlation analyses were conducted to examine the relationships between different types of social media use and personality development variables. Multiple regression analyses were then performed to determine the predictive power of social media use patterns on personality traits, self-esteem, and psychological well-being, adjusting for demographic covariates.

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<sup>36</sup> Джегутанова Н.И. Развитие духовно-нравственного потенциала будущего учителя в процессе профессиональной подготовки в вузе на основе интегративного подхода: Автореф. дисс ... кандидата. пед. наук. – Москва: 2010. - 13с.





Path analysis was used to understand the direct and indirect effects of social media use on personality development. This method revealed complex interrelationships among variables, including the potential mediating effects of self-esteem and social comparison orientation on the relationship between social media use and personality traits.

Qualitative data from interviews and reflective journals were analyzed using thematic analysis. This involved a rigorous process of coding the data, identifying themes, and identifying patterns. The analysis was iterative, moving between data segments and emerging themes to ensure a comprehensive exploration of participants' experiences and perceptions.

Qualitative findings were not considered in isolation, but were combined with quantitative data to provide a richer and more nuanced understanding of the research questions. This mixed methods approach provided a deeper understanding of how social media use impacts personality development, highlighting the complex interplay between quantitative trends and qualitative narratives.

Advanced statistical software packages such as SPSS and R were used for quantitative analyses, while NVivo supported the organization and thematic analysis of qualitative data. These tools played a critical role in the efficient management of the data set, ensuring rigorous analysis and replication of the findings.

Ethical considerations were paramount during the data analysis phase. Participant anonymity and data confidentiality were strictly maintained, and all analyses were conducted on de-identified data sets. Interpretation of results was done with sensitivity to the potential implications for participants and the broader adolescent population<sup>37</sup>.

The detailed data analysis plan outlined here underpins the study's contribution to understanding the complex impact of social media on adolescent personality development. Using a comprehensive set of analytical methods, the study not only answers the research questions posed but also sheds light on the broader implications of social media use during a critical period of development. This robust analytical approach ensures that the findings are robust and understandable, and offers significant advances in the field of developmental psychology.

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<sup>37</sup> Vyskocilova, J., Prasko, J., Ociskova, M., Sedlackova, Z., & Mozny, P. (2015). Values and values work in cognitive behavioral therapy. In *Activitas Nervosa Superior Rediviva*. <https://doi.org/10.1016/j.eurpsy.2016.01.1660>





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