

Friends In The Making: The Co-Development of Peer Relationships and Personality

Ina Ni

FZI Research Center for Information Technology & Karlsruhe Institute of Technology

Abstract

This study explores the reciprocal influence between personality and peer relationships during adolescence. The co-development of three Big Five personality traits and friendships was simulated in RSiena using a social network approach and longitudinal data on school-based friendship networks. Friendship nominations were linked to higher levels of extraversion and lower levels of agreeableness. Openness to experience predicted the number of received friendship nominations. Furthermore, friends significantly influenced personality traits, leading to greater similarity over time. The findings provide insights regarding the mechanisms of social selection and social influence among already acquainted individuals, enhancing our understanding of personality development and friendship formation in adolescence.

Why Peer Relationships Matter

- Humans have an inherent need to connect with others [1]
- Adolescence is a key period of social development, in which individuals begin to distance from parents and broaden own social network
- Relationships to peers are crucial for identity formation and emotional growth

The Role of Personality

- Personality guides how we think, feel, and interact with others
- Traits most often associated with interpersonal dynamics: Extraversion, Agreeableness, Openness to Experiences

Method

Friendship and Identity in School (FIS) Dataset [2]

- Grade-level friendship networks and personality traits
- Cohort design: 5th-7th year students from 10 German schools

Stochastic Actor-Oriented Models for Co-Evolution of Networks and Behaviour [3]

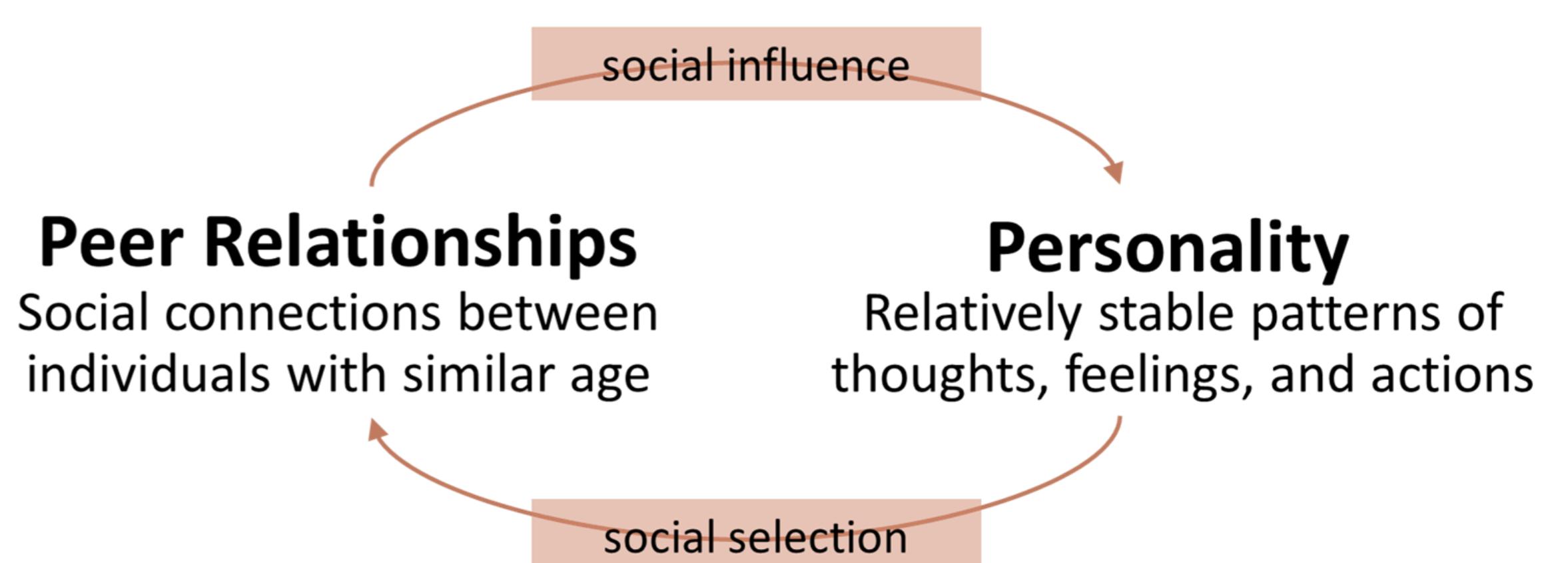
- Individual models for each personality trait and each grade-level network, followed by random effects meta-analysis for n = 15 final networks
- Model specification
 - Structural network effects: e.g. Outdegree, Reciprocity
 - Actor attribute effects: Same Gender, Same Class
 - Selection effects: Actor, Partner, Similarity
 - Influence effects: Average Similarity, Linear and Quadratic shape parameters

Discussion

- **Extraversion:** Promotes sociability and non-shyness, helps initial likability but not long-term friendship maintenance
- **Agreeableness:** Passive role of avoiding conflict rather than forming new friendships
- **Openness to Experience:** Proactive initiation of interactions, less conflict with their friends, constructive conflict resolution skills
- **Similarity effects:** Significant for social influence, not for social selection across all traits
 - Individuals within one grade are well-acquainted
 - Similarity as a proxy of compatibility becomes less important for friendship selection [4]
 - High degree of familiarity within the peer group relates to adolescents' susceptibility to peer influence [5]

Dynamic Interplay

- Personality traits and peer relationships both continue to evolve during adolescence
 - Personality shapes the dynamics of social relationships but relationship experiences also influence the development of personality traits
 - Key mechanisms: social selection, social influence
- **How do peer relationships and personality traits dynamically co-develop?**



Results

	Extraversion	Est	SE	p
<i>Social Selection</i>				
Extra Ego	-0.1	0.04	0.003	**
Extra Alter	0	0.03	0.95	
Extra Similarity	0.3	0.18	0.1	
<i>Social Influence</i>				
Extra Average Similarity	2.75	1.28	0.032	*
	Agreeableness	Est	SE	p
<i>Social Selection</i>				
Agree Ego	0.07	0.03	0.032	*
Agree Alter	0.04	0.03	0.128	
Agree Similarity	0.18	0.24	0.447	
<i>Social Influence</i>				
Agree Average Similarity	2.42	1.12	0.03	*
	Openness to Experience	Est	SE	p
<i>Social Selection</i>				
Open Ego	-0.02	0.04	0.662	
Open Alter	-0.06	0.03	0.041	*
Open Similarity	0.16	0.24	0.514	
<i>Social Influence</i>				
Open Average Similarity	2.51	1.1	0.022	*

References

- [1] R. F. Baumeister and M. R. Leary, "The Need to Belong: Desire for Interpersonal Attachments as a Fundamental Human Motivation," *Psychological Bulletin*, vol. 113, no. 3, pp. 497–529, 1995.
- [2] L. Leszczensky, S. Pink, D. Kretschmer, and F. Kalter, "Studying Youth' Group Identities, Intergroup Relations, and Friendship Networks: The Friendship and Identity in School Data," *European Sociological Review*, vol. 38, no. 3, pp. 493–506, 2022, doi: 10.1093/esr/cab052.
- [3] T. A. B. Snijders, G. van de Bunt, and C. Steglich, "Introduction to stochastic actor-based models for network dynamics," *Social Networks*, vol. 32, no. 1, pp. 44–60, 2010, doi: 10.1016/j.socnet.2009.02.004.
- [4] L. Baams, G. Overbeek, D. van de Bongardt, E. Reitz, J. S. Dubas, and M. A. van Aken, "Adolescents' and their friends' sexual behavior and intention: Selection effects of personality dimensions," *J. Res. Pers.*, vol. 54, pp. 2–12, 2015.
- [5] M. C. Gremmen, J. K. Dijkstra, C. Steglich, and R. Veenstra, "First selection, then influence: Developmental differences in friendship dynamics regarding academic achievement," *Dev Psychol*, vol. 53, no. 7, pp. 1356–1370, 2017.