Do narcissism and emotional intelligence win us friends? Modeling dynamics of peer popularity using inferential network analysis

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Abstract

This research investigated effects of narcissism and emotional intelligence (EI) on popularity in social networks. In a longitudinal field study we examined the dynamics of popularity in 15 peer groups in two waves (*N*=273). We measured narcissism, ability EI, explicit and implicit self-esteem. In addition, we measured popularity at zero acquaintance and three months later. We analyzed the data using inferential network analysis (temporal exponential random graph modeling, TERGM) accounting for self-organizing network forces. People high in narcissism were popular, but increased less in popularity over time than people lower in narcissism. In contrast, emotionally intelligent people increased more in popularity over time than less emotionally intelligent people. The effects held when we controlled for explicit and implicit self-esteem.

Method

Fifteen mixed-sex groups of students from southern Polish public universities participated in the study (mean number of people per group M_g = 19.0, *SD* = 5.57). The first assessment took place in the first week of the semester and students within each group had not been acquainted with one another before the start of the study (zero-acquaintance). The second measurement took place three months later. In total, 273 students participated in the study, of whom 98 were male, mean age was 20.10 (*SD* = 3.22, *Min* = 18, *Max* = 55.00). Of those, all 273 participants provided data at the first measurement and 170 of them (62%) at the second measurement. The persons who dropped out from the study were not systematically different from those who participated in both measurements on any of the variables (all *p*s>.35).

At first measurement the participants completed Polish versions of Narcissistic Personality Inventory (NPI; Raskin & Hall, 1979), Rosenberg Self-Esteem Scale (Rosenberg, 1965), and a measure of implicit self-esteem (size of signatures; Rudman, Dohn, & Fairchild, 2007; Zweigenhaft & Marlowe, 1973), and a measure of ability emotional intelligence (Test of Emotional Inteligence; TIE, Śmieja, Orzechowski, & Beauvale, 2007; Śmieja, Orzechowski, & Stolarski, 2014). And they nominated group members whom they liked. At the second measurement they made the same nominations again.

Analysis

We regarded the 15 peer groups at two measurements as 30 networks. Group members were considered nodes (actors) in these networks, and a single nomination was considered a directed tie, i.e., an edge, between two nodes in a network. No data were imputed.

We employed a TERGM,, a temporal or multi-group extension of the exponential random graph model (ERGM), which is a parametric model for inference on single networks (Wasserman & Pattison 1996; Robins, Pattison, Kalish, & Lusher, 2007; Snijders, Pattison, Robins, & Handcock, 2006). The ERGM treats a network as a single multivariate observation in which the relations in the network depend on covariates (i.e. here: traits and abilities of group members) as well as on each other (i.e., self-organizing or endogenous processes).

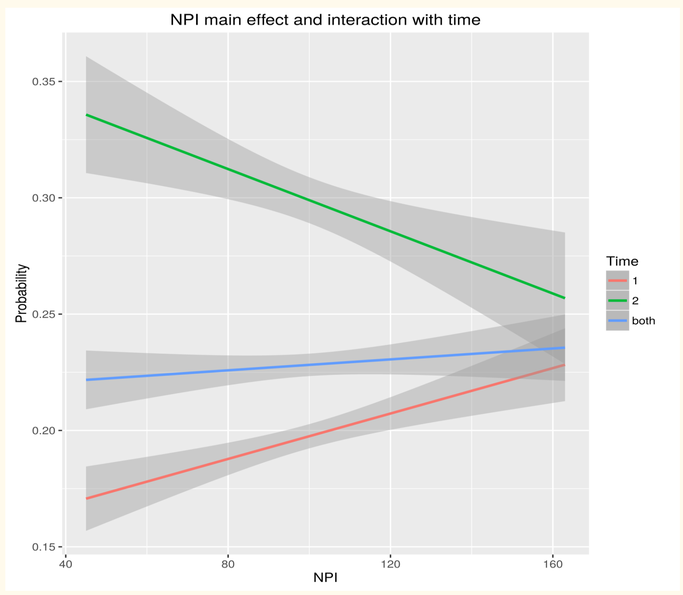


Figure 1. Main effect of 'narcissism: receiver', irrespective of time, on popularity is presented in blue; the effect for the first time point in red and for the second time point in green. Y-axis represents probability of receiving a friendship tie. The dark grey areas around lines represent 95% confidence intervals.

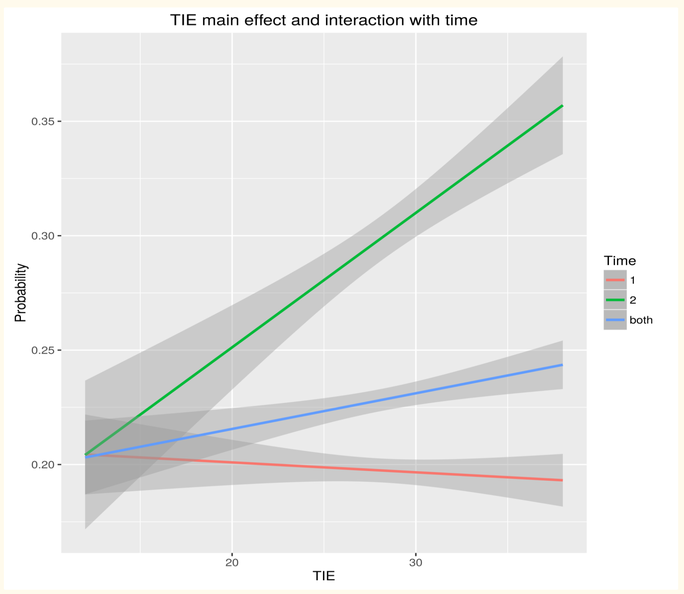


Figure 2. Main effect of 'EI: receiver', irrespective of time is presented in blue; the effect for the first time point in red and for the second time point in green. Y-axis represents probability of receiving a friendship tie. The dark grey areas around lines represent 95% confidence intervals.

Results

The significant endogenous effects of TERGM show that liking nominations are more mutual than expected purely by chance. Also, liking was transitive in our networks: friends of a friend were also nominated as friends. Some people have generally lower thresholds of calling others "friends" while others have higher thresholds. People connect to their indirect peers, they close friendship triads by befriending the initial node, i.e., friendship tends to form cliques involving more than two individuals.

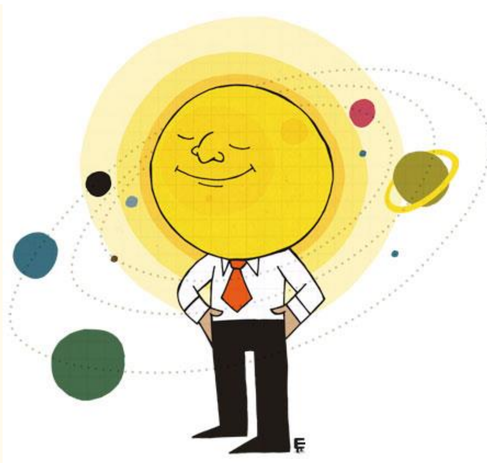
Significant exogenous effects of TERGM show that if two individuals had the same sex, they were more likely to be tied. People high in narcissism had more incoming friendship ties than people low in narcissism. Group members with high narcissism levels found significantly fewer friends over time than group members with low narcissism levels (Figure 1). Having higher implicit self-esteem predicted receiving more liking nominations.

Highly emotionally intelligent group members tended to receive more liking nominations than those low on EI, and this difference significantly increased with time (Figure 2).

Discussion & Conclusions

The results confirmed that indeed both high narcissism and high EI brought about popularity. However, while people high in narcissism were initially popular, they gained fewer friends over time than people lower in narcissism; in contrast, people high in EI gained more friends over time than people low in EI. These results suggest that narcissism is rather disadvantageous and that EI is rather advantageous for long-term popularity.

Inferential network analysis offers robust and comprehensive methods that allow to investigate how relationships emerge from the complex interplay of personality and the self-organizing forces of social networks.



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