

Introduction

The differential stability of personality traits tends to increase from childhood to adulthood (Roberts & DelVecchio, 2000). While the genetic contribution to stability remains constant across this period (Briley & Tucker-Drob, 2014), the increasing stability is proposed to be due to stabilization of everyday environments towards adulthood, such as finding a marital partner, starting a family and establishing a career (Roberts, Wood, & Smith, 2006). It could be argued, however, that the stability in everyday environments could contribute to trait stability already at earlier stages of development.

In the present longitudinal study, it was examined whether stability in sociometric popularity contributes to differential stability of Big Five personality traits during middle childhood and early adolescence (from ages seven to thirteen; $n = 938$, personality reports from parents and teachers, 3 waves).

Methods

Parent and teacher reports of Extraversion were measured by Ten-Item Personality Inventory (TIPI: Gosling, Rentfrow, & Swann, 2003). Latent consensus measures of Extraversion were modeled with confirmatory factor analyses alongside testing longitudinal invariance.

Popularity was assessed using a sociometer. In each class, children indicated who they preferred to work and play with. Children provided nominations by answering three questions: 'With whom of your classmates do you prefer to... 1. Work in class? (In class) 2. Spend time with between classes? (Between classes) 3. Spend time with after school/spend leisure time with?' (In leisure). Nominations were limited to five per question, and popularity for each participant was computed as the sum of the received nominations for each item.

Children for which both measures of popularity and at least one personality measure from parent and one from teacher were included in the final analysis ($n = 938$).

Structural path model was used for analyzing the data. Full information maximum likelihood estimation was utilized to account for the missing data.

In addition, self reports of personality at age 10 and age 13 (also TIPI, not available for age 7) were used to construct a measure of individual consistency as proposed by Asendorpf (1982). This stability was then predicted by popularity measures at age 8 and age 11, the interaction of these measures (b4) and quadratic polynomials (b3 and b5). The parameter estimates (b1 to b5) were then used to construct response surface (Nestler, Grimm, & Schönbrodt, 2015) for examining whether higher stability in popularity would be associated with higher stability in self reported Extraversion from age 10 to 13.

Results

Extraversion based on parent-teacher consensus

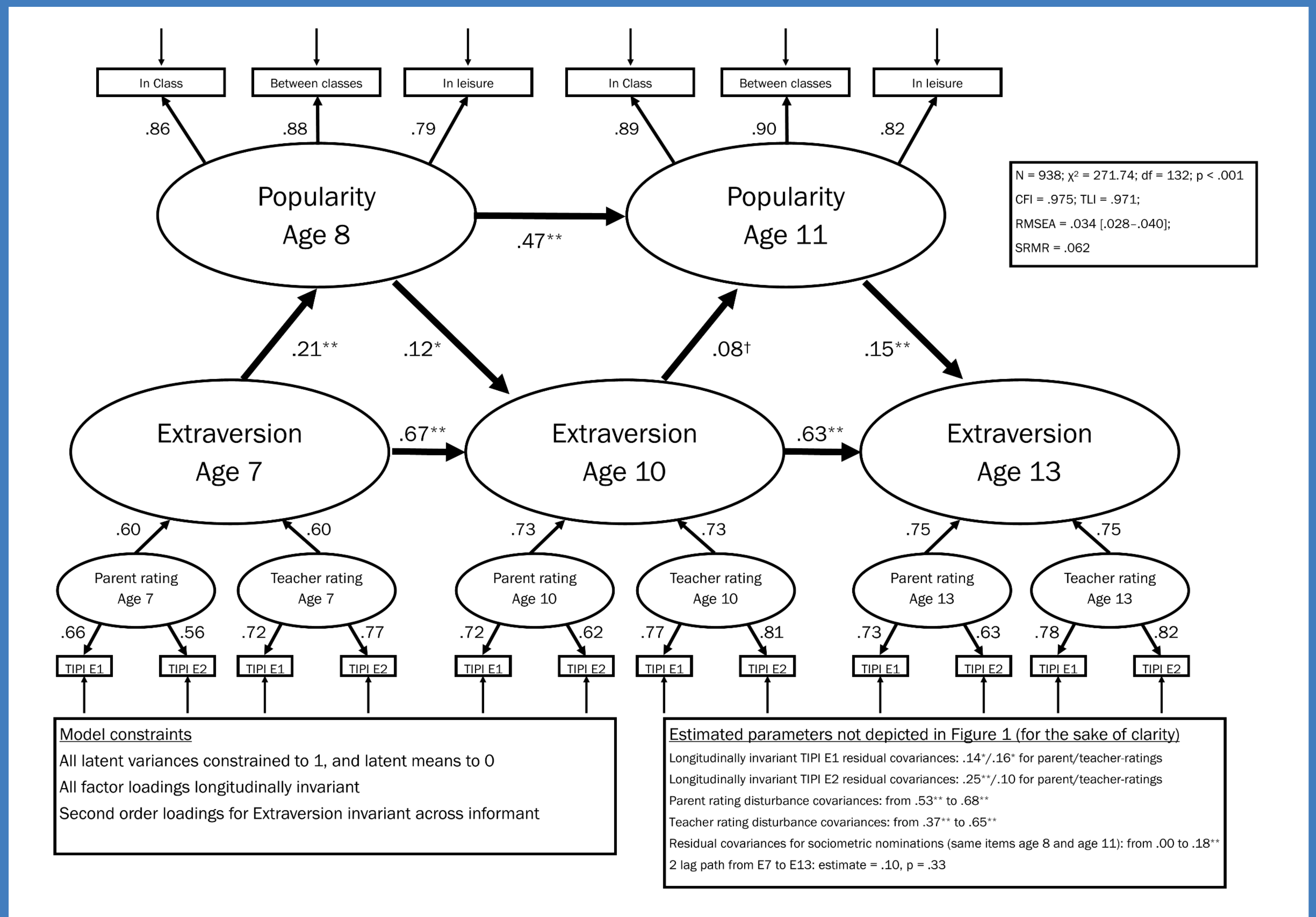


Figure 1. Structural path model for two-way associations between for parent-teacher consensus measures of Extraversion and Sociometric popularity

Direct and indirect effects from structural path model [confidence intervals from bootstrap resampling 5000x]

Full effect from Extraversion age 7 to Extraversion age 13 (Total stability): .55 [.46-.64]

Total indirect effect through popularity: .04 [.02 - .06]

Total indirect effect through stable popularity (both popularity measures): .01 [.004 - .03]

Extraversion based on self reports (ages 10 and 13)

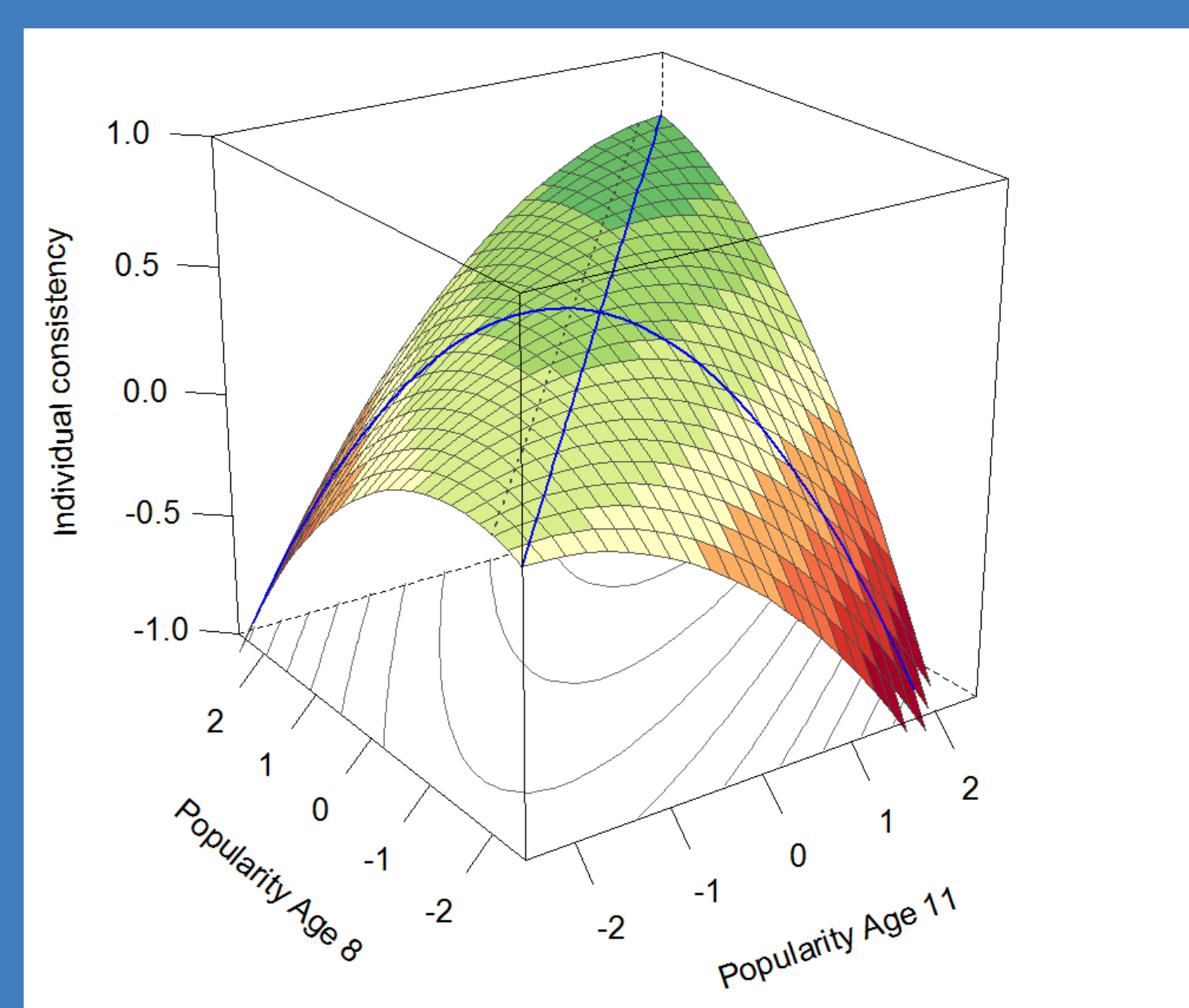


Figure 2. Response surface for individual consistency derived from self reports of Extraversion at ages 10 and 13 (plotted with RSA-package: Schönbrodt, 2015).

Table 1. Results from polynomial regression model (b-parameters) and response surface parameters (a-parameters) predicting individual consistency in Extraversion

Parameter	Estimate	p
b1 (popularity 8 linear)	0.16	<.001
b2 (popularity 11 linear)	-0.08	.06
b3 (popularity 8 squared)	-0.16	<.001
b4 (popularity 8 × popularity 11)	0.22	<.001
b5 (popularity 11 squared)	-0.03	.32
a1 (slope along line of consistency)	0.08	.03
a2 (quadrature along line of consistency)	0.03	<.01
a3 (slope along line of inconsistency)	0.24	<.001
a4 (quadrature along line of inconsistency)	-0.42	<.001

Conclusions

- The stability of trait Extraversion is partially due to fixation of social positions as reflected in relatively stable sociometric popularity within the peer network
- Social environment contributes to the differential stability of Extraversion already in middle childhood and early adolescence
- Extraversion is not only an antecedent, but also consequence of popularity
- Results were independent of personality informant (estimates from path model were similar to the presented consensus model also with only parents' or with only teachers' ratings)

References

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