

TALK

**SOCIAL NETWORKS IN CHILDREN FROM PRESCHOOL TO
ADOLESCENCE, BASED ON BEHAVIORAL OBSERVATION AND PEER
NOMINATION METHODS**

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ABSTRACT

From early childhood, individuals are part of peer social networks. Sex differences and age shifts in social network parameters are considered to reflect sex differences in relationship functioning, and consequences of social development, respectively. However, social networks can be modelled both from behavioral and sociometric data, possibly leading to different sex and age shifts. In our methodological study, we compared network parameters and social network structure obtained from two methods: behavioral observation and friendship nomination in 235 children from four preschool, four middle school and four adolescent classes. We observed behavioral interactions during two 45 mins unstructured activities and in interviews, asked children to nominate their friends. We calculated network parameters strength, transitivity, Eigenvector- and closeness centrality for each child, and assortativity and Gini index for each class. We found pairs of network parameters based on behavioral interactions and friendship nominations to be weakly correlated with each other. In linear mixed effects models, both methods of data collection lead to similar associations of strength of ties between peers with sex and age, and to similar age differences in assortativity according to sex. However, the association of transitivity with sex and age, and the associations of Eigenvector centrality, closeness centrality and the Gini index with age differed between the methods of data collection. Friendship nomination and behavioral observation are thus not interchangeable methods. We interpret these differences in terms of the developing understanding of the concept of friendship in preschoolers and its less strong link to direct social interactions in adolescents.