

Peer network analysis of youth with disabilities related to development

Stephanie M. Prudencio, Undergraduate Honors Student; Consuelo M. Kreider, Ph.D., OTR/L

Background

Peer relationships of youth whose impairments affect social functioning are important for clinical understanding. Personal network analysis can be a useful tool for improving understanding of social environments because they provide a systematic mapping of individuals who have shared experiences (Knoke & Yang, 2008).

Purpose & Hypotheses

- The purpose of this study was to describe the peer networks of youth with disability in comparison to typically developing youth.
- It was hypothesized that (1) peer networks and (2) perceived peer social support would be different from typically developing youth.

Methods

Description of participants

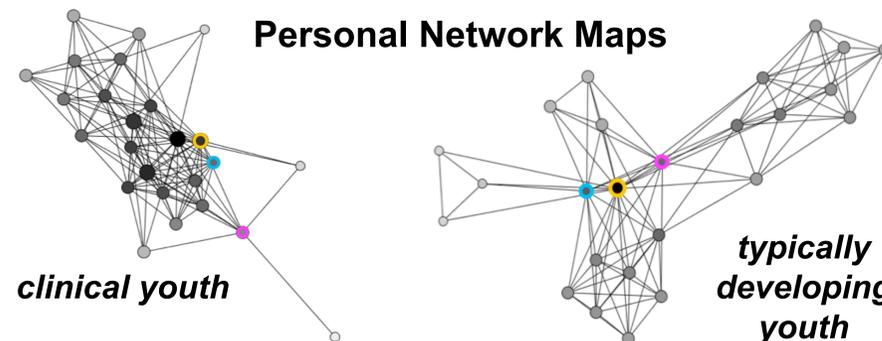
- Participants were screened for eligibility after Institutional Review Board approval. Informed consent was obtained from parents; verbal and written assent was obtained from youth.
- Study sample consisted of 19 youth aged 11-16 with diagnoses of attention deficit disorder, autism spectrum disorder, and learning disability and 17 age and gender matched typically developing youth.

Demographic variable	Youth with disability (n=19)*	Typically developing youth (n=17)*
Age, mean, SD	13.9 ± 1.3	13.9 ± 1.2
Grade, mean, SD	7.2 ± 1.6	7.6 ± 1.5
Parental Education		
High School or below	2 (10.5)	0 (0.0)
College or more	17 (89.5)	17 (100.0)
Race		
Caucasian	15 (78.9)	13 (76.5)
Other	4 (21.1)	2 (11.8)
Not reported	0 (0.0)	2 (11.8)

*Data are given as count (percentage within the group) unless otherwise indicated

Network data collection & cognitive interviews

- Participants were asked to name 25 people they interact with and each person's gender, age, relationships to others in the network, and how well the participant knows him/her.
- EgoNet (version 2012-05-18), a java-based open-source egocentric network analysis tool, supported network analysis.



- After network visualizations were generated, youth were interviewed as to their understandings and experiences of their social network. Interviews were audio-recorded and transcribed verbatim; existing transcripts were analyzed for this study.

Qualitative & personal network analysis

- Post hoc analysis was conducted on peer networks (the subgroup of non-kin, non-adult network members) from the larger set of personal networks.
- Composition, structure, and supportive attributes of peer networks were differentiated into weak tie peers and strong tie peers. Mean centrality of peer subgroups were calculated from centrality measures within entire network.
- Data was analyzed using descriptive and comparative statistics (SPSS – 21).
- For deeper understanding, qualitative thematic survey analysis was conducted for interpretation of meaning of youth's experiences and perceptions of their peer relationships (Sandelowski & Barroso, 2003).

Table 2. Definition of Study Variables

Peer	Network member (person) who is not kin or an adult
Entire peer network	All non-kin, non-adult network members
Weak tie peer network	Non-kin, non-adult network members whom the participant reports knowing medium, a little, or just knows who he/she is (acquaintances)
Strong tie peer network	Non-kin, non-adult network members whom the participant reports knowing well (close friends)
Network size	Number of members in a network
Same gender peer	Non-kin, non-adult network member who is of the same gender as the participant
Mean centrality	The average number of ties/connections members of the network have to other members of the network
Social support	Participant reports about network member: can share feelings with, is helpful, gives information, sticks up for

Results

Table 3. Peer network variables for youth in clinical and comparison groups

Peer network variable	Youth with disability (n=19)	Typically developing youth (n=17)	Group differences (p < .05)
Entire peer network			
Network size	13.2 ± 5.1	16.4 ± 2.3	t(34) = 2.502; p = .03
Same gender peer	33.68% ± 15.85%	47.06% ± 13.08%	t(34) = 2.742; p = .01
Weak tie peer network			
Network size	8.6 ± 4.5	12.5 ± 3.0	t(34) = 3.037; p = .004
Same gender peer	40.34% ± 22.95%	60.69% ± 19.81%	t(33.964) = 2.854; p = .008
Mean centrality	5.3 ± 3.3	6.3 ± 1.9	t(34) = 1.081; ns
Social support	Mdn = 12.50%, Range = 57.81%	Mdn = 7.69%, Range = 71.43%	U = 179.5; ns
Strong tie peer network			
Network size	Mdn = 3.0, Range = 16	Mdn = 4.0, Range = 10	U = 159.0; ns
Same gender peer	Mdn = 62.5%, Range = 100%	Mdn = 66.67%, Range = 100%	U = 147.5; ns
Mean centrality	4.9 ± 2.9	7.7 ± 4.5	t(34) = 2.234; p = .032
Social support	44.24% ± 28.80%	48.95% ± 29.81%	t(33.261) = .480; ns

*ns= not significant

- Findings were consistent with first hypothesis only:
 - Clinical youth had significantly fewer peer acquaintances in their networks and were close friends with those who had significantly fewer connections to others in the network.
 - Perceived support offered by peer networks, both weak tie and strong tie, was not statistically different between groups.
- Clinical youth described weak tie peer relationships that were based on memorable experiences or friendly interactions, rather than maintained or new relationships (e.g. classmates) that have the potential for advancing relationship to a strong tie.

"I put [Austin] next to [Ruby] and [Tyler] because we did a play, and most of these people I'm going to put down were people I did the play with."

"[Joey] is just like a 'Hey, how are you doing?' kind of person, not a 'Hey, you want to come over?' or something like that."

Conclusions

The differences found in composition and structure of weak tie peer networks may be an area of concern. Potential opportunities could be brought about by weak ties (Granovetter, 1973) and should be further investigated. Future studies could also further explore differences in both structure and social function of peer networks.

References

- Granovetter, M. S. (1973). The strength of weak ties. *American journal of sociology*, 1360-1380.
- Knoke, D., & Yang, S. (2008) *Social network analysis, 2nd ed.* Thousand Oaks, CA: Sage Publications, Inc.
- Sandelowski, M., & Barroso, J. (2003). Classifying the findings in qualitative studies. *Qualitative Health Research*, 13(7), 905-923. doi: 10.1177/1049732303253488