Disconnections in an Employment Related Ego Network Cognitive Social Structure

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Abstract

Adolescents are in a great time of developmental change. One aspect that impacts teenagers' social life is employment. Limited research has been conducted on how well adolescents perceive the importance of that employment for obtaining resources. Even further research lacks on the potential disconnects between the people in a person's network and the resources offered. The purpose of this study was to explore the accuracy of perceived resource attainment for an individual using a case study and a two-mode ego network cognitive social structure. Identified people and resources were portrayed in a network. The findings indicate that resources were identified, but the participant had disconnects in how he obtained social resources. Thus, it is possible that social networks can be incomplete and a person might not know what resources are readily available.

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1.0 Context

Adolescents are in a great time of developmental change. One aspect that impacts teenagers' social life is employment. Though youths are working less since the 1980s (United States Bureau of Labor Statistics, 2009), employment is still seen as important. Adolescents may benefit from working by improving work skills and behaviors (e.g., time management, interpersonal relations, workplace behavior, punctuality, and self-regulation) and future occupational attainment (e.g., increased future earnings, employment in higher-level occupations) (Runyan et al., 2009; Zimmer-Gembeck & Mortimer, 2006; Mortimer, 2005; Ruhm, 1995). Still of importance today, Greenberger & Steinberg (1986) and Phillips & Sandstrom (1990) suggested adolescents with jobs have the opportunity to build character. Employment can teach adolescents responsibility, organizational and time management skills, and provides a paycheck (Rothstein, 2007).

Rauscher, Wegman, Wooding, Davis, Junkin (2012) found that teen jobs offered moderate levels of autonomy, skill use, and connection to one's future employment goals. Yeung and Rauscher (2014) noted that early employment can expose youths to adult role models and social networks that can ease their integration into the adult world. Though these benefits are dependent on the work quality especially when forming relationships (Rauscher, Wegman, Wooding, Davis, Junkin, 2012; Vazsonyi & Snyder, 2008). Graham, Shier, and Eisenstat (2015) identified three important aspects for youths that could improve employment: 1) interaction and experiences with employers; 2) personal life and familial relationships; and neighborhood social dynamics. Employment benefits, then, are in part due to the relationships built while working.

However, limited research has been conducted on how well adolescents perceive the importance of employment for obtaining resources utilizing strategies such as social network analysis. Social network analysis examines social networks using graph theory to visualize relationship connections (Borgatti, Everett, & Johnson, 2013).

Even further research lacks on the potential disconnects between the people in a person's network and the resources offered. Heath, Fuller, and Johnston (2009) highlighted this potential disconnect in perceptions versus actuality with those navigating their access to social resources. Smith, Mennon, and Thompson (2012) suggested individuals only activate a certain subset of their ties within the full set of contacts at their disposal at any one time. Thus networks and resource attainment need to be researched for adolescents to build a better understanding of their development.

2.0 Purpose

The purpose of this study is to explore the accuracy of perceived resource attainment for an individual. This is especially prevalent with adolescents still trying to navigate their social sphere, especially through employment endeavors. The accuracy of the social network perceptions could determine how this individual obtains social resources. For this study, we asked the following question: How well are social resources and those that can potentially offer those resources recognized in a social network?

3.0 Methods

The methods of this study involve the exploration of one participant's resources utilizing two-mode social network data. The exploration of the sole participant is through a case study. Case study research involves the study of a case within a real-life contemporary context or setting (Yin, 2009). Social network analysis was used to understand the social network data. Social network analysis operates under the assumption that relationships can help shape a person's behavior and/or attitudes beyond the influence of his or her own individual characteristics (Carolan, 2014). These data were collected at the participant's school, during his lunch period. This research was part of a pilot study for a dissertation. The research was approved by the local Intuitional Review Board.

5.0 Participant

The one participant being discussed in this study is Staton. Staton is a pseudonym. He was a student in an agricultural class started by a non-profit program, O Grows. Both researchers worked for O Grows. The agricultural class took place at an alternative school that dealt primarily with behavioral and academic issues. Staton was sent to the alternative school for stealing a girl's phone. He was a sophomore at the start of the study, living with his mother and younger sister. He had an older brother and sister that he often visited in a neighboring city. While in the agricultural class, the principal of the school recommended O Grows hire him as a paid intern believing he could gain access to social resources. The internship was his first job.

6.0 Social Network Analysis

A way to better understand the accuracy of Staton's perceptions of his own resource availability is through the use of social network analysis. Social network analysis is both a tool and method to empirically understand relationships through visualization techniques (Borgatti, Everett, & Johnson, 2013). Social networks show how resources move within a network. Social network analysis acknowledges people live in a social world where relationships with others matter and building those relationships can give access to novel resources (Carolan, 2014). One cannot study an individual without acknowledging there are socio-cultural influences at work. A social network is a group of individuals and the relation or relations defined on them (Wasserman & Faust, 1994).

Specifically, we used a two-mode ego network cognitive social structure. Two-mode data sets look at people relative to things (Borgatti, Everett, & Johnson, 2013). An example of a two-mode data set would be who attended certain events. In this study, it is who offered what resource. The ego network cognitive structure method asks about a person's perception of his or her own network (Marcum, et al., 2017). Through the network perspective, it is able to be seen how well a person's network fosters resource attainment and if there are multiple people in the network that give support (Carolan, 2014). For ego network cognitive social structure perspectives (Marcum, et al., 2017), the individual determines the size, structure, and composition of the network (Johnson, 2016). What this entails is how well a person is aware of resources within the network and how resources are obtained when observing that network.

7.0 Data Collection

We conducted a semi-structured interview and administered a survey near the start of the internship. Both were used to assess Staton's access to social resources. The data collection lasted approximately one hour.

The survey took roughly five minutes to complete. The length of the interaction was determined, then, by how many individuals were identified in Staton's network. Interviews were recorded with permission from the participant.

7.1 Resource Generator

We first administered one survey assessing a person's access to resources. The Resource Generator (Van der Gaag & Snijders, 2005) is a survey that asked Staton if he knew someone that provides certain resources. The participant was instructed to circle all resources that were available to him. The resource generator used in this study also had resources related to academics and citizenship for another project. Though, for this study, we will only identify those resources related to employment.

The employment resources that could be identified were: [has a ready means of transportation], [can give advice on a conflict at work], [can sometimes hire people], [can find a holiday job for a family member], [works within the community], [has knowledge about financial matters], [can give a god reference when applying for a job], [knows how to manage money], [has multiple jobs], and [can give things to do when school lets out]. After Staton circled his available resources, we conducted the semi-structured interview to see who was in his network.

7.2 Egonet Interviews

A semi-structured interview was conducted with assistance from Egonet (McCarty, Killworth, & Rennell, 2007) to gauge the Staton's access to social resource specifically related to employment. Egonet (McCarty, Killworth, & Rennell, 2007) uses name generator and name interpreter strategies to generate individual (personal) networks. Egonet allows a person (or ego) to generate a list of people that are directly connected to him or herself, creating a network of people. Additionally, Egonet is used to gather descriptions of those people. Once an individual is identified by an ego, the program is set up to ask specific questions about the alter (or others).

Johnson (2016) suggested name generators allow individuals to compile a list of people that would fit a certain category. These were labeled "alter prompt questions" in the interview protocol. Names were generated by allowing the Staton to identify people that matched onto a specific question. The Egonet interviews were set up so Staton could identify the people most reflective of the specific name generator question. Those people could be identified once or multiple times during this phase of the interview. Egonet, however, recognizes the same person once to avoid asking the same name interpreter questions to the same person. The number of connections that could be identified by the ego was capped at 40 people to limit the length of the interview. This was because the interviews became Nth degree longer by Nth degree people. The specific questions asked to Staton to generate a list of people were:

- With whom do you spend most of your time?
- Who do you go to for advice?
- With whom do you talk about your future?
- Who do you go to for help?

Johnson (2016) suggested name interpreters allow individuals to better explore the individuals identified by a name generator. Name interpreters allow the ego to identify characteristics of their alters. These questions followed the alter prompt questions and were labeled "alter questions" in the interview protocol. Staton answered these questions regarding the people identified in his network. The specific questions asked to Staton were:

- How do you know ___?
- When did you meet ___?
- Does ___ work? If yes, where?
- How much does ___ value his/her own employment?
- Does ___ encourage you to work?

During the interview, we asked follow-up questions to the participant to gain further details on the alters. For instance, if Staton identified someone as encouraging him to continue working, we were curious as to what that person would say to the ego. Though it should be mentioned, that these were not asked after each of these questions to limit attrition. The interview was quite repetitive and, if it became cumbersome, we believed Staton would lose interest in the research.

Following the completion of the Egonet interviews, we asked the participant to take those people that were just identified and write down who from the network offered those previously identified resources from the Resource Generator. The Egonet interviews were conducted after the Resource Generator to compare and contrast if those resources identified matched onto those identified in his personal network. This did not guarantee that people from the personal network offered every resource that was identified.

8.0 Data Analysis

8.1 Graphing the Resource Availability Network

To assess the resources available, we examined who in the participant's network offered certain resources. Taking what Staton said about the people in his network, we built a network that showed these various connections between people and resources using two-mode data. Connections were entered into an Excel document. The X-axis in the Excel document included those people or alters identified by Staton (the ego). The Y-axis included those resources Staton suggested he had access to in relation to employment. A "1" indicated a person offering a resource. A "0" indicated a person did not offer a resource. For two-mode data sets, there is only one arrow instead of two to indicate what resource was received by each person (Borgatti, Everett, & Freeman, 2002). To better understand what was inserted into the Excel document, I include an example:

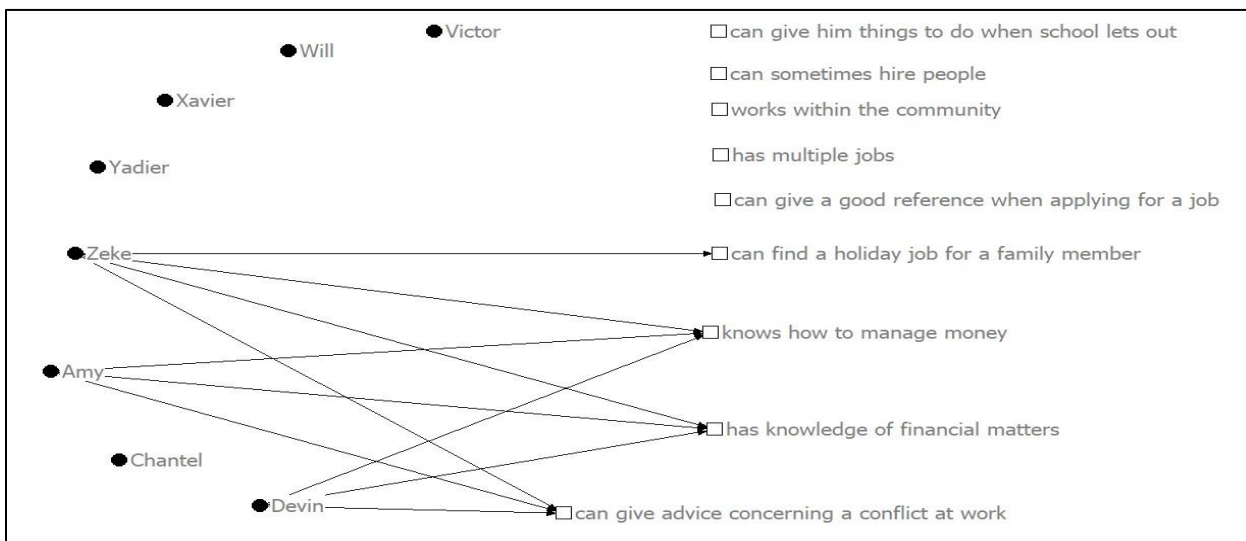|	Resource 1	Resource 2	Resource 3
Person 1	1	1	0
Person 2	1	1	1
Person 3	0	0	0

Person 1 offered the first and second resource. Person 2 offered all three resources. Person 3 did not offer any resource. When a resource did not share a connection to any person, this indicated a disconnect between people identified and resources available. The resources were present, but the participant's network would thus be incomplete. This is similar to what Heath, Fuller, and Johnston (2009) discussed always having more people in a network then what is perceived.

After creating the Excel file with the connections, the file was then copied into Ucinet and Netdraw (Borgatti, Everett, & Freeman, 2002). Ucinet and Netdraw are programs that allow for the manipulation of social networks. Netdraw, however, cannot portray things 3-dimensionally. To account for this, the nodes are spread out for sake of clarity. In the graph, the length of the lines is not reflective of anything. The network below is copied from Netdraw's output. I also include descriptions of people identified by Staton.

9.0 Results

Staton's Resource Availability Network

Victor	A friend of Staton, met in school back in Phoenix City, had known Staton since 7th grade, did not work.
Will	A friend of Staton, met in school back in Phoenix City, had known Staton since 7th grade, did not work.
Xavier	A friend of Staton, met in school back in Phoenix City, had known Staton since 7th grade, did not work, encouraged him to continue working.
Yadier	A friend of Staton, met in school back in Phoenix City, had known Staton since 7th grade, did not work.
Zeke	Older brother of Staton, worked at Publix.
Amy	Older sister of Staton, she worked with Staton's mom at Afni, encouraged him to continue working.
Chantel	In a relationship with Staton, did not work, encouraged him to continue working.
Devin	A friend of Staton, knew him through Zeke, had known him a few years, worked at Publix.

10.0 Discussion

Staton identified having access to 7 resources with 8 people in his network. Zeke, his brother offered the most amount of resources related to employment. Three people, Zeke, Amy, and Devin were the only three people from Staton's network that had jobs. Coincidently, these three individuals all offered the resources: [knows how to manage money], [has knowledge of financial matters], and [can give advice concerning a conflict at work]. Of those 9 resources identified, 5 were not associated with anyone from his network. The resources not associated with anyone from the network included: [can give him things to do when school lets out], [can sometimes hire people], [works within the community], [has multiple jobs], and [can give a good reference when applying for a job].

This supports Borgatti, Everett & Johnson's (2013) claim that networks are sometimes incomplete. This is because Staton identified those resources, but did not identify any people in his network that offered those resources. Additionally this supports Bell, Belli-McQueen, & Haider's (2007) claim that an informant may guess at the size of their network without trying very hard to remember specific alters; they may forget one or more alters; they may omit alters because they do not know their names or identities; or they may intentionally or unintentionally conceal (or invent) some alters. The fact that resources were identified, but not connected indicates a disconnect in how Staton is navigating his social sphere.

In looking at Staton's network, more people could have been identified. These individuals could have been members of the O Grows staff. It was believed that by working with Staton, we could become part of his network. Interestingly, Staton did not identify members of the O Grows staff, despite all working with Staton for nearly two months. In thinking about what resources that Staton identified, each of the O Grows staff had worked within the community and could potentially give a good reference when applying for another job. Yet no one was included.

People were not the only things left out of Staton's network. Resources were also left out. A notable resource that Staton did not include was: [has a ready means of transportation]. For each work day, a staff member of O Grows picked Staton up and drove him to work. Staton did not have a car. Though knowing others that could offer transportation afforded him the opportunity to work. This resource was not mentioned, however. Staton failed to recognize the potential resources available and those that offered those resources.

In thinking about why this might be the case, we are reminded of adolescent development. A level of egocentrism exists within this population that could explain how adolescents are sometimes unable to understand others' perspectives (Blakemore & Choudhury, 2006). Additionally, if Staton did not believe to be a part of the group in relation to work quality (Coleman, 1988), resource attainment could have been limited. The final thing that must be considered is the novelty of the program. Staton had only worked for O Grows for two months at the time of the data collection, so strong relationships might not have formed yet.

11.0 Limitations

11.1 Low number of participants

There is the potential that only using a single subject design will be criticized. There was only one participant in the study. The "tradeoff between breadth and depth" (Patton, 1990) limits the ways in which the findings can be explored. We attempted to provide more detail for this one participant.

11.2 Incomplete Networks

Establishing a person's network always has the potential to be incomplete in ego network cognitive social structure designs (Johnson, 2016). These designs ask a person to identify someone else that fits a specific category. There was the possibility for this individual to forget to mention someone during the interview that could have fit a category. Additionally, we capped the number of people that could be identified at 40. If Staton wanted to include more than 40 in his network, the network would also have been incomplete.

12.0 Implications

We do not have the ability to generalize in this study. However, this one participant and his network connections demonstrated the potential in having people missing from a network as well as disconnections between resources and people. The importance of this research further added to the needed use of conducting ego network cognitive social structures (Marcum, et al., 2017). These designs allow researchers to identify an individual's perceived access to resources. Perception and accuracy can then be compared.

This is not only important for employment resources. Especially with adolescents, this type of research could be used to identify perceived access to resources related to academics, support networks, advice networks, and to prevent delinquent behavior just to name a few. It would be our job as researchers to identify potential disconnects with resource attainment so we can better understand what we could do to help students, employees, friends, etc. Knowing what resources someone believes he or she has access to can help researchers and participants alike navigate the process of resource attainment.

13.0 Future Research

Considering this research, there are a few directions that provide a path for future research. The most pressing would be to follow-up with resource attainment networks at later points in time for this individual. Borgatti, Everett, and Johnson (2013) indicated networks are dynamic. Conducting a longitudinal study could show the change in people and resources in a network. As Staton continued to work for O Grows, it would be interesting to track if and how relationships with staff members were strengthened over time.

A second direction of future research is comparing Staton to his peers. Possible outlets for this include similar or different factors that relate to Staton. Factors that could be researched include age, socioeconomic status, or geographic factors such as living in an urban or rural area. Discovering access to resources, not only those related to employment, can be cumbersome. This research showed an individual's disconnect between people identified in a network and his access to resources. This study was a stepping stone in how we understand one's perception of his or her own social resources.

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