

Roma university students' embeddedness types from a social network aspect

Ph.D. thesis

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Introduction

Semmelweis University, Institute of Mental Health started following up the students of the Christian Roma Collegium Network in 2012 in the Network's five institutions functioning that time. The aim of these colleges is to support Roma undergraduates getting their degree. Besides providing accommodation and financial support, various courses are also available for the students (CRCN 2011). The research group examined Roma students' value system, identity, mental health, egocentric network, and the changes in these dimensions through a four-wave measurement. The dissertation presents the results of the egocentric network analysis.

In the case of Roma undergraduates, the network approach poses a number of exciting questions, as students' networks become significantly restructured in college transition. In the majority of cases, they need to move away from home and they often experience weakening ties with their families and Roma communities. On the other hand, students establish new, non-Roma relationships at the university, although from time to time they have to face the discriminative attitudes of their peers and teachers. At the university, they have to conform to new norms that many of them have no role models for in their immediate environments, and they have to fit into a not always particularly welcoming milieu. The dilemma of "being trapped between two groups" is not new and not only ethnic in nature, as it appears to be inherent in the process of structural mobility. (Dávid, Huszti, and Lukács 2016, Dávid, Szabó, and Lukács 2018, Lukács J. and Dávid 2018)

In the case of Roma college students', college transition can also be considered structural mobility, since students' origin is an ethnically homogeneous, low-educated group, while the host environment is composed of non-Roma intellectuals (Lukács J. and Dávid 2018). In this process the value of social ties and resources available through them is crucial (Terenzini et al. 1994, Locks et al. 2008, Grommo 2014). For modelling Roma undergraduates' college transition, my thesis study interconnects egocentric network analysis (Brandes et al. 2008, Molina 2015, McCarty 2002) with the concepts of social capital (Lin 2008, Stanton-Salazar and Dornbusch 1995) and sense of belonging (Bollen and Hoyle 1990, Hurtado and Carter 1997, Strayhorn 2010). Each of the three approaches focuses on social embeddedness but from different aspects. The concept of social capital concentrates on the resources available through one's social ties (Lin 2008, Stanton-Salazar and Dornbusch 1995). Sense of belonging examines the perception of social ties and the groups one identifies with (Bollen and Hoyle 1990, Hurtado and Carter 1997, Strayhorn 2010). Egocentric network analysis and the related theories examine the size, the composition, and the structure of one's social network (Brandes et al., 2008 Molina 2015, McCarty 2002). The latter approach (egocentric network analysis)

provides the methodological background of the analysis, by means of which sense of belonging and social capital can be operationalized.

Brandes and his colleagues (2008) designed a social network model to illustrate migrants' integration by dividing one's ties into four main groups (See Figure 1.).

- 1) Origin – acquaintances from ego's country of origin
- 2) Fellow – migrants from the same country of origin as ego
- 3) Host – alters living in the host country
- 4) Transnationals – all the other alters

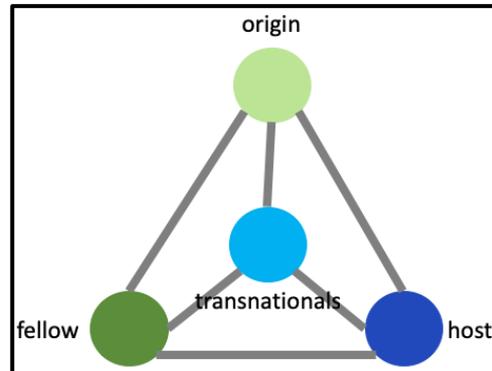


Figure 1. Social integration from a social network aspect by Brandes et al. (2008) (Own adaptation)

Alter's characteristics	Roma	Non-Roma
Lower than secondary education	Origin	Other
Secondary or higher education	Fellow	Host

Figure 2. The model of Brandes et al. (2008) adapted to the structural mobility of Roma undergraduates (Own adaptation, Lukács J. and Dávid, 2018)

Adapting this model, I examined four main groups in college students' personal networks, which were operationalized in the dimensions of ethnicity and educational attainment (Dávid, Szabó, and Lukács J. 2018, Lukács J. and Dávid 2018) (See Figure 2.).

There is no consensus among the researchers regarding successful college

transition (Tierney 2000). The theory of social capital and the majority of research studies related to sense of belonging and egocentric network analysis argue that for low-status, underrepresented minority students in college transition the idealistic network is a heterogeneous, multicultural, extensive, and open brokerage network (Hurtado and Carter 1997, Rendon et al. 2000, Nunez 2009, Zou 2009, Rios-Aguilar, and Deil-Amen 2012, Grommo 2014). This network provides bonding and bridging capital at the same time, namely a kind of emotional stability as well as structural resources for mobility and integration into the new milieu (Coleman 1988, Antrop-González, Vélez, and Garrett 2003, Antonio 2004, Locks et al. 2008, Nunez 2009). Sense of belonging could also be an indicator of successful college transition which was described with the proportion of ties to university course members and

professors in the study (Hoffman et al. 2003, Stanton-Salazar 2004). Nevertheless, according to the theoretical debates on successful college transition, a more relevant and valid indicator could be undergraduates' subjective well-being, which has been found crucial in the case of low-status, underrepresented minority students (Steele 1997, Pritchard, Wilson, and Yamnitz 2007, Larose and Boivin 2010, Stebleton, Soria, and Huesman 2014, Iacovino and James 2016). Accordingly, network types were evaluated from the angle of social capital, sense of belonging, and subjective well-being.

Aims

The main focus of the egocentric network analysis was the exploration of the social embeddedness of Roma undergraduates in the process of college transition: that is, whom can they rely on in the social vacuum created in balancing between their origin and host groups. The thesis addressed three main questions: 1) what kind of network types emerge by the dominant groups and resources, 2) what kind of attributes (socio-demography, partner's ethnicity and level of education, successful college transition) correspond with these network types, and 3) how do Roma university students' networks change over the time spent in the special college.

Methods

The research group followed-up Roma college students over four waves of measurement with several research instruments. Apart from questionnaires on their value system (European Value Survey 2008) and mental health (Rosenberg Self-Esteem Scale 1979, Sallay et al. 2014, Purpose of Life Scale, Crumbaugh and Maholick 1964, Konkoly-Thege and Martos 2006), as well as semi-structured life narratives, we mapped students' egocentric network with contact diary (Huszti 2015, Dávid et al. 2016a, 2016b) and the EgoNet software (McCarty 2007).

Students kept records in their diaries for one week in each academic year; they took notes of their interactions for each day of the week: with whom, where, and how they made contact. We asked them about the socio-demographic characteristics of the alters mentioned in the diaries, and also the characteristics of their relationship. Students were also given the possibility to supplement the list of interactions with alters whom they did not interact during the week examined, but who still played an important role in their lives. This method revealed the size (how many alters are named in the network), the composition (the socio-demographic

characteristics of alters in the social network), and the strength of the relationships in the network (how close alter is to the respondent). The structure of the networks was measured with the EgoNet software (McCarty 2002).

Results

One hundred and twenty-four Roma college students were included in the analysis. Women were in slight majority (53%) among the students, and most of the undergraduates were 19 to 24 years old at the time of data collection. Among college students, the most popular majors are engineering/technology/informatics (19%), social sciences (18%), and teacher training/liberal arts (18%). There is also a considerable number of musicians (12%) among them. Forty percent of Roma university students were freshman at the time of the first wave of measurement, 36% of them were in the second, 10% in the third, 6% in the fourth, and 8% in the fifth year of study. The majority of Roma undergraduates (62%) come from four or five-member households and have one or two siblings (68%). Eighty-six percent of Roma college students are first generation intellectuals, as their parents have no university degree. In 78% of the cases the students' both parents are Roma, in 17% only the mother. More than half of the students come from towns with less than 5,000 inhabitants, and only 14% of them grew up in towns with more than 100,000 inhabitants.

Roma undergraduates recorded altogether 26 alters on average in their contact diary with whom they interacted altogether 65 times on average during the examined week. Students' network is homophile regard to sex, age, and educational attainment. Forty-five percent of their acquaintances are only a few months old or even shorter, and most of them are related to the special college and to the university. Roma students' network is composed of four main groups: the familial ties, alters from the special college, university course members and professors, and close friends dominate the networks. Comparing to male students, female undergraduates have more extended networks and have more frequent interactions.

Roma students' network host (50%) and fellow (36%) alters are present in the highest proportion (See Table 1.). These groups differ significantly in composition, in the offered resources, and also in availability. While the origin group provides bonding type of resources to the students ($p < 0.001$, $\text{Eta}^2 = 0.031$), the host alters convey mostly bridging capital needed for structural mobility ($p < 0.001$, $\text{Eta}^2 = 0.034$).

Table 1. The proportion of origin, fellow, host, and other ties in the network of Roma undergraduates

	Alter	
	N	%
Origin (Roma without secondary education)	255	11
Fellow (Roma with at least secondary education)	831	35.8
Host (Non-Roma with at least secondary education)	1163	50
Other (Non-Roma without secondary education)	75	3.2

In the analysis the most relevant network types were identified among Roma undergraduates by cluster analysis based on the proportion of origin, fellow, and host alters. The structural characteristics were illustrated by the Visone software (See Figure 3.). In the closed cluster the fellow group, in the balancing cluster the origin, and in the embedded cluster the host alters were overrepresented.

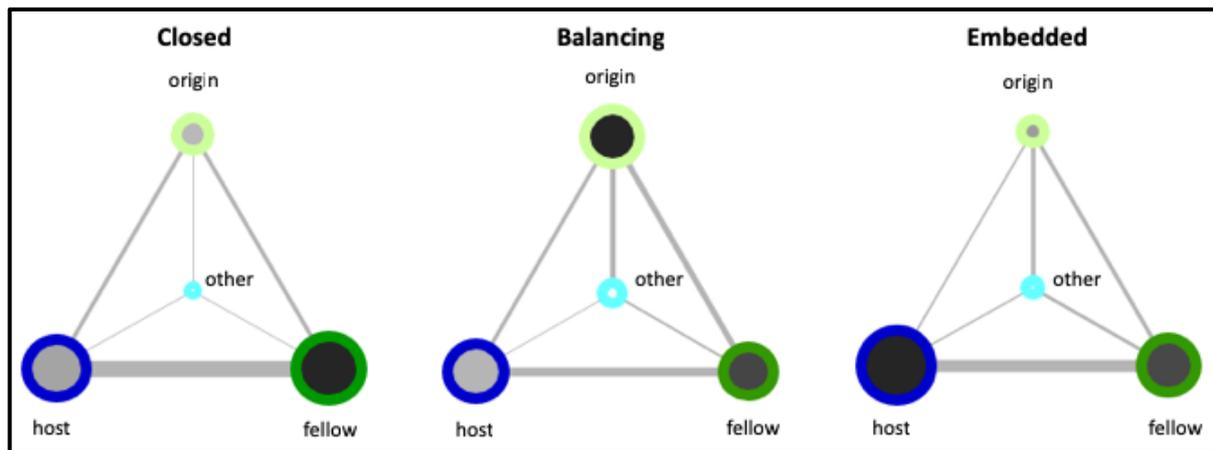


Figure 3. The three clusters by the structural characteristics of the main groups

- **Origin** *size of the circles=mean class size*
- **Fellow** *grey-black circles=mean intra-class tie-weight*
- **Host**
- **Other** *line thickness=mean inter-class tie-weight*

(Visone)

Networks in the closed cluster are dominated by the fellow group in more than half of the cases, while third of the ties are from the host group. The most intra-class ties are in the fellow group, which implies a strong college community. While there's a strong connection between the host and the fellow groups, the origin is not an integrated part of these networks. Consequently, the closed cluster is a small, dense, closed, so-called closure network, which entirely leans on fellow ties, that is, the college community.

The origin ties are the strongest in balancing networks, third of the alters is from the host, another third from the fellow group. The most intra-class ties are in the origin group, which refers to a stable family support system. Links between the groups are weak and loose, which could lead to the network's disintegration to separate components. The name balancing cluster refers to the equilibration between the three, approximately equal-sized groups.

Networks included in the embedded cluster are dominated by the host group, while origin alters are the most underrepresented in this cluster. Host group is the densest, referring to a stable university community. The highest number of inter-class ties can be seen between host and fellow groups in this case as well, while origin and other alters are weakly linked to the dominant groups. The name of the cluster refers to extended, open networks in which host alters and acquaintances from the university are overrepresented. These students' networks unambiguously indicate that they are well embedded to the university community.

The next step of the analysis examined which embeddedness type is the most successful and whether clusters correspond with the sociodemographic backgrounds of the students and their partners.

As for bonding type of resources, which provide emotional support, there is no significant difference between clusters, however, regarding bridging resources necessary to structural mobility (i.e. number of high status alters $p=0.034$, $\text{Eta}^2=0.108$ and institutional agents $p=0.005$, $\text{Eta}^2=0.076$), the balancing cluster is the poorest, while the embedded cluster is the richest. The level of sense of belonging is the highest in the embedded cluster and the lowest in the closed cluster ($p=0.009$, $\text{Eta}^2=0.092$). The self-esteem of Roma undergraduates from the balancing cluster is significantly lower compared to college students from the two other clusters (24 vs. 27, $p=0.097$, $\text{Eta}^2=0.046$), as they rated their physical health worse compared to other undergraduates (3.2 vs. 3.7, $p=0.040$, $\text{Eta}^2=0.053$). Although there is no statistical evidence, Roma college students from the balancing cluster achieved lower scores on other indicators of subjective well-being as well.

Cluster members do not differ significantly regarding students' socio-demographic characteristics (sex, age, place of residence, year of study, major) and family background (parents' level of education and ethnicity, household size), nevertheless, partners proved to be powerful factors ($p=0.035$, $\text{Phi}=0.412$). Undergraduates with a fellow partner are overrepresented in the closed cluster, students with a host partner are in higher proportion in the embedded cluster and students with low-educated origin or other partner in the balancing cluster.

Conclusion

Based on former research results on underrepresented minority students I tested six hypotheses in the thesis.

H1. Analysis verified that alters from the origin group rather provide bonding capital, while host acquaintances convey more bridging capital to students (Coleman 1988, Antrop-González, Vélez, and Garrett 2003, Antonio 2004, Locks et al. 2008, Nunez 2009). The origin group's emotional resource index is the highest on the average, Roma students feel these alters the closest to them, they share the most important and personal matters with them. However, these bonding resources are less available personally because the major part of the origin group is composed of familial ties. The analysis of structural resources confirmed that students are interconnected with high status alters and institutional agents mostly through the host group. Accordingly, bridging type of social capital is primarily provided for the students by the host group, linking them to the stratum of intellectuals, which is the aim of the mobility process. (Lukács J. and Dávid 2018)

H2. In the course of the analysis it is also verified that the size of the college students' networks and the interactions they had during the week correspond significantly with the number of institutional agents in the network. Extended networks presume higher educated kinships, mentors, and professors, which ensure an easier accessibility to structural resources, thus to successful mobility (Stanton-Salazar 2001, 2004, 2010, Museus and Neville 2012, Bereményi and Carrasco 2017).

H3. The hypothesis which presumed that those Roma students who have extended, open, brokerage network with both fellow and host alters have better subjective well-being is verified significantly with regards to self-esteem and subjective physical health. The level of sense of belonging was significantly higher in this network type too, since it provides the most ties to the university (Hurtado és Carter 1997, Strayhorn 2010). These results are in accordance with research studies about low-status minority students suggesting that in the case of these students extended, open, and heterogeneous networks simultaneously providing bonding and bridging resources induce positive coping strategies (Erickson 2003, Brandes et al. 2008, Zou 2009, Rios-Aguilar and Deil-Amen 2012, Poortinga 2012, Bereményi and Carrasco 2017).

College students of the closed cluster, whose closure network is dominated by the fellow group, have better subjective well-being as well. Through the strong, supportive ties, college community brings substantial stability for students balancing between the origin and host milieu (Fischer 1982, Hurtado and Carter 1997, Antrop-González, Vélez, and Garrett 2003, Zou 2009, Bereményi and Carrasco 2017). However, the level of sense of belonging was significantly

lower in the case of those students, who have closure network, as being closed to the special college community could weaken ties related to the university (Hurtado és Carter 1997, Strayhorn 2010).

Moreover, results highlighted that students of the balancing cluster, whose network is overrepresented by the origin group, but trying to equilibrate between fellow and host groups, run the risk of breaking their networks to separated components. Based on the indicators employed, these college students' subjective well-being is worse. Adjusting to the three groups simultaneously and meeting the demands of different norms could eventuate in serious mental costs (Goode 1960, Thoits 1983, Linville 1987, Coleman 1990, Zou 2009).

H4. In line with former research studies I presumed that Roma women have disadvantaged network characteristics compared to men (Forray and Hegedűs 2003, García et al. 2009, Óhidy 2013, Brüggemann, 2014, Durst, Fejes and Nyíró 2014, Kóczé 2010, Hinton-Smith, Danvers and Jovanovic 2017). The results do not verify intersectionality in the sample of CRCN, and what is more, male Roma undergraduates have smaller networks and make less interactions compared to female students.

Nonetheless, it is confirmed that educational attainment of Roma college students' parents (principally mothers) determines network variables (Grommo 2014). First generation Roma intellectuals have smaller networks, make less interactions, and origin ties are overrepresented in their network, while bridging capital provided by high status alters is less accessible for them because they have significantly less institutional agents in their network. Accordingly, a socio-demographically disadvantaged family background unambiguously affects Roma students' social capital (Stanton-Salazar and Dornbusch 1995, Stanton-Salazar 2001, 2004, 2010, Ream and Stanton-Salazar 2007, Grommo 2014).

H5. The ethnicity and educational attainment of Roma college students' partners have proved to be substantive factors in network composition, thus determining the resources available. Consequently, the socio-demographic background of Roma students' partners is one of the most considerable determinants regarding the social network approach of social integration (Kalmijn 1998, Rodríguez-García 2006, Miguel Luken et al. 2015, Dávid, Huszti, and Lukács 2016, Lukács J. and Dávid 2018). Nevertheless, it should be noted that based on the cross-sectional analysis of the dissertation the direction of the correspondence between the partner's socio-demographic background and network characteristics is not definable. In order to examine the relation thoroughly, a longitudinal analysis is needed, but the network database cannot serve this aim. In contrast to my assumption, the gender of the students does not seem to be relevant concerning the relation of partner and network characteristics.

H6. I expected the dynamics of egocentric networks to be characterised by an increase in network size as well as in the proportion of host and fellow groups, but due to the low number of cases statistical-based longitudinal analysis was not possible. Relying on the available cases, it can be said that network size is decreasing for the second, third, and fourth data-collection with an increase in the proportion of origin alters. The proportion of the fellow and host groups is changing in a non-linear way during the waves of measurement. Regarding both network size and composition, standard deviation was high, but due to the low number of cases drawing clear conclusions is not possible, and consequently the hypothesis can neither be verified, nor disproved based on the database.

It should be emphasized that special colleges are protective factors against Roma students' dropout. In the process of structural mobility colleges can create community around Roma students who found themselves in a social vacuum by bringing stability to their network (Coleman 1988, Sedlacek 1987, Tinto 1998, Cerna, Pérez, and Sáenz 2009). Besides providing emotional resources, special colleges interconnect students with important structural resources as well, hence, with this bridging capital, colleges promote students' success on the labour market and their successful social integration in the long run.

List of own publications

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